



# Survey Report on Overseas Business Operations by Japanese Manufacturing Companies

JBIC Survey 2021

We would like to expres	ss our deep gratitude to all the comor future business activities.	npanies who cooperated in the	nis survey. We hope that th	e results of this survey will	

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- 1. Japanese manufacturers are under logistic / semiconductor disruption, and the impact is likely to be prolonged. This year's survey was conducted during several difficulties, such as a semiconductor shortage and tight logistics, in addition to the worldwide COVID-19 pandemic waves. The overseas production ratio in FY2020 remained low at 33%, and the medium-term prospects are staying at the same level around 35%, meaning the recovery to the pre-COVID-19 seems to be postponed. Unlike the global financial crisis in 2008, the survey indicates that the impact of COVID-19 and its aftermath are beginning to show prolonged effects.
- 2. <u>Promising countries/regions</u>: China remains at the top, and the U.S. rises to third for the first time in almost 20 years. China remained the top as a promising destination country for the next three years. India and ASEAN, which had been severely affected by restrictions due to COVID-19 at the time of the survey, lost votes. In the meantime, the U.S. rose to third place with votes from a wide range of industries, and Taiwan also ranked among the top 10 countries for the first time in a decade. Given that India has the lowest share since 2005 and that the U.S. moved upwards to third, whether the U.S. will overtake India will draw attention in the next survey.
- 3. <u>Supply chains</u>: Logistic disruption is the biggest risk, and semiconductor shortage affects all industries. In terms of external shocks to supply chains, "disruption and pressure on logistics" had the most votes, followed by "diseases (including the COVID-19 pandemic)." Regarding the global semiconductor shortage, it has a negative impact on all industries, but a small number from a wide range of industries received a positive impact on their businesses, indicating the broad base of the Japanese semiconductor manufacturing industry. As for the decoupling between the U.S. and China, many of the companies are trying to balance between both countries, as was the case last year.
- 4. <u>DX</u>: Half of the companies are working on and expanding the scope of their collaboration to overseas.

  Regarding digital transformation (DX), half of the companies is advancing in their adoption and the other half has not yet started, and none was retreating from DX. The leading areas of DX adoption by advanced companies are the manufacturing and development sectors, including remote control of manufacturing equipment and robots, 3D printers, and the use of virtual space in R&D. In addition, advanced companies are likely to collaborate outside to promote transformation, especially with overseas companies and research institutions including startups, and some are importing overseas best practices back into Japan.
- 5. <u>Decarbonization</u>: Companies are aware of their business impact and focusing on emissions in supply chains.

  Regarding the climate change issue, approximately 80% of the respondents expect decarbonization to have an impact on their businesses. The impact includes not only negative aspects such as higher manufacturing costs, but also positive aspects such as the development of new products and increased demand for their products. As for the emission sources, it is also found that many companies consider not only their own factories but also other sources of emissions in the supply chains to be important. The manufacturing industry has detailed data and an understanding of the processes from procurement to delivery through cost reduction efforts, which is an advantage to tackle the difficulty of identifying and measuring emission sources in their supply chains.



# (1) Survey Overview



### 1. Objective and Targets

This survey aimed to research and analyze the current status and future prospects for the overseas business development of the Japanese companies. The companies targeted in this survey are Japanese manufacturing companies which have three or more overseas affiliates (including at least one production base).

### 2. Number of Surveyed Companies and Methods

- (1) Number of surveyed companies: 965
- (2) Methods: Questionnaires were sent via post and emails. During the survey period, telephone interviews were also performed.

### 3. Responses

- (1) Number of respondents: 515 (121 by post, 394 online)
- (2) Response rate: 53.4%

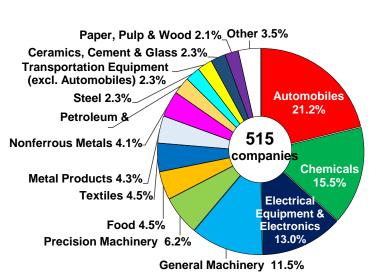
### 4. Survey Period

July 28, 2021(surveys sent) to September 30, 2021(deadline) (\*Responses received by October 7 are counted as valid)

### 5. Survey Items

- (1) Survey Overview
- (2) Overseas Business Performance
- (3) Business Prospects and Promising Countries/Regions
- (4) Hot Topics for Japanese Manufacturing Companies \*.
- (5) Medium-term Prospects for Supply Chains \*.
- (6) Initiatives for Digital Transformation \*
- (7) Initiatives for Decarbonization (Items with asterisks (\*) indicate this year's independent topics)

# Figure 1.1 Number of Responding Companies (Industry)



	,	<i>J</i> /	_	
			(0	companies)
	Industry Type	FY2020	FY2021	Proportion
	Automobiles	107	109	21.2%
	Chemicals	74	80	15.5%
	Electrical			
	Equipment &	65	67	13.0%
	Electronics			
	General Machinery	49	59	11.5%
	Precision Machinery	32	32	6.2%
	Food	22	23	4.5%
	Textiles	20	23	4.5%
	Metal Products	26	22	4.3%
	Nonferrous Metals	19	21	4.1%
	Petroleum &	13	14	0.70/
	Rubber	13	14	2.7%
	Steel	19	12	2.3%
	Transportation	14	12	2.3%
	Equipment	14	12	2.570
	Ceramics,			
	Cement &	10	12	2.3%
	Glass			
	Paper, Pulp &	9	11	2.1%
	Wood			2.170
	Other	51	18	3.5%
	Total	530	515	100.0%
'n	eral machinery in	ndustries	are coll	ectively

(companies)

Note: In this survey, automobiles, electrical equipment & electronics, chemicals, and general machinery industries are collectively referred to as "4 major industries". "Chemicals" combines "chemicals (including plastics)" and "pharmaceuticals." The respective totals for "automobiles," "electrical equipment & electronics," "general machinery," and "precision machinery" combine "assemblers" and "parts."

Figure 1.2 Number of Responding Companies (Capital, Non-consolidated)

Paid-in Capital	FY2020	FY2021	Proportion
Less than ¥300 mn.	119	120	23.3%
¥300 mn. up to ¥1 bn.	81	74	14.4%
¥1 bn. up to ¥5 bn.	107	109	21.2%
¥5 bn. up to ¥10 bn.	60	62	12.0%
V40 hn or more	1.10	444	20.00/

#5 bii. up to # 10 bii.	00	02	12.0%
¥10 bn. or more	142	144	28.0%
Holding company	21	6	1.2%
No response	0	0	0.0%
Total	530	515	100.0%

Note: In this survey, small and medium-sized enterprises (SMEs) are defined as a company with a capital of less than 1 billion yen.



# (2) Survey Overview (Profile of Responding Companies)

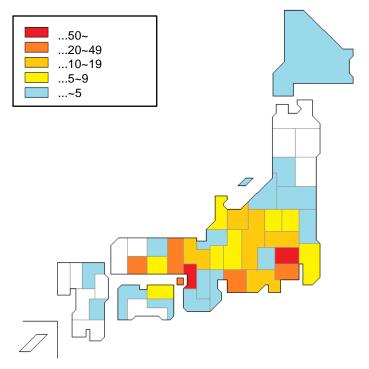


# Figure 1.3 Profile of Responding Companies

### **Headquarters Location**

Tokyo 177, Osaka 64, Aichi 44, Kanagawa 31, Hyogo 25, Hiroshima 21, Kyoto 17, Nagano 15, Shizuoka 14, Saitama 13, Toyama 10, Shiga 9, Chiba 9, Tochigi 8, Okayama 6, Gifu 6, Gunma 6, Kagawa 6, Ishikawa 6, Fukui 4, Ibaraki 3, Mie 3, Yamagata 3, Fukuoka 3, Niigata 2, Tokushima 2, Ehime 1, Miyazaki 1, Yamanashi 1, Tottori 1, Nara 1, Fukushima 1, Hokkaido 1, Wakayama 1

Note: Plot of the headquarters address of the responding companies



Source: This map was created by JBIC based on "CraftMAP." (http://www.craftmap.box-i.net/)

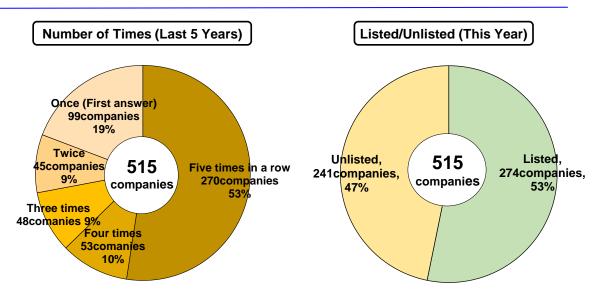
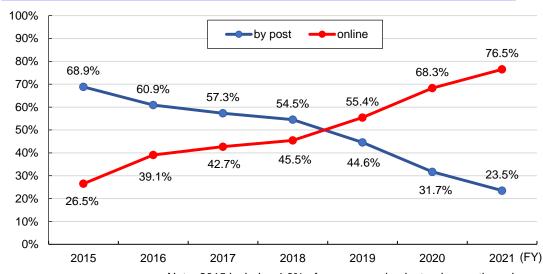


Figure 1.4 Change in Methods





# (2) Survey Overview (Profile of Responding Companies)



# Figure 1.5 Distribution of Overseas Affiliates

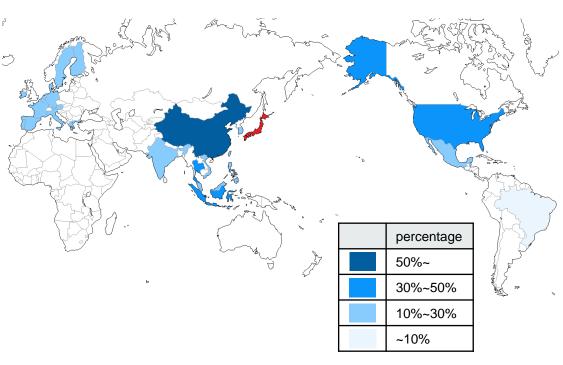
# (1) One or more overseas affiliates for production

anniates for production				
	Country/ Region	No. of respondents (company)	Proportion	
1	China	383	75.4%	
2	Thailand	235	46.3%	
3	us	197	38.8%	
4	Indonesia	160	31.5%	
5	India	119	23.4%	
6	Vietnam	118	23.2%	
7	Mexico	102	20.1%	
8	EU14	100	19.7%	
9	Malaysia	94	18.5%	
10	Korea	91	17.9%	
	Taiwan	91	17.9%	
12	Philippines	79	15.6%	
13	Brazil	49	9.6%	
14	Central & Eastern Europe	46	9.1%	
15	Singapore	43	8.5%	

# (2) One or more overseas affiliates for sales

	Country/ Reigion	No. of respondents (company)	Proportion
1	China	303	59.6%
2	us	254	50.0%
3	Thailand	189	37.2%
4	EU14	157	30.9%
5	Singapore	143	28.1%
6	Taiwan	140	27.6%
7	Korea	126	24.8%
8	Hong Kong	119	23.4%
9	Indonesia	116	22.8%
10	India	110	21.7%
11	Vietnam	83	16.3%
12	uĸ	76	15.0%
13	Malaysia	73	14.4%
	Mexico	73	14.4%
15	Brazil	60	11.8%

# (Reference) Percentage of Responding Companies with Production Facilities



Note: "EU14" is colored for all member countries. Central and Eastern Europe has been omitted. Source: This map was created by JBIC based on "CraftMAP."(http://www.craftmap.box-i.net/)

<Definitions of regions in this survey>

NIEs3 South Korea, Taiwan, Hong Kong

ASEAN5 Singapore, Thailand, Indonesia, Malaysia, Philippines ASEAN10 ASEAN5+ Vietnam, Myanmar, Cambodia, Laos, Brunei

North America USA, Canada

**EU1** Germany, France, Italy, the Netherlands, Belgium, Greece, Luxembourg, Denmark, Spain,

Portugal, Austria, Denmark, Spain, Portugal, Austria, Finland, Sweden, Ireland

Central and Poland, Hungary, Czech Republic, Slovakia, Bulgaria, Romania, Slovenia

Eastern Europe Albania, Croatia, Serbia, Montenegro, Bosnia and Herzegovina, North Macedonia

<Geographical classification of China in this survey>

Northeast China (Heilongjiang, Jilin, Liaoning)

North China (Beijing, Tianjin, Hebei, Shandong)

East China (Shanghai, Jiangsu, Anhui, Zhejiang)

South China (Fujian, Guangdong, Hainan)

**Inland** (provinces and autonomous regions other than those listed above)

\*Taiwan and Hong Kong are included in the NIEs3.



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# 2. Overseas Business Performance

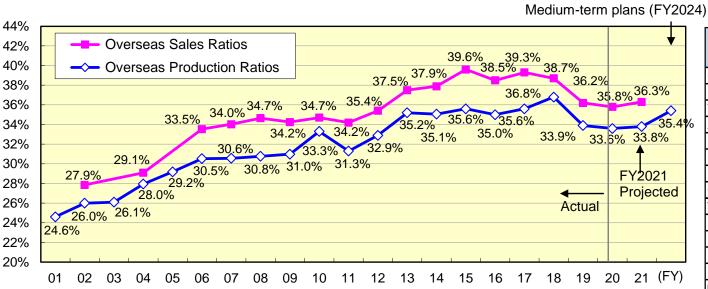




# (1) Basic Data: Overseas Production/Sales Ratios



Figure 2.1 Trends in Overseas Production/Sales Ratios (FY2001 onwards, all industries)



Note 1: Calculation methods of various indicators (all consolidated basis)

Overseas Production Ratio = Overseas Production / (Domestic Production + Overseas Production) Overseas Sales Ratio = Overseas Sales / (Domestic Sales + Overseas Sales)

Note 2: Each of the ratios in the graph is a simple average based upon the values reported by responding companies.

Note 3: Surveys were not performed of overseas sales ratios in 2003 and 2005.

Reference: Contribution to the decline in overseas production ratio (FY2019-2020 / by industry)

Industry Type	Contribut the dec	
Chemicals		-0.6
Precision Machinery		-0.3
Textiles		-0.2
Automobiles		-0.1
Paper, Pulp & Wood		-0.1
General Machinery		-0.1
Metal products		-0.1
Other		0.0
Transportation Equipment		0.0
Petroleum & Rubber		0.0
Steel		0.1
Nonferrous Metals		0.1
Food		0.1
Electrical Equipment & Electronics		0.1
Ceramics, Cement & Glass		0.2
Total	-0.3	

Note: This is calculated by weighting the rate of the decline from last year based on the number of companies responding to this year's survey.

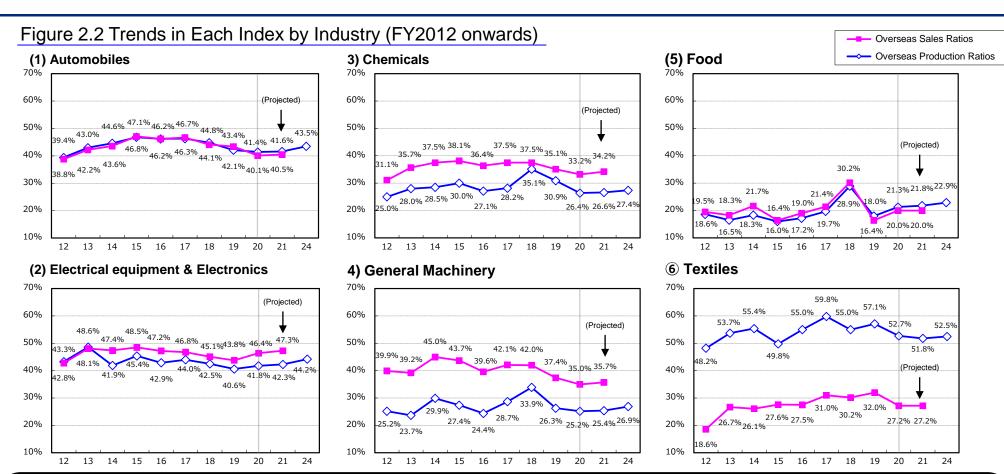
### ■There are signs of bottoming out, full recovery from COVID-19 is not expected until FY2024 or later.

- Overseas production/sales ratios in FY2020 continued to fall from last year due to COVID-19, but the decline was smaller than that of last year. Although the
  impact of COVID-19 remained significant in FY2020, many respondents said that the recovery production in the second half of the year made up for it.
- The projected results for FY2021 are expected to show a slight increase in both of the production ratio and the sales ratio, and the impact of COVID-19 is expected
  to bottom out in FY2020-21. However, although the overseas production ratio is planned to recover to 35.4% in FY2024, it is not expected to reach the pre-COVID19 level of FY2018.



# (1) Basic Data: Overseas Production/Sales Ratios by Industry





- Major industries are moving in different directions, electrical equipment & electronics recovering to their pre-COVID-19 levels.
- As for the overseas production ratio, automobiles (42.1%→41.4%) and general machinery (26.3%→25.2%) continued to decline slightly. Many companies commented that semiconductor shortages and production cutbacks and parts procurement were affected by restrictions on going out due to COVID-19 had large impacts. On the other hand, in the chemical industry, the overseas production ratio decreased (from 30.9% to 26.4%) due to the spread of COVID-19 infection, On the other hand in the chemical industry, the overseas production ratio decreased (30.9%→26.4%), but the overseas sales ratio decreased only slightly due to inventory adjustments etc.
- The only major industry to see an increase was electrical equipment & electronics, where the ratio of overseas production rose slightly (40.6%→41.8%). Some companies commented that the increase was due to capital investment related to semiconductors in the digital industry and the expansion of production of PC peripherals, for which demand increased due to COVID-19.



# (2) Performance Evaluations (by Major Countries/Regions)



Question

Please select the answer that best describes your company's FY2020 profits when compared with the initial targets (by countries/regions).

# Figure 2.3 Evaluation of Overseas Earnings Performance

	(%)
Above the target	17.9
Mostly as planned	44.9
Below the target	37.2

Note: This is a simple average of the evaluation scores for each destination region and country.

## ■ Earnings performance were affected by how COVID-19 was suppressed in each country.

- From this year's survey, we began assessing the actual performance instead of assessing the level of satisfaction.
   37.2% of companies said that overseas earnings in FY2020 were below the target, compared to 17.9% who said they were above the target. The actual results of overseas business were lower than planned.
- By country/region, while most of the responses were generally in the 10% range for exceeding the plan, China (27.5%) and the US (21.4%) had relatively high results. Some company said "In the U.S., the spread of COVID-19 prevented profits from rising in the first half of 2020, but in the second half, the suppression of the infection and the rapid economic recovery were successful.
- In Asia, India and ASEAN, where the situation of COVID-19 worsened, were conspicuous for reporting lower than
  the targets. By country, in addition to Thailand and Indonesia, Myanmar, where the political and social situation
  has become unstable, were conspicuous for falling.

# Figure 2.4 Overseas Performance Evaluation (by Country/Region)





# (2) Performance Evaluations: Reasons (by Major Countries/Regions)



Figure 2.5 Performance Evaluations: Reasons for Exceeding the Target

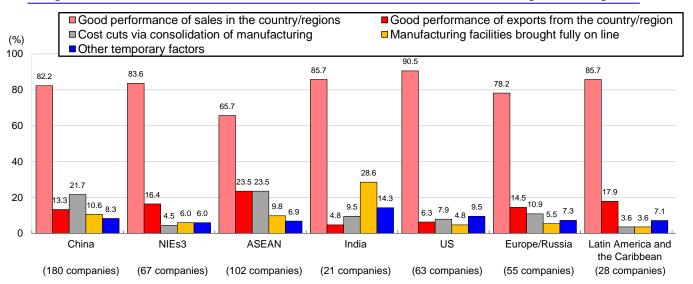
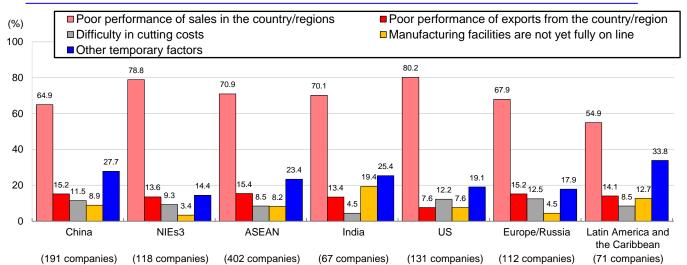


Figure 2.6 Performance Evaluations: Reasons for Falling Below the Target



- Cost reduction in China and ASEAN, and domestic demand in the U.S. are the background of the strong performance.
- "Good performance of sales" are the common reason of solid revenue performance.
- Looking at the other reasons, "Steady cost reduction" and "Steady exports" were selected in China and ASEAN. In India, "Full-scale operation of production facilities" was selected by a relatively large number of respondents. In US, on the other hand, few respondents selected options other than "Sales activities are going well. These differences, though slight, are characteristic of these countries and regions.
- Decline in consumption due to the impact of COVID-19 will cause a slump in sales activity
- Most of the companies which below planned target selected "Poor performance of sales". At the same time, "other temporary factors" were also cited in all regions, suggesting that the spread of COVID-19 caused a drop in sales due to restrictions on activities and reduced consumer behavior.
- As in the analysis of the reasons for the strong performance above, "Manufacturing facilities are not yet fully online "was selected in India, suggesting that efforts to start full-scale operations are more active there than in other regions.

Note: Percentages represent the ratio of each option to the number of respondent companies which operate in the country/region. Multiple answers are allowed.



# (2) Performance Evaluations: Reasons (by Major Countries/Regions)



Figure 2.7 Performance Evaluations: Reasons for Exceeding the Target (ASEAN)

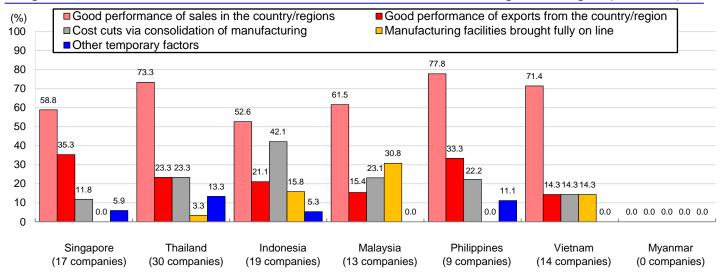
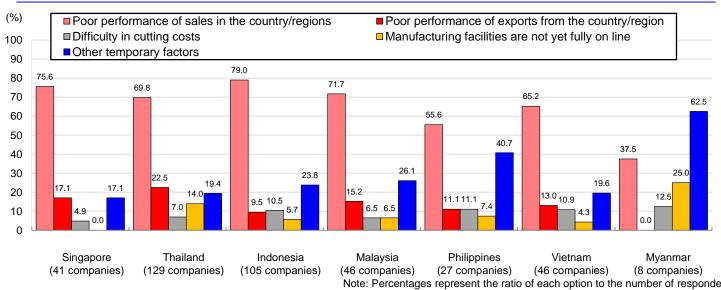


Figure 2.8 Performance Evaluations: Reasons for Falling Below the Target (ASEAN)



## Regional sales in ASEAN support the performance, while exports also drove it

- A common factor supportingg business performance in ASEAN is " Good performance of sales".
- As for other factors, "cost reduction is going well" in Indonesia and "exports are going well" in Singapore and the Philippines received the most votes.
- At the hearing, one of the respondents said, "We were able to achieve the planned figures for the whole year because we recovered production in the second half of the year" (automobile parts).

# Strongly reflects the influence of COVID-19

- The main reason for the lower-thanplanned earnings results was "other temporary factors" following "sluggish sales activities" in the U.S., reflecting the strong impact of COVID-19.
- Looking at the number of companies that responded by country, Thailand (129 companies) and Indonesia (105 companies) both had more than 100 companies, but on the flip side, these numbers suggest that Japanese companies have high expectations for these countries.

Note: Percentages represent the ratio of each option to the number of respondent companies which operate in the country/region. Multiple answers are allowed.



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# 3. Business Prospects and Promising Countries/Regions





# (1) Future Business Expansions: Stance Toward Strengthening/Expanding Business (Overseas/Domestic)



Question

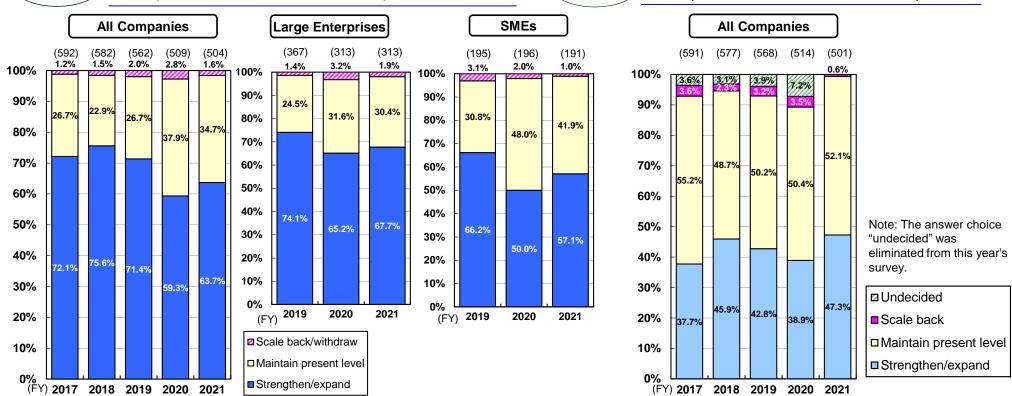
What are your medium-term prospects (the next 3 years) for your overseas and domestic operations?



Figure 3.1 Medium-term (Next 3 Years) Prospects for Overseas Business Expansion



Figure 3.2 Medium-term (Next 3 Years) Prospects for Domestic Business Expansion



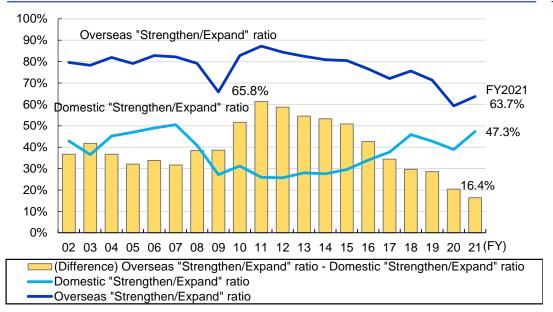
- Although there was a slight recovery in the "Strengthen/Expand", the wait-and-see attitude toward overseas business continued.
- In the last fiscal year, the number of companies that answered that they would "maintain present level" increased by 11.2 points, which indicates the spread of COVID-19 infection had put their current judgment on hold. In this fiscal year, the number of companies that answered that they would "strengthen and expand" in the medium term increased by 4.4 points as the infection prolonged and they have adapted to the situation. However, the percentages have not yet returned to the level before the COVID-19 pandemic. The percentage of the companies that would "maintain present level" was 34.7%, and some of them said they "cannot make a decision at this time," indicating that they continue to reserve judgment.
- In domestic businesses, "Strengthen/Expand" increased, but it is not very powerful.
- Due in part to the elimination of the answer choice "undecided" in this survey, "strengthen/expand" increased to 47.3%, while "maintain present level" increased to 52.1%. In the interviews, some companies chose to "strengthen/expand" their domestic businesses passively, as it was difficult to foresee their overseas businesses due to COVID-19.



# (1) Future Business Expansions: Stance Toward Strengthening/Expanding Business (Overseas/Domestic) - Cross Analyses



Figure 3.3 Shift in Intentions to Strengthen/Expand Business (2002-2021)



# Recovery in motivation for overseas business is weaker in the COVID-19 pandemic than in the financial crisis 2008.

 After the financial crisis of 2008, "strengthen/expand" recovered rapidly from 65.8% (FY2009) to 82.8% (FY2010), but in the wake of COVID-19, it regained only 4.4 points, from 59.3% (FY2020) to 63.7% (FY2021). In the interviews, it was suggested that the recovery process from the COVID-19 pandemic has caused a semiconductor shortage and logistic disruptions and that there is still uncertainty about the impact on businesses.

### Linkage between overseas and domestic businesses

 A cross-analysis for overseas and domestic businesses shows that companies choosing "strengthen/expand" or "maintain present level" for both businesses has increased over the past decade. This suggests that the linkage between domestic and overseas business expansions has been stronger.

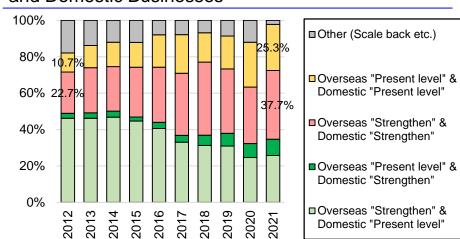
Figure 3.4 Cross Analysis of Prospects for Overseas and Domestic Business

Mediu	m-term Prospects (next 3 y	yrs. or so)	
Overseas business	Domestic business	No. of respondent companies	Proportion
	Strengthen/expand	189	59.2%
Strengthen/expand	Maintain present level	129	40.4%
(319 companies)	Scale back	1	0.3%
	Strengthen/expand	45	25.9%
Maintain present level	Maintain present level	127	73.0%
(174 companies)	Scale back	2	1.1%
	Strengthen/expand	3	37.5%
Scale back/withdraw	Maintain present level	5	62.5%
(8 companies)	Scale back	0	0.0%

Note: For data by industry, please refer to the Appendix.

(n= 501 companies)

Figure 3.5 Increasing Linkage between Overseas and Domestic Businesses





# (1) Future Business Expansions: Stances Toward Strengthening/Expanding Business by Industry



Figure 3.6 Prospects for Medium-term Overseas Business Expansions

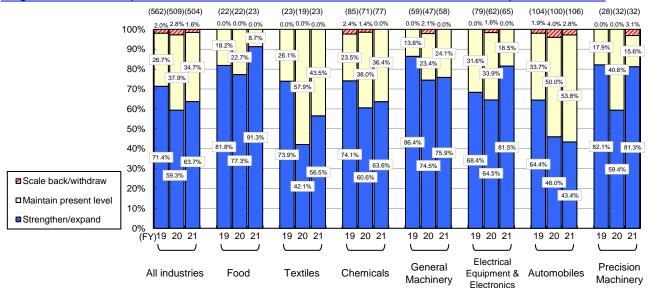
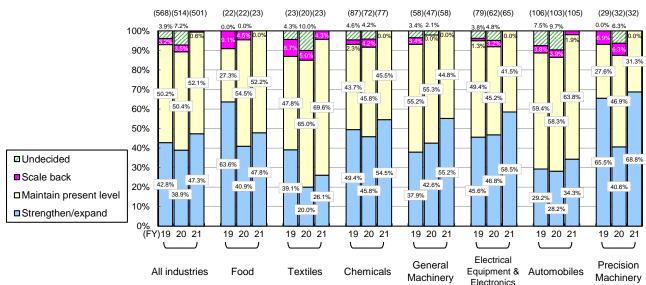


Figure 3.7 Prospects for Medium-term Domestic Business Expansions



- While many industries are regaining "strengthen/expand", the recovery in the automobile industry is weak.
- All industries except for the automobile sector have increased their intentions to "strengthen/expand" their overseas businesses. In particular, electrical equipment & electronics, precision machinery, food and textiles have shifted to a significantly stronger stance toward strengthening/expanding overseas operations compared to last year.
- On the other hand, in the automotive sector, there
  was a decrease in "strengthen/expand (down 2.6
  points from the previous year). In the survey form, one
  of the respondents commented, "It is difficult to make
  a forecast due the spread of COVID-19 infection"
  (Automobile).
- "Strengthen/expand" is rising in all industries.
- The survey found that the attitudes toward domestic expansion are increasing in all industries. In particular, the percentage of precision machinery companies which said they would "strengthen/expand" rose significantly from 40.6% to 68.8%. Other notable increases were also seen in electrical equipment & electronics (from 46.8% to 58.5%) and general machinery (from 42.6% to 55.2%).
- The interviews revealed that several companies are hurrying for exports to China, which has quickly recovered from the COVID-19 pandemic, and to the United States, where demand is rapidly recovering.

Note 1: The option "undecided" was eliminated from this year's survey.

Note 2: For detailed data, please refer to the Appendix#1.



# (2) Promising Countries: Potential Countries/Regions in the Medium-term - Ranking



Question

Please list up to five promising countries for business development in the medium-term (the next three years). (Multiple answers allowed, open-ended)

## Figure 3.8 Promising Countries for Overseas Business over the Medium-term (Next 3 Years)

\*Percentage of votes (%) =Number of votes for country / Number of respondent companies

R	ankiı	ng		No. Comp		Perce Shar	- 1
2021	<b>←</b>	2020	Countries (Total)	2021	2020 356	2021	2020
1	_	1	China	162	168	47.0	47.2
2	_	2	India	131	163	38.0	45.8
3	1	5	US	113	98	32.8	27.5
4	1	3	Vietnam	105	131	30.4	36.8
5	1	4	Thailand	77	111	22.3	31.2
6	_	6	Indonesia	67	96	19.4	27.0
7	_	7	Philippines	31	37	9.0	10.4
8	1	9	Mexico	30	32	8.7	9.0
9	1	8	Malaysia	27	34	7.8	9.6
10	1	12	Taiwan	19	18	5.5	5.1
11	_	11	Germany	17	20	4.9	5.6
12	1	15	Korea	16	12	4.6	3.4
13	1	16	Brazil	13	11	3.8	3.1
14	_	14	Australia	12	14	3.5	3.9
14	1	16	Singapore	12	11	3.5	3.1
16	1	10	Myanmar	10	25	2.9	7.0
16	<b>♣</b>	13	Bangladesh	10	16	2.9	4.5
16	1	19	Russia	10	8	2.9	2.2
16	1	20	Turkey	10	7	2.9	2.0
20	1	28	Canada	7	3	2.0	0.8

Note 1: Countries with the same rank were ordered based upon their rank in the previous survey.

Note 2: See the appendix for the results prior to FY2019.

### The top two countries remained unchanged. Attention to the U.S. and Taiwan increased.

- China remained at the top in the ranking of promising countries/regions for overseas business over the medium-term, with India in second. In terms of the percentage shares, China saw only a slight decrease of 0.2pt, while India saw a significant drop of 7.8pt.
- Only the U.S. and Taiwan increased their votes among the top 10 countries/regions, and while most of the ASEAN countries saw their votes decline, these two countries appear to be attracting more attention.

## ■ ASEAN is influenced by COVID-19, the U.S. is voted by a wide range of industries.

- ASEAN (especially Vietnam and Thailand), which was severely affected by the spread of COVID-19, saw a significant drop in the number of votes compared to last year. Meanwhile, the U.S. rose to third place, due to the support of automotive and semiconductor-related companies. In recent years, the U.S. has been rising close to India, so future changes in the ranking will be closely watched.
- Taiwan is in the top 10, and Germany is the leader in Europe.
- With support from chemicals and general machinery, Taiwan made it into the top 10 for the second time in 10 years.
- It should be noted that countries/regions from 11th to 20th and thereafter have fewer votes and are easy to change their rankings, but the decline in Myanmar, where the political and social situation has become unstable, was remarkable (from 10th to 16th), with both the votes and the percentage share falling to less than half.
- In Europe, expectations for Germany are strong. Expectations are high for technological collaboration with German companies and as a partner for business development in Eastern Europe.

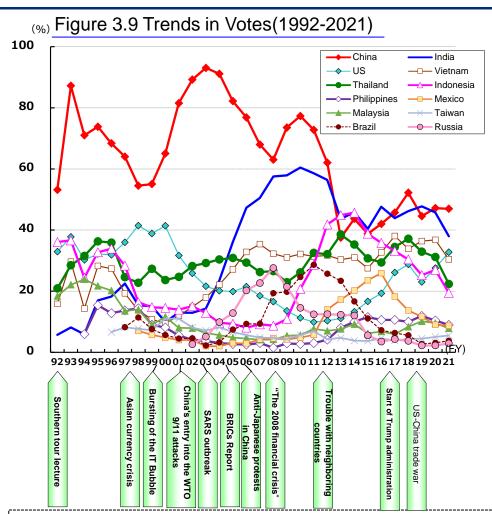
### <List of countries below 21st place>

Ranking	No. of Companies	Countries
21	6	Cambodia, France, Japan
24	4	UK, Netherlands
26	3	UAE, Italy, Poland, Kenya
30	2	New Zealand, Bahrain
32		Laos, Saudi Arabia, South Africa, Chile, Spain, Egypt, Hong Kong, Portugal, Iran, Iraq, Peru, Serbia, Slovenia



# (2) Promising Countries: Potential Countries/Regions in the Medium-term - Trends in Votes





## No major change in the bipolarization, but some top-ranking countries/regions lost votes due to COVID-19

- While China and India have been competing for the top since 2014, the bipolarization in the top 10 remained unchanged.
- One feature of this year's survey is that India, Vietnam, Thailand, and Indonesia, among the top-ranking countries, lost their percentage share, probably as a result of the strong impact of the spread of COVID-19. As a result of Indonesia drop below 20%, the difference in the percentage share between Indonesia (6th) and the Philippines (7th), which had been considered as the borderline between the top and bottom in the bipolarization, has narrowed significantly (from 17 points to 10 points).
- Against this backdrop, the U.S., which supported from a wide range of industries including the automotive sector, has made a breakthrough. (See next page)

# China and India have changed their industry composition to be more promising

- The automotive industry, which had been the driving force behind China and India, saw its vote drops in both countries (see next page). In this regard, in the interviews, it was pointed out that China's popularity is not necessarily declining, saying "We have achieved a certain level of business results in China, and we don't dare to say that it is a promising country in the future" (automobile parts).
- On the other hand, the number of votes for electrical equipment & electronics and general machinery expanded, reflecting expectations for sectors in China where demand has expanded due to COVID-19, such as food and pharmaceutical manufacturing equipment. This led to a widening of the gap in the number of votes with India, which lost votes in all four major industries.

(Note 1) Source of data on direct investment: Ministry of Finance, Fiscal and Financial Statistics Monthly (Special Issue on Balance of Payments: Balance of Payments Statistics by Region) (1991-2004) Bank of Japan, "Balance of Payments Statistics (Direct Investment by Industry and Region)" (2005-2014)

Bank of Japan, "Balance of Payments Statistics (Direct Investment Flows)" (2015-2018)

Prior to 2005, data by industry sector did not exist, so the total amount is shown.

(Note 2) "Number of responding companies" here indicates the number of companies that responded to "reasons for promising" and "issues" out of the total number of responding companies in each country/region shown in Figure 3.17. Therefore, it is not necessarily the same as the number of responding companies in Figure 3.17.

(Note 3) "Ratio" is calculated by dividing the number of companies that responded to each item (multiple responses allowed) by the number of companies that responded to promising reasons or issues in each country/region.

<sup>&</sup>lt;Notes on page 21 and following.



**Automobiles** 

Myanmar Kenya

# (2) Promising Countries: Potential Countries/Regions in the Medium-term Trends in Votes (4 Major Industries)



Figure 3.10 Trends in Votes (4 Major Industries)

Note: Figures are calculated for countries for which industry data for the past 10 years are available.

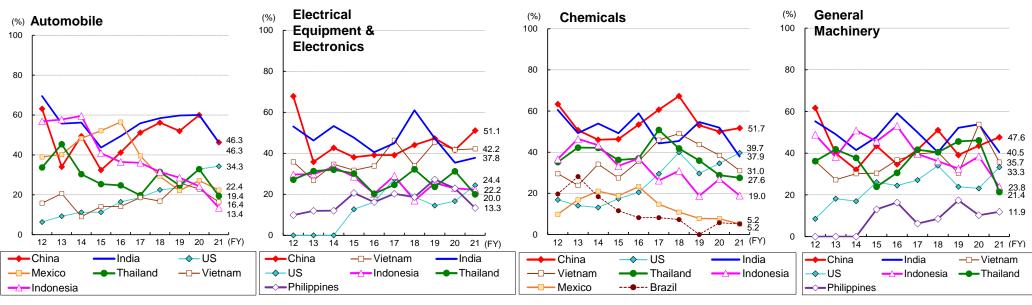


Figure 3.11 Promising Countries for Overseas Business over the Medium-term (Next 3 Years) (4 Major Industries)

Rank	Country	FY2021	FY2020	
Kank	Country	(Total 67)	(Total 70)	
1	China	31	42	
1	India	31	42	
3	US	23	23	
4	Mexico	15	19	
5	Thailand	13	23	
6	Vietnam	11	16	
7	Indonesia	9	17	
8	Philippines	6	5	
9	Germany	2	3	

Elect	rical	Equipm	nent	&	Elex	tronics	

Electrical Equipment & Elextronics						
Rank	Country	FY2021	FY2020			
Italik	Country	(Total 45)	(Total 48)			
1	China	23	20			
2	Vietnam	19	20			
3	India	17	17			
4	US	11	8			
5	Indonesia	10	11			
6	Thailand	9	15			
7	Philippines	6	11			
8	Malaysia	5	3			
9	Brazil	4	3			
9	Mexico	4	3			
9	Singapore	4	2			
9	France	4	0			

### Chemicals

Rank	Country	FY2021	FY2020			
Nank		(Total 58)	(Total 52)			
1	China	30	26			
2	US	23	18			
3	India	22	27			
4	Vietnam	18	20			
5	Thailand	16	15			
6	Indonesia	11	14			
7	Korea	7	6			
8	Malaysia	6	6			
9	Taiwan	5	6			
10	Germany	4	2			

### **General Machinery**

Rank	Country	FY2021	FY2020		
	Nank	Country	(Total 42)	(Total 39)	
	1	China	20	17	
	2	India	17	21	
	3	Vietnam	15	21	
	4	US	14	9	
	5	Indonesia	10	15	
	6	Thailand	9	18	
	7	Malaysia	8	6	
	8	Philippines	5	4	
	8	Taiwan	5	4	
	10	Russia	4	3	
			·	· ·	

2

2



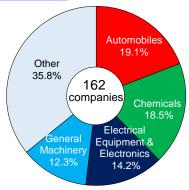


# No.1 China (→)

Vote Share: 47.0% (-0.2 pt from last year)

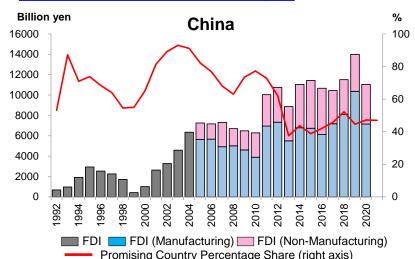
Highest: 93.1% (2003) Lowest: 37.5% (2013)

### Breakdown by Industry



### Vote Share and Outward FDI of Japan

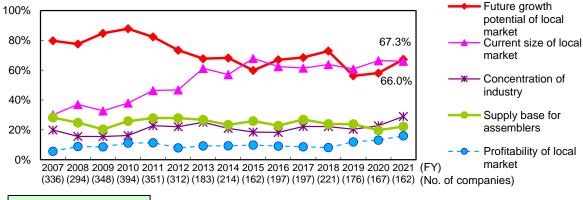
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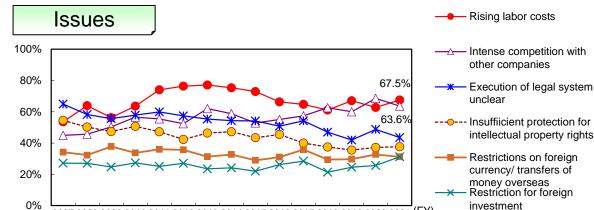


### ■ Maintaining the top position with a stable percentage of votes

- It continues to hold the top from last year. Although the actual amount of FDI has fallen from the level before COVID-19, there continues to be a strong sense of expectations about the current size and future growth potential of the local market, and the percentage of companies with business plans for China also increased from the previous year. There was only a small drop in the vote share, leaving India in second.
- Regarding the issues, many companies continue to cite "rising labor costs" and "intense competition with other companies." It is also noteworthy that concerns about "restrictions for foreign investment" have grown slightly presumably with a backdrop of the U.S.-China tensions.

# Promising Reasons





2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 (FY) (325) (285) (336) (377) (339) (300) (179) (199) (159) (187) (190) (211) (155) (156) (154) (No. of companies)



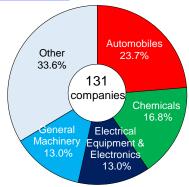


# No.2 India $(\rightarrow)$

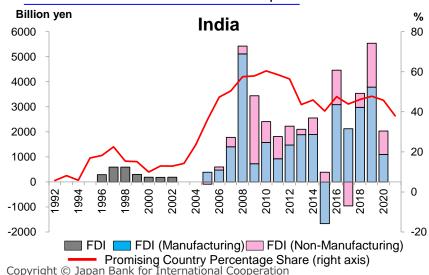
Vote Share: 38.0% (-7.8 pt from last year)

Highest: 60.5% (2010) Lowest: 5.7% (1992)

### Breakdown by Industry



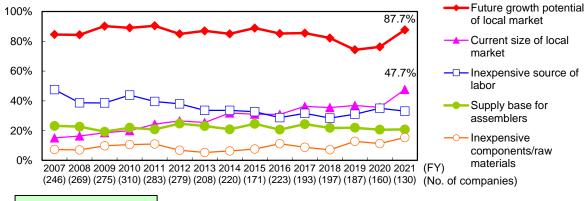
### Vote Share and Outward FDI of Japan



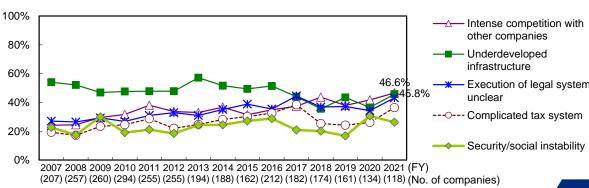
### Vote share declined due to COVID-19

- India, where there was a COVID-19 outbreak, saw a significant drop in the vote share compared to last year. In addition to a drop in the actual amount of FDI, the percentage of companies with business plans is also lower than China and the U.S. Whereas expectations for "future growth potential of local market" were higher than in last year, whether the market will expand will decide future rankings.
- In the interviews, in addition to the continued lack of logistics and delivery services, the network environment has not been able to keep up with the increase in e-commerce transactions caused by COVID-19, and they are missing out on commercial opportunities (electrical equipment & electronics).

# **Promising Reasons**



# Issues





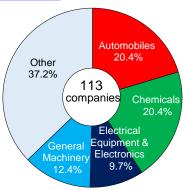


# No.3 USA (↑)

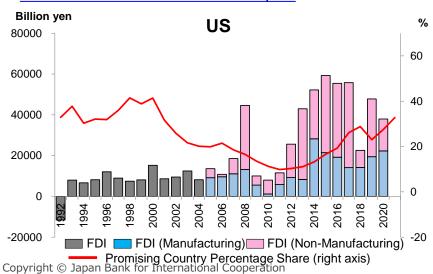
VoteSshare: 32.8% (+5.3 pt from last year)

Highest: 41.5% (1998) Lowest: 9.9% (2011)

### Breakdown by Industry



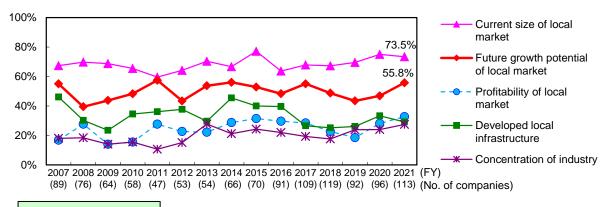
### Vote Share and Outward FDI of Japan



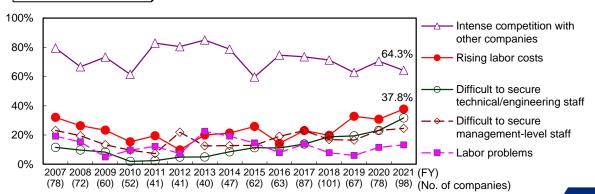
# Support from a wide range of industries but challenges in labor-related issues

- Among the top 10 countries, the U.S. recorded the largest increase in vote share from the
  previous year, and the highest vote share since 2001. With the policy of promoting the shift
  to EVs and the entry of major Japanese automakers into the U.S. market, it seems that the
  number of relevant companies promising the U.S. has newly increased. All four major
  industries are increasing their support. In addition, the actual amount of direct investment
  and the percentage of companies with plans for U.S. also grew, showing solid popularity.
- As in the previous year, expectations for a large marketwere apparent, but issues related to labor costs and labor problems, such as recruiting workers, were also evident.

# Promising Reasons



## Issues





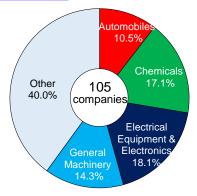


# No.4 Vietnam (↓)

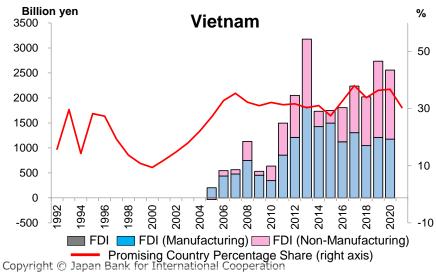
Vote Share: 30.4% (-6.4 pt from last year)

Highest: 38.1% (2017) Lowest: 9.4% (2000)

### Breakdown by Industry



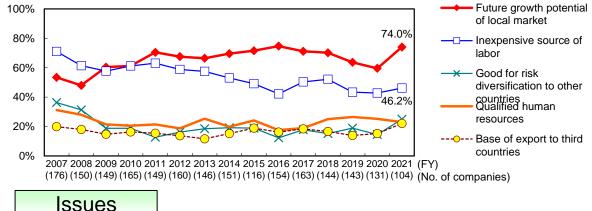
### Vote Share and Outward FDI of Japan

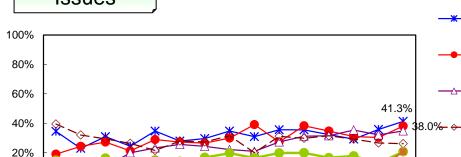


## Vote drops due to COVID-19, but remains as ASEAN's leading country

- Vietnam received broad support from a variety of industries as usual, but the votes fell sharply, especially in major industries such as automobiles and chemicals (from 131 to 105), and the percentage of companies with plans is also sluggish (from 35.1 to 32.4%). Inter interviews, one said, "We review promising countries every year, and this year we changed our focus from Vietnam to China, the U.S. and others." (automobile parts).
- As for promising reasons, expectations for "future growth potential of local market" and "base of export to third countries" are increasing. While "inexpensive source of labor" is expected, "rising labor costs" is emerging as an issue. As for issues, "execution of legal system unclear" got the most votes.

# Promising Reasons





Intense competition with other companies 8.0% ← - Difficult to secure

management-level staff

Rising labor costs

Execution of legal system

unclear

Execution of tax system unclear

2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 (FY) (142) (144) (136) (156) (121) (129) (132) (127) (110) (132) (141) (127) (113) (109) (92) (No. of companies)



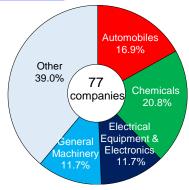


# No.5 Thailand (↓)

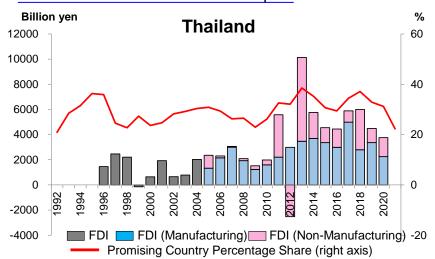
Vote Share: 22.3% (-8.9 pt from last year)

Highest: 38.5% (2013) Lowest: 20.9% (1992)

### Breakdown by Industry



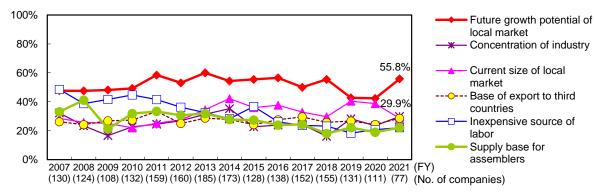
### Vote Share and Outward FDI of Japan



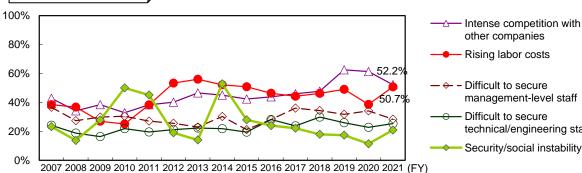
### Remains at 5th, but vote share dropped significantly

- The drop in the vote share from last year was the largest among the top 10 countries /regions, falling to the lowest level since the survey began, and the FDI also declined.
- In terms of promising reasons, "concentration of industry," "supply base for assemblers" and "base of export to third countries" were selected in addition to the growth potential of the market. Thailand kept its position in fifth due to its geographical advantage and stable base for receiving foreign companies. However, 50% of companies pointed out rising labor costs as an issue as it's the highest level in the ASEAN region. In comparison with Vietnam(4th) and Indonesia(6th), there were fewer votes for the uncertainty of the legal and taxation systems.

# **Promising Reasons**



### Issues



← - Difficult to secure

Difficult to secure technical/engineering staff

Security/social instability

(112) (117) (104) (128) (133) (137) (157) (142) (118) (121) (122) (134) (104) (88) (67) (No. of companies)

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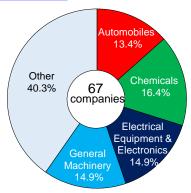


# No.6 Indonesia (→)

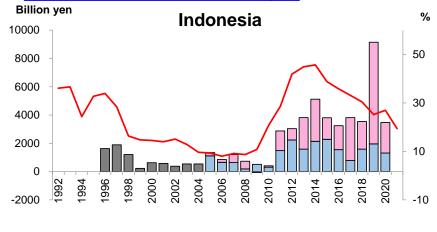
Vote Share: 19.4% (-7.6 pt from last year)

Highest: 45.7% (2014) Lowest: 8.1% (2006)

### Breakdown by Industry



### Vote Share and Outward FDI of Japan

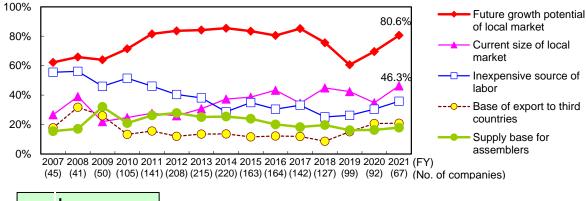


FDI (Manufacturing) EDI (Non-Manufacturing) Promising Country Percentage Share (right axis)
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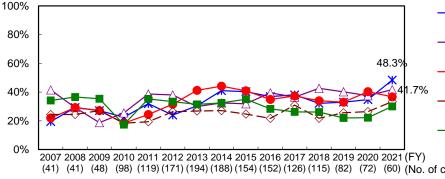
## ■ High expectations for the market's growth potential hold 6th place

- The vote share decreased as well as other ASEAN countries, but expectations for the "future growth potential of local market" has been steady. The "current size of local market" was also at a high level, indicating strong expectations for market acquisition. One of the interviewees said. "This is a market where long-term population growth is expected, and future economic growth is also expected."
- In terms of issues, "execution of legal system unclear" emerged as the top. This may be the flip side of the expectations, but the development of the systems to accept foreign companies is an issue.

# **Promising Reasons**



# Issues



 Execution of legal system unclear

Intense competition with other companies

Rising labor costs

— 

→ 

— Difficult to secure management-level staff

Underdeveloped infrastructure

(41) (41) (48) (98) (119) (171) (194) (188) (154) (152) (126) (115) (82) (72) (60) (No. of companies)





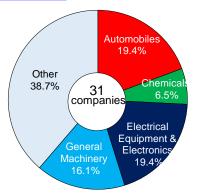
# \*

# No.7 Philippines (→)

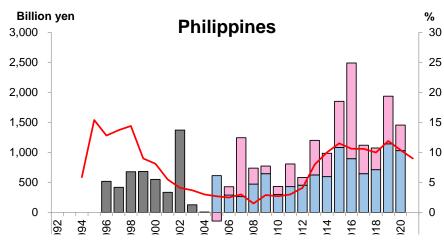
Vote Share: 9.0% (-1.4 pt from last year)

Highest: 15.4% (1995) Lowest: 1.5% (2008)

### Breakdown by Industry



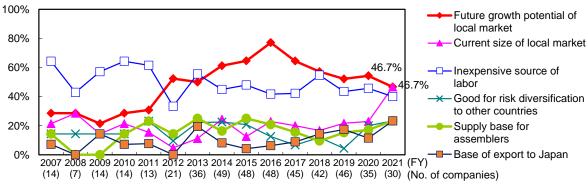
### Vote Share and Outward FDI of Japan



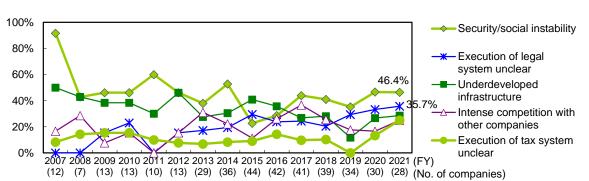
# Expectations for the current size of the market are increasing while the market growth is waning.

- It kept 7th while decreasing its votes. In terms of promising reasons, "Future growth
  potential of local market" decreased (from 54.3% to 46.7%) but "current size of local
  market" was chosen by 46.7%, which indicates that expectations for the market
  acquisition are very strong. Expectations for "base of export to Japan" are high as well.
- In terms of issues, concerns about security and social conditions continued to gain a large number of votes compared to other ASEAN countries. After 2019, when the Corporate Recovery and Tax Incentives for Enterprises (CREATE) Act was passed, votes for "execution of tax system unclear" tend to increase.

# Promising Reasons



## Issues







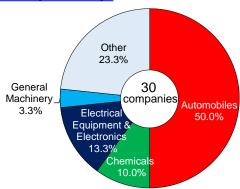
# •

# No.8 Mexico (↑)

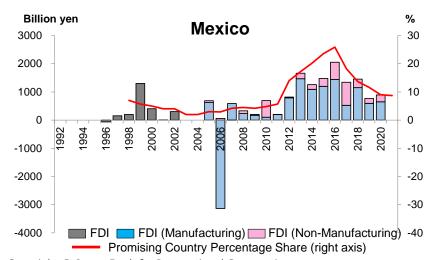
Vote Share: 8.7% (-0.3 pt from last year)

Highest: 25.9% (2016) Lowest: 2.0% (2003, 2004)

### Breakdown by Industry



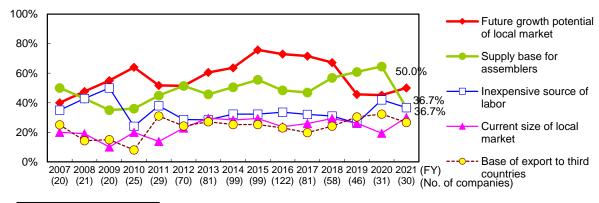
### Vote Share and Outward FDI of Japan



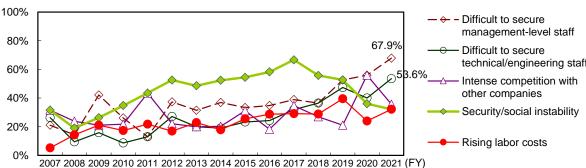
# Strong popularity from the automotive industry but weak expectations for market growth potential

- While ASEAN countries decreased their vote shares, Mexico's declined by only 0.3 pt, and consequently it moved up from 9th to 8th. However, while half of the companies that chose Mexico as a promising country were automobile parts manufacturers, expectations for "future growth potential of local market" and "supply base for assemblers" are both weakening, and it can be regarded as a risk that the country is losing its unique characteristics as an investment destination for the automotive industry.
- In terms of issues, "difficult to secure management-level staff" (67.9%) and "difficult to secure technical/engineering staff" (53.6%) were high, highlighting the challenges in human resources.

# Promising Reasons



## Issues



2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 (FY) (19) (21) (19) (23) (23) (59) (70) (84) (90) (115) (72) (52) (38) (25) (28) (No. of companies)

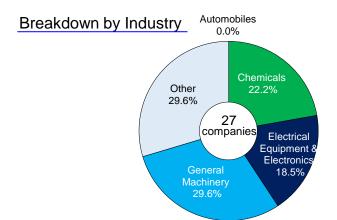




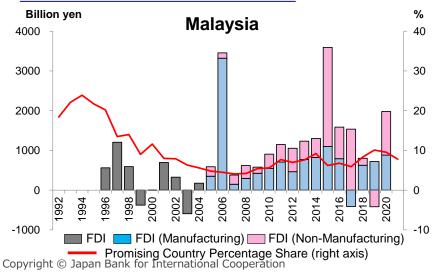
# No.9 Malaysia (↓)

Vote Share: 7.8 % (-1.8 pt from last year)

Highest: 23.9% (1994) Lowest: 4.1% (2007)



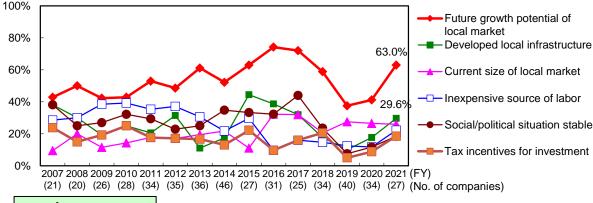
### Vote Share and Outward FDI of Japan



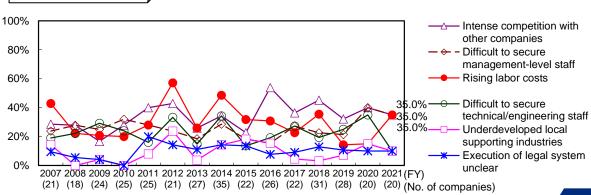
## Expectations for market growth potential recovered, but expectations from the automotive industry weakened.

- As in other ASEAN countries, Malaysia's vote share declined by 1.8pt. Expectations for
  "future growth potential of local market" kept increasing (41.2% to 63.0%), and
  "developed local infrastructure" was also on the rise (17.6% to 29.6%). In the interview,
  one respondent said, "Productivity is higher than in Indonesia" (ceramic, cement & glass).
- In terms of issues, "intense competition with other companies," "difficult to secure management-level staff" and "rising labor costs" got the most votes. Especially, there was a sharp rise in "rising labor costs" this year (from 15.0% to 35.0%).

# **Promising Reasons**



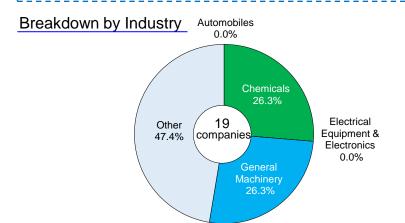
### Issues

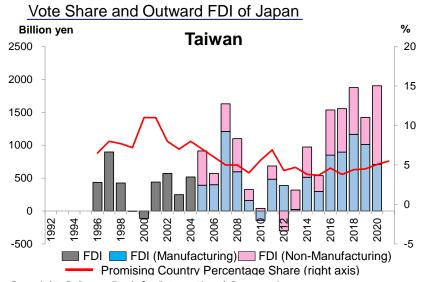








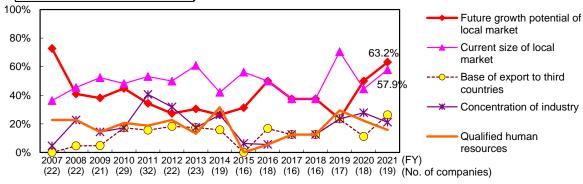


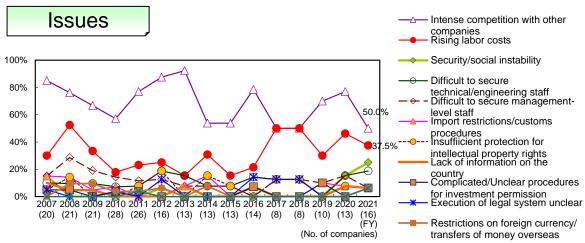


### Ranked 10th for the first time in 10 years since 2011

- Although there was no significant change in Taiwan's vote share, it moved up to 10th because other countries that had previously been close in the ranking had vote drops.
- Regarding the promising reasons, "future growth potential of local market" and "current size of local market" were the main attractions with high expectations for "concentration of industry" and "qualified human resources".
- In terms of the issues, many chose "intense competition with other companies" and "rising labor costs." There has been an increase in the number of respondents who are worried about the security and social situation from 2019, thus there is growing concerns about the political risks including the recent tensions between the U.S. and China.

# Promising Reasons







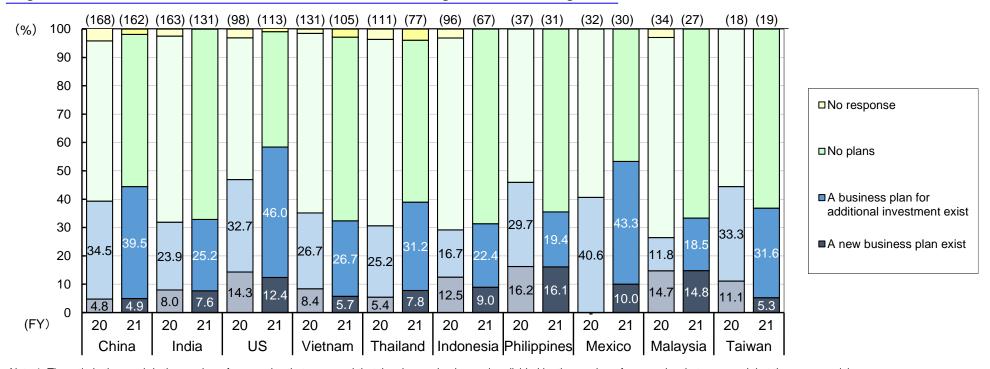
# (4) Promising Countries/Regions: Potential Countries/Regions over the Medium-term - Existence of Business Plans



Question

Please select the answer that best describes your company's business plan in each of the countries/regions listed in the Promising Countries/Regions over the medium-term (next 3 years).

# Figure 3.12 Existence of Business Plans in Promising Countries/Regions



Note 1: The ratio in the graph is the number of companies that answered that they have a business plan divided by the number of companies that answered that they are promising. Note 2: The number in parentheses on the bar graph is the number of companies that answered that the country was promising in Figure 3.8.

## ■ In the top 10 countries, the U.S. and China have high planned rates, while India and Vietnam have relatively low rates

- Among the top promising countries, the U.S. has the highest percentage of companies with investment plans (percentage with plans). More than half of the companies have actual investment plans, including both new expansion (12.4%) and additional investment (46.0%). China was next with percentage with plans of over 40%, indicating that the evaluation was made with actual business plans in mind.
- On the other hand, the planned rate in India and Vietnam is relatively low at about 30%.
- Such a high percentage with plans is also helpful in interpreting the results of the survey of promising countries, as it provides an insight into whether the reasons
  and issues for promising are real or imagined.



# (5) Promising Countries/Regions: Long-term Prospects

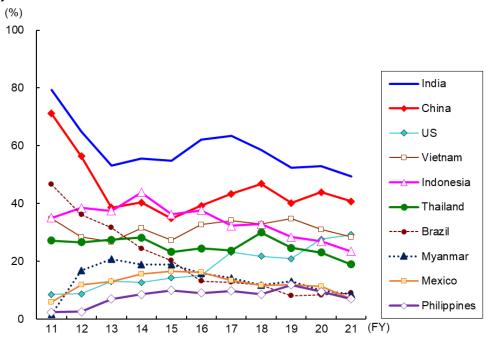


Figure 3.13 Promising Countries/Regions in the Long-term (Next 10 Years)

# (1) Results for FY2021

Ranking		ng	Country/Region	No. of Companies		Percentage Share(%)	
2021	$\leftarrow$	2020	(Total)	2021 243	2020 264	2021	2020
1	_	1	India	120	140	49.4	53.0
2	_	2	China	99	116	40.7	43.9
3	1	4	US	71	73	29.2	27.7
4	<b>Ū</b>	3	Vietnam	69	82	28.4	31.1
5	_	5	Indonesia	57	71	23.5	26.9
6	_	6	Thailand	46	61	18.9	23.1
7	1	10	Brazil	22	22	9.1	8.3
8	_	8	Myanmar	21	26	8.6	9.8
9	<b>₽</b>	7	Mexico	17	30	7.0	11.4
9		9	Philippines	17	25	7.0	9.5

# (2) Trends in Votes



## India retains top spot among long-term prospects, US moves up to third

- India took the top spot for the twelfth consecutive year for the promising countries in the next ten years or so, but its share of the vote declined significantly from the previous year (from 53.0% to 49.4%). China, which took 2nd this year, has gained its popularity and the gap in the number of votesbetween India and China is gradually narrowing. As in the case of the medium-term promising countries, Vietnam, which was severely affected by COVID-19, lost votes, and the U.S., which voted deep-rooted support, rose in the rankings.
- The overall number of votes (i.e., the number of responding companies) decreased (from 264 to 243) due to the impact of COVID-19, indicating that some companies are struggling to find medium-term prospects for overseas business development.
- Although the number of votes received decreased significantly, Myanmar continued to rank in the top 10. At the hearing, one respondent said, "We view the military coup as temporary, and it will not cause Myanmar to lose its geographical advantage or its value as a market" (electrical and electronics assembly).
- Mexico continued its downward trend in both rankings and number of votes cast, contrasting with the U.S., which kept its popularity.



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# 4. Hot Topics for Japanese Manufacturing Companies



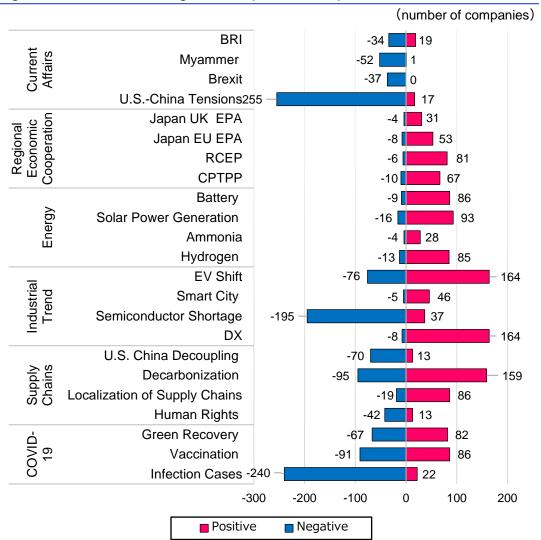


# (1) Hot Topics for Japanese Manufacturing Companies: What are the Hot Topics for Them?



Question Please choose news and event to which you are paying attention in planning your future overseas business strategy. (Multiple answers allowed).

Figure 4.1 Positive/Negative Topics for Japanese Manufacturers



## U.S-China Tensions, EV Shift, Semiconductor Shortage, and DX are the hot topics.

- As Figure 4.1 shows, "U.S.-China Tensions", "EV Shift,"
   "Semiconductor Shortage," "DX" and "Decarbonization" attract high levels of attention.
- As for key words related to regional economic partnership, although the level of attention is not so high in comparison with other topics, RCEP has attracted relatively large number of votes, followed by CPTPP, EU-Japan EPA, and UK-Japan EPA. All of them attract attention in positive context.
- As for energy issues, "Storage batteries," "Solar power generation," and "Hydrogen" have attracted attention. On the other hand, "Ammonia" has got only limited number of votes, because the number of companies related to Ammonia is limited.
- EV Shift and Decarbonization have attracted attention both in positive and negative context.
- We have also asked our respondents whether key words they
  choose is positive or negative for their business. It has turned out
  that respondents show uniform attitude to themes such as U.SChina Tensions, Semiconductor Shortage, DX, Regional
  Economic Cooperation.
- On the other hand, respondents have shown mixed reaction to EV shift and Decarbonization.



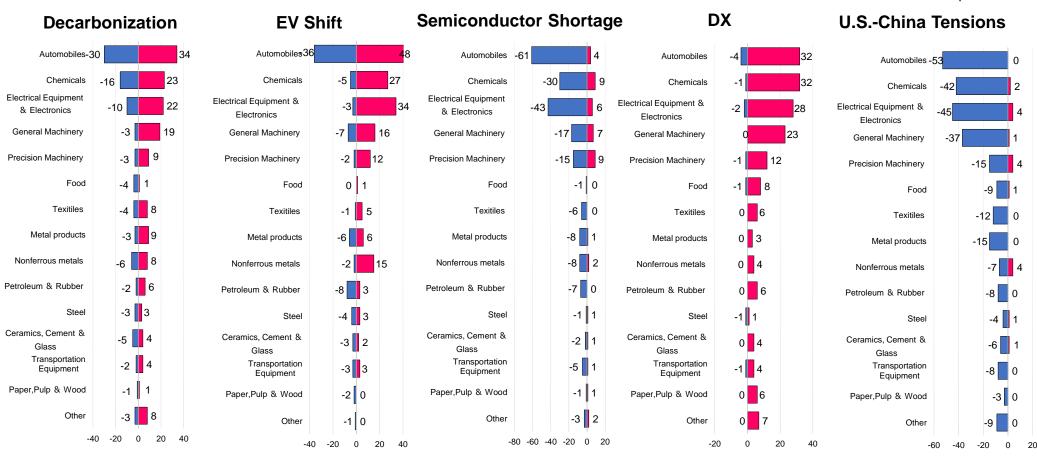
# (2) Hot Topics for Japanese Manufacturing Companies: Topics Dividing Their Opinions



- Future competitiveness of companies will depend on adaptation to "Decarbonization" and "EV Shift".
- Respondents, especially those in automotive and chemical industry, have shown mixed reaction to "Decarbonization". The automotive industry has shown mixed reaction to EV Shift as well. While some companies see these trends as leading to more business chances, there are also companies which take the trend merely as increasing costs. Such companies may lose competence in future.



(number of companies)



Negative

Positive



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## 5. Special Theme #1: Medium-term Prospects for Supply Chains





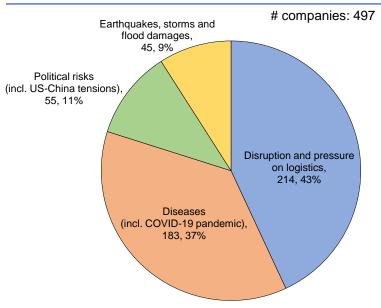
### (1) Supply Chains: External Shocks



Question

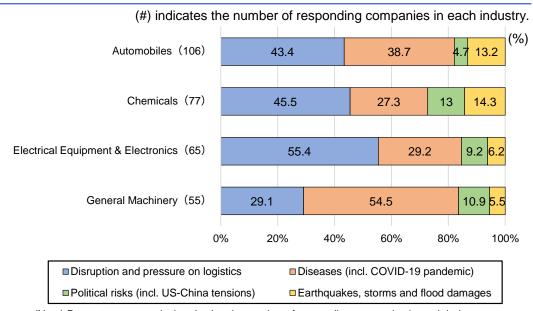
What external shock do you feel most threatened by in your company's production activities.

Figure 5.1 Threatening External Shocks



(Note) Percentages are calculated using the number of responding companies in each industry as the population parameter.

Figure 5.2 Threatening External Shocks (4 Major Industry)



(Note) Percentages are calculated using the number of responding companies in each industry as the population parameter.

#### The most threatening external shock is "disruption and pressure on logistics."

- In the telephone interviews, the following comments were made: "The supply of parts and raw materials was stagnant due to lockdowns" (electrical equipment & electronics), "We were affected by the Suez Canal obstruction" (automobiles and chemicals), "There were lost opportunities due to shortage of containers in the U.S." (chemicals), and "Transportation costs soared due a container shortage and reduced air traffic" (ceramics, cement & glass). It can be seen that companies with long supply chains place the highest priority on logistics.
- The second most chosen was "diseases (incl. COVID-19 pandemic)" (183 companies, 37%). We heard comments such as "We had no choice but to suspend factory operations because of the infection situation, and the impact was greater this year than last year since there was a series of lockdowns" (chemicals) and "We reduced mine operations due to lockdowns" (nonferrous metals). Industries and companies which require constant monitoring and invest a large amount of labor place importance on this factor.
- The companies that mentioned "political risks (incl. U.S.-China tensions)" (55 companies, 11%) appear to have important transactions between the U.S. and China, such as "Concerned about increased costs including tariffs on raw materials exported from China to the U.S." (textiles) and "U.S. affiliates purchase tools from China, so there is a risk of additional tariffs due to the appreciation of the yuan and the friction between the U.S. and China" (metal products).



### (2) Supply Chains: Building Resilience



Question

What do you think are the most important elements to improve the resilience of supply chains against external shocks? (Multiple answers allowed)

Figure 5.3 Important Elements for SC Resilience

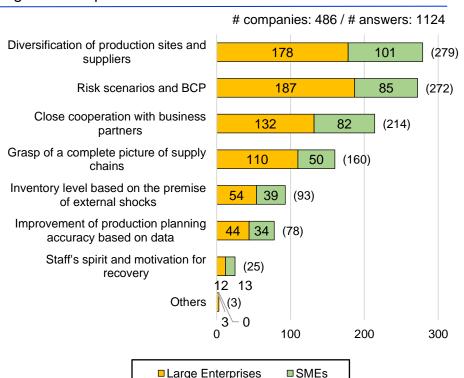
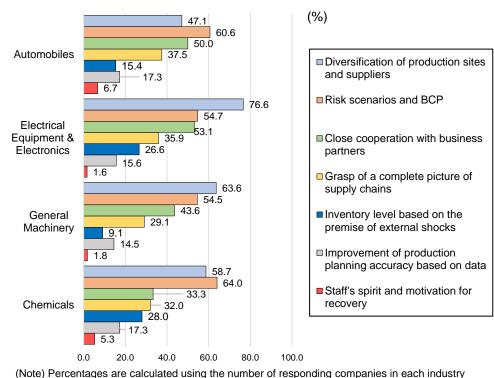


Figure 5.4 Important elements for SC resilience (4 Major Industry)



as the population parameter.

#### ■ Important elements for resilient supply chains are "diversification of production sites and suppliers" and "Risk scenarios and BCP".

- As for the elements necessary for supply chain (SC) resilience, "diversification of production sites and suppliers" (279 companies) was the most common, closely
  followed by "risk scenarios and BCP" (272 companies). "Close cooperation with business partners" (214 companies) was also common, indicating that
  collaboration among multiple companies is an element of SC resilience.
- By industry, "diversification of production sites and suppliers" was the most common in electrical and electronics (76.6%) and general machinery (63.6%), and less common in automobile (47.1%). This result reaffirms the complexity of the procurement structure of the automotive industry as a whole and suggests the difficulty of diversifying suppliers in normal times. Reflecting these characteristics, it was apparent that the automotive industry is trying to respond to external shocks by preparing "risk scenarios and BCP" instead.



### (3) Supply Chains: U.S.-China Decoupling



Question Regarding "U.S.-China decoupling", which measures has your company taken? In which direction is your company moving?

Figure 5.5 Response to US.-China Decoupling (Companies Responding for 2 Consecutive Years)

Already decoupled

Under procedure

Under consideration

No need to decouple

No discussion

Under consideration

14

11

2020

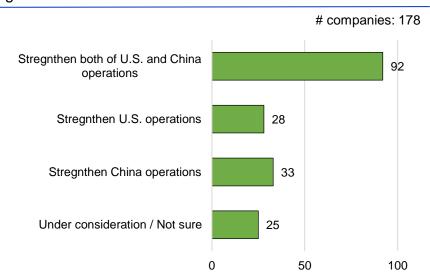
2021

254

No discussion

0 100 200 300

Figure 5.6 Preference between U.S. and China Businesses



#### Slight progress in decoupling compared to last year's survey

- The number of companies that responded that they have "already decoupled" increased from 65 to 91 when compared to the FY2020 survey. In the interviews, many companies said that their U.S. and Chinese businesses are originally separate, such as "We deliver products manufactured locally or in neighboring countries to customers in the U.S. and China, so our businesses are separate" (automobile) and "Our businesse is based on local production for local consumption, so there is no direct communication between the U.S. and China" (metal products, nonferrous metals, ceramics, cement & glass). However, there were companies aware of the friction between the U.S. and China, such as, "We separated our U.S. and Chinese operations in consideration of political risks as we diversified our production bases from China due to rising labor costs" (electrical equipment and electronics). Some also pointed out the difficulty of decoupling, saying "Decoupling is difficult because manufacturing cannot be completed in either the U.S. or China" (precision machinery).
- Many companies are strengthening their businesses in the US and China in a balanced manner.
- Companies that answered that they have "already decoupled", "under procedure" and "under consideration", were asked which of their U.S. and Chinese operations they would strengthen. As a result, the most common answer (92 companies) was "Strengthen both of U.S. and China operations", highlighting the trend of well-balanced manner in U.S.-China decoupling. As for the companies that would strengthen either their U.S. or Chinese operations, many of them have affiliates only in either the U.S. or China, and their business policy of prioritizing the existing affiliates stood out.



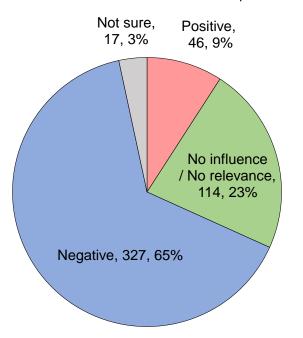
### (4) Supply Chains: Semiconductor Shortage



Question Regarding the global semiconductor shortage, how does it affect your company's production operations?

Figure 5.7 Impact of Semiconductor Shortage

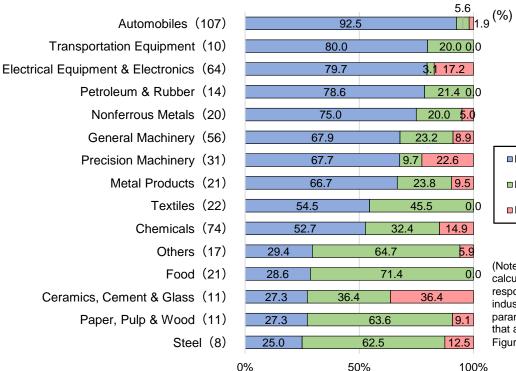
# companies: 504



(Note) Percentages are calculated using the number of responding companies as the population parameter.

#### Figure 5.8 Impact of Semiconductor Shortage (by Industry)

# companies: 487, (#) indicates the number of responding companies in each industry.



■ No influence / No relevance
■ Positive

■ Negative

(Note) Percentages are calculated using the number of responding companies in each industry as the population parameter, excluding companies that answered "Not sure" in Figure 5.7.

#### Semiconductor shortage affects most of the industries.

- When asked about the impact of the semiconductor shortage, the largest share of 65% (327 companies) answered that they were negatively affected. On the other hand, 9% of companies (46 companies) answered that they have been positively affected.
- The impact of the semiconductor shortage varied greatly by industry. Among companies that were negatively affected, comments from the demand side for semiconductors were heard, such as "Orders for products decreased due to production cuts of automobiles" (automobiles, metal products, textiles and chemicals) and "Procurement of materials used in products was delayed" (precision machinery). Among companies that received a positive impact, many of the comments came from the supply side of semiconductors, such as "Semiconductor manufacturing equipment business was strong due to increased semiconductor-related capital investment" (precision machinery, chemicals, ceramics, cement & glass) and "Sales of semiconductor materials were strong" (chemicals). The results of this year's survey reaffirmed the fact that the semiconductor-related industry encompasses a wide range of industries.



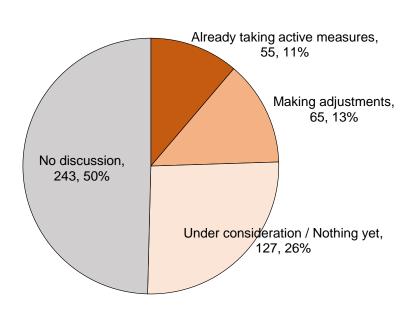
### (5) Supply Chains: Human Rights Issues



Question Regarding human rights in supply chains, which measures has your company taken?

Figure 5.9 Response to Human Rights Issues

# companies: 490



(Note) Percentages are calculated using the number of responding companies as the population parameter.

Figure 5.10 Response to Human Rights Issues (4 Major Industry)

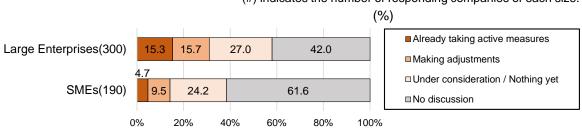
(#) indicates the number of responding companies in each industry.



(Note) Percentages are calculated using the number of responding companies in each industry as the population parameter.

Figure 5.11 Response to Human Rights Issues (by Company Size)

(#) indicates the number of responding companies of each size.



(Note) Percentages are calculated using the number of responding companies of each size as the population parameter.

#### 24% have begun to take some kinds of actions on human rights, but the percentage varies by industry and company size.

- With regard to human rights issues, 55 companies (11%) are "already taking active measures" and 65 companies (13%) are "making adjustments," indicating that
  about a quarter of the companies are working on the issues. Looking at these positive attitudes by industry, electrical equipment & electronics and chemicals
  were high at around 30%, surpassing automobiles and general machinery.
- In the interviews, many cited "strengthening traceability of raw materials" (textiles), while other made comments such as "taking assessments from external organizations regarding child labor" (non-ferrous metals), "receiving assessments for use of conflict minerals" (metal products), and "considering on-site visits to suppliers and the use of surveys in the future" (chemicals). There was also a comment that "European companies have stricter requirements" (ceramics, cement & glass), indicating that there is a growing demand from business partners.



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## 6. Special Theme #2: Initiatives for Digital Transformation





#### (1) DX: Status of Progress



Question

Please select the answer that best describes the future impact of DX conversion at your affiliates in Japan or overseas.

Figure 6.1 Status of Progress in DX

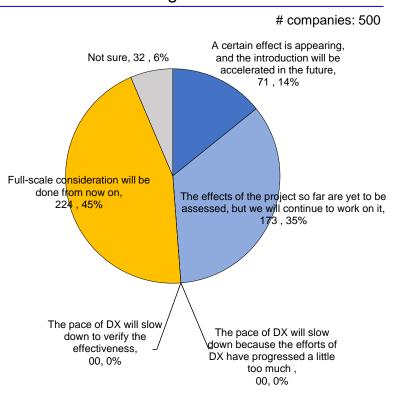
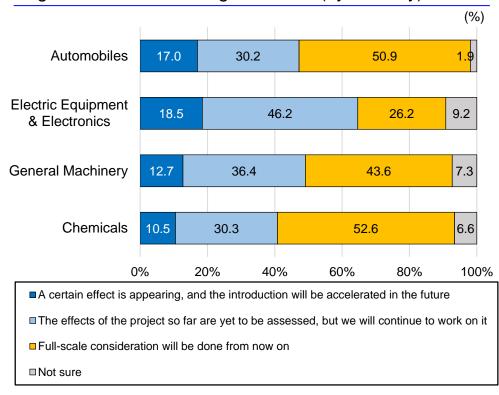


Figure 6.2 Status of Progress in DX (by Industry)



#### Half of companies have already adopted DX, and no one is slowing down

- When asked about the status of their DX progress, half of the respondents answered, "A certain level of effectiveness is appearing, and the introduction will be accelerated in the future" (14%) and "The effects of the project so far are yet to be assessed, but we will continue to work on it" (35%). Half of the companies (45%) said that full-scale consideration will be done form now on, but none said that they would slow down, indicating a positive attitude toward DX.
- By major industry, the electric equipment and electronics industry was the most active, followed by general machinery and automobiles. However, there were some cautious comments at the interviews, such as "We are somewhat satisfied with our current production efficiency, so we are hesitant about DX together with enormous investment cost" (automobile parts) and "We have always given priority to improving the efficiency of plant facility operations, so we are a bit late to the DX trend" (chemicals).



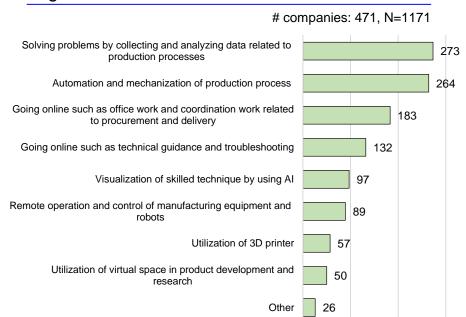
#### (2) DX: Areas of Initiatives



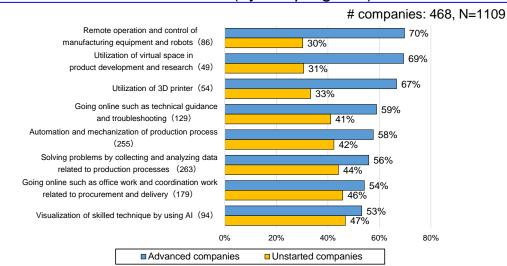
Question

Please select the answers that are close to your company's actions related to DX. (Multiple answers allowed)

#### Figure 6.3 Areas of DX Initiatives



#### Figure 6.4 Areas of DX initiatives (by DX progress)



Note 1: Advanced companies in DX consist of the company that a certain level of effectiveness is appearing, and the introduction will be accelerated in the future and the company that the effects of the project so far are yet to be assessed, but we will continue to work on it. Unstarted companies in DX are the company that Full-scale consideration will be done form now on.

Note 2: Companies that answered "not sure" in DX initiatives were excluded from the calculation. Percentages are calculated using the number of responses for each answer. The answer "Other" is excluded.

#### ■ DX adoption was progressing in the manufacturing and R&D sectors, but not necessarily in line with overall interest.

300

200

100

- Concerning the areas of DX initiatives, there was a strong interest in areas related to the improvement of production processes. Many of the respondents are also interested in introducing DX in back-office operations, such as procurement and delivery to improve work efficiency, and in customer service departments for improving the technical guidance and trouble-shooting.
- We also analyzed differences in areas for DX initiatives by the levels of DX progress. The results showed that advanced companies in DX implementation are
  relatively more interested in areas such as "remote operation and control of manufacturing equipment and robots" and "utilization of virtual space in product
  development and research." This is an interesting result because it suggests that leading companies are embarking on DX in areas that did not necessarily attract
  much interest in the overall votes.
- The interviews pointed out not only the growing need for "high demand from suppliers for online technical guidance and trouble-shooting" (precision machinery), but also the lack of human resources and the difficulty of evaluating the cost effectiveness of DX investments, such as "the scale of SMEs can't afford to invest for DX except for production processes" (metal products) and "setting KPIs for DX-related IT investments and measuring ROI are issues" (chemicals).



#### (3) DX: Challenges



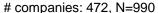
Question

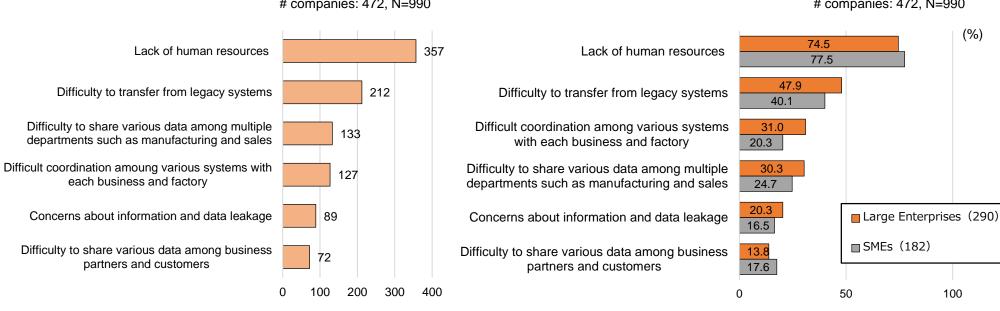
Please select the numbers that are close to your idea about the tasks in your company's DX efforts. (Multiple answers allowed)

Figure 6.5 Challenges for DX

# companies: 472, N=990

Figure 6.6 Challenges for DX (by Company Size)





#### ■ The challenges for DX are securing human resources and transferring from legacy systems

- Concerning challenges for DX, the most common issue overall was "lack of human resources" (357 companies), followed by "difficulty to transfer from the legacy systems" (212 companies), highlighting how the existence of so-called legacy systems is hindering the promotion of DX. In addition, the lack of a data infrastructure for data sharing and inter-system collaboration was also found to be an issue.
- We compared the perception of the challenges of DX implementation by company size. As a result, it was found that "lack of human resources" is the biggest issue regardless of the size of the companies, but SMEs are strongly aware that securing human resources is an issue in promoting DX. The second most common challenge was "transfer from legacy systems," which was also frequently mentioned in the interviews. "Coordination among various systems with each business and factory" was a relatively strong issue for large enterprises, and "data sharing among multiple departments, such as manufacturing and sales" was also the next most common issue, attracting a certain number of respondents. When asked about the coordination among existing systems and data sharing, the respondents said, "The digitization of office work for each business division has progressed rapidly, but data sharing among divisions still takes a lot of time" (precision machinery) and "Although each system of business divisions and factories are connected to the core system, building a seamless and company-wide system development is an extremely difficult task, especially from a cost perspective" (chemicals).



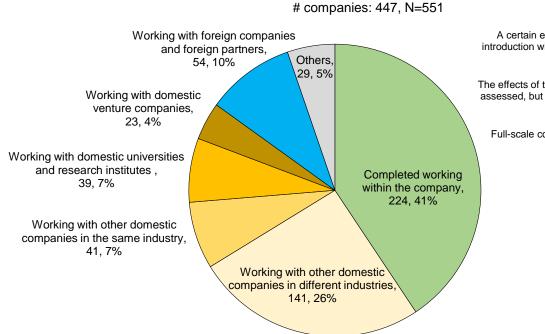
### (4) DX: Collaboration Partners



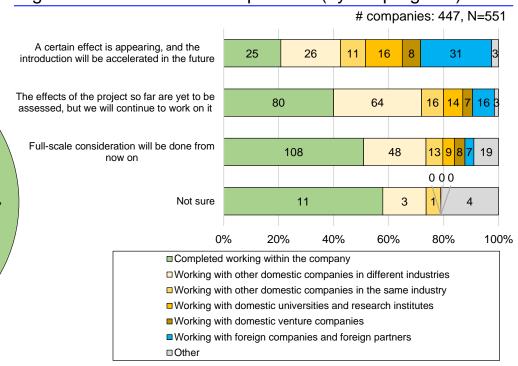
Question

What kind of partner does your company work with on DX? Please select the numbers that are close to your idea. (Multiple answers allowed)

#### Figure 6.7 DX Collaboration Partners (All Industries)



#### Figure 6.8 DX collaboration partners (by DX progress)



#### 40% of DX partnerships are in-house, but the more advanced companies are expanding their partnerships overseas

- Concerning partner companies with which they collaborate for DX implementation, the most common answer was "completed working within the company" (224 companies, 41%), followed by "working with other domestic companies in different industries" (141 companies, 26%). There were also a certain number of companies that chose "other companies in the same industry" and "working with domestic universities and research institutes." "Others" included working with governments, parent companies, subsidiaries and external experts such as consultants.
- According to the comparison of these DX partnership by level of DX progress of each company, we found that the more advanced the company is in DX, the less likely it is to complete DX projects in-house, and the more likely it is to seek external partnership. In particular, the most advanced companies that would accelerate DX were likely to choose overseas companies as partners. We also found a rare case that the headquarters in Japan had reimported a good practice of collaboration with local companies by its overseas subsidiaries (metal products), indicating that Japanese manufacturers are expanding their partnership overseas for collaboration in DX implementation.



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## 7. Special Theme #3: Initiatives for Decarbonization





### (1) Decarbonization: Impact of Decarbonization



Question

Please select the answer that best describes the impact of decarbonization on your company's business.

Figure 7.1 Impact of Decarbonization

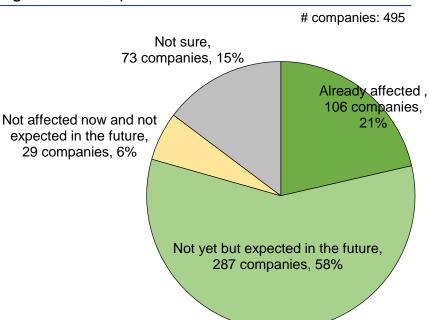
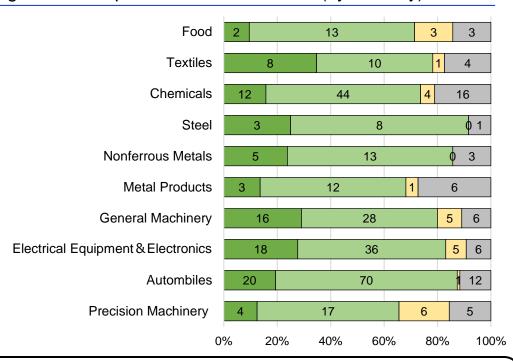


Figure 7.2 Impact of Decarbonization (by Industry)



#### ■ 79% of the respondents have answered that they are experiencing/expecting impact of decarbonization.

- 106 companies (21%) have chosen "already affected," and 287 companies (58%) have chosen "not yet but expected in the future." The percentages of companies which recognize the impact of decarbonization do not much vary by industry. Those which chose "already affected" include companies which are advanced in decarbonizing their business. For example, a certain Ceramic company, which we have interviewed, said that "We have set a stricter target for decarbonization than the government's target and take proactive measures."
- Companies which have chosen "not affected now and not expected in the future" also include both advanced companies which expect no further new impact
  because they had already taken action before decarbonization became the global agenda and some companies who have not taken any concrete action because
  they do not foresee any impact in the future. Furthermore, a certain Chemical company said "Although we can say that we are indirectly contributing to
  decarbonization through our EV-related business, we answered 'no impact' because we do not label our business as 'decarbonization business."



# (2) Decarbonization: Positive/ Negative Analysis of Impact of Decarbonization

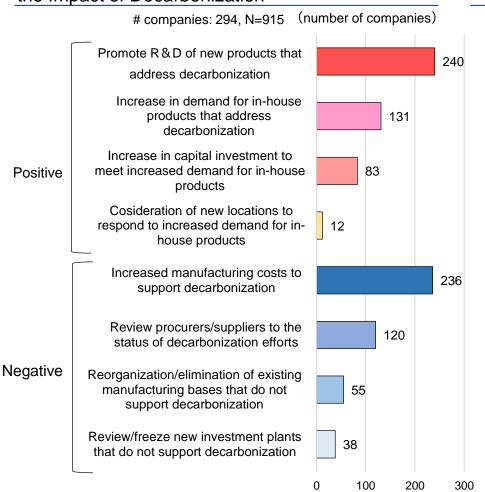


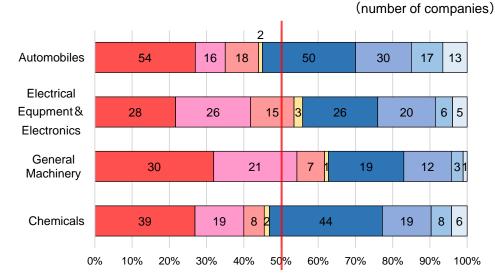
Question

For those who answered "1. already affected" or "2. not yet but expected in the future" in the previous question, please select the areas that are being affected or are expected to be affected. (Multiple answers allowed)

Figure 7.3 Positive/Negative Analysis of the Impact of Decarbonization

Figure 7.4 Positive/Negative Analysis of the Impact of Decarbonization (4 Major Industry)





#### Decarbonization has both positive and negative impact.

- The most common positive effect was "promotion of research and development of new product," which is chosen by 240 companies. On the other hand, the most common negative impact is "increase in manufacturing costs," which is chosen by 236 companies. In the interviews, we have heard many concerns about increasing prices of energy.
- By industry, more than half of the respondents in electronics and general machinery answer that decarbonization is positive because of increasing demand of their products. On the other hand, more than half of the respondents in automobiles and chemicals regard decarbonization as negative, affected by increasing cost of production.



### (3) Decarbonization: Impact on Countries/Regions



Question

For those who answered "1. already affected" or "2. not yet but expected in the future" in the previous question, Please select the countries/regions that are expected to be particularly affected. (Multiple answers allowed)

Figure 7.5 Impact on Countries/Regions

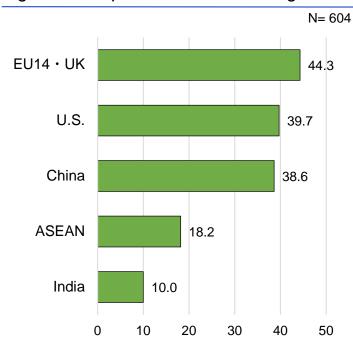


Figure 7.6 Cross Analysis of Impact on Countries/Regions

(number of companies)

				Cou	ıntry/F	Region	where	the im	apct	is expect	ed
			China		U.S	6.A	EU14	ı · uĸ	Α	SEAN	India
		Promote R & D of new products that address decarbonization	11	6		108		96		50	18
	itive	Increase in demand for in-house products that address decarbonization	7	0		58		62		36	11
impact	SO	Increase in capital investment to meet increased demand for in-house products	4	1		39		33	1	30	10
d im		Cosideration of new locations to respond to increased demand for in-house products		7		7		7		6	2
Expected	4	Increased manufacturing costs to support decarbonization	11	5		95		89		65	18
Ехр	ative	Review procurers/suppliers to the status of decarbonization efforts	5	4		47		46		37	12
	တ္တ	Reorganization/elimination of existing manufacturing bases that do not support decarbonization	2	3		19		19		16	5
		Review/freeze new investment plants that do not support decarbonization	2	3		18		14		16	5
		Total	18	2		154		143		91	27

#### ■The EU 14 and the UK is most likely to be affected.

- 44.3% of the respondents which have subsidies in EU 14 and the UK think that their operation there will be affected, while the rate is 39.7 % in the U.S and 38.6 % in China. Each region will be affected in each different way. For example, in our interview, a certain Ceramics company said that "The impact is expected to be felt in China and Europe. In China, decarbonization is proceeding in a planned manner under the leadership of the government, while in Europe the trend is proceeding at different pace in each different country, and it may not proceed as planned. India seems to be behind other countries."
- We have found that companies can be divided into three groups by their attitude to decarbonization: 1) those who see decarbonization as global trend and consider the impact inevitable; 2) those who focus on the trend's impact on countries/regions where they are operating business related to decarbonization; and 3) those who think that the extent of impact depends on policy and regulation of each government. Our finding is that while 1) is the most cautious approach, some companies take the approach of 3), based on local information.



### (4) Decarbonization: Efforts to Identify Emission Sources



Question

Please select the major emission sources that your company is focusing on in its decarbonization efforts. (multiple answers allowed)

Figure 7.7 Emphasized Emission Sources (by "Scope")

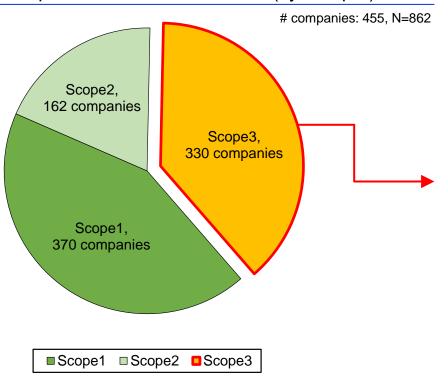
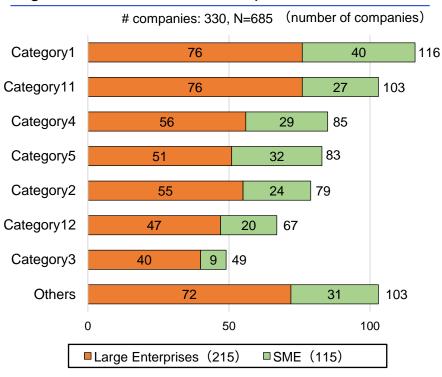


Figure 7.8 Breakdown of Scope 3



#### Many companies focus on decarbonization of their supply chain.

- Scope 1 of the GHG Protocol was chosen by the largest number of companies (370 companies), while Scope 3 was also chosen by 330 companies, which indicates a high level of interest in decarbonization of supply chains.
- As for the breakdown of Scope 3, many companies selected the categories shown in Figure 7-8. These categories correspond to emissions associated with the
  transportation of goods and the use and disposal of raw materials and products, which is characteristic of the manufacturing industry. A chemical company, which
  we interviewed, said "We are measuring and reducing procurement energy and reviewing delivery routes as part of our cost reduction efforts in factories. Rather
  than for the purpose of ascertaining the amount of emissions, we are naturally collecting information on emissions as we try reduce production cost."
- In addition, when asked specifically what they were doing to decarbonize their business, a large number of companies answered that they were switching to renewable energy.

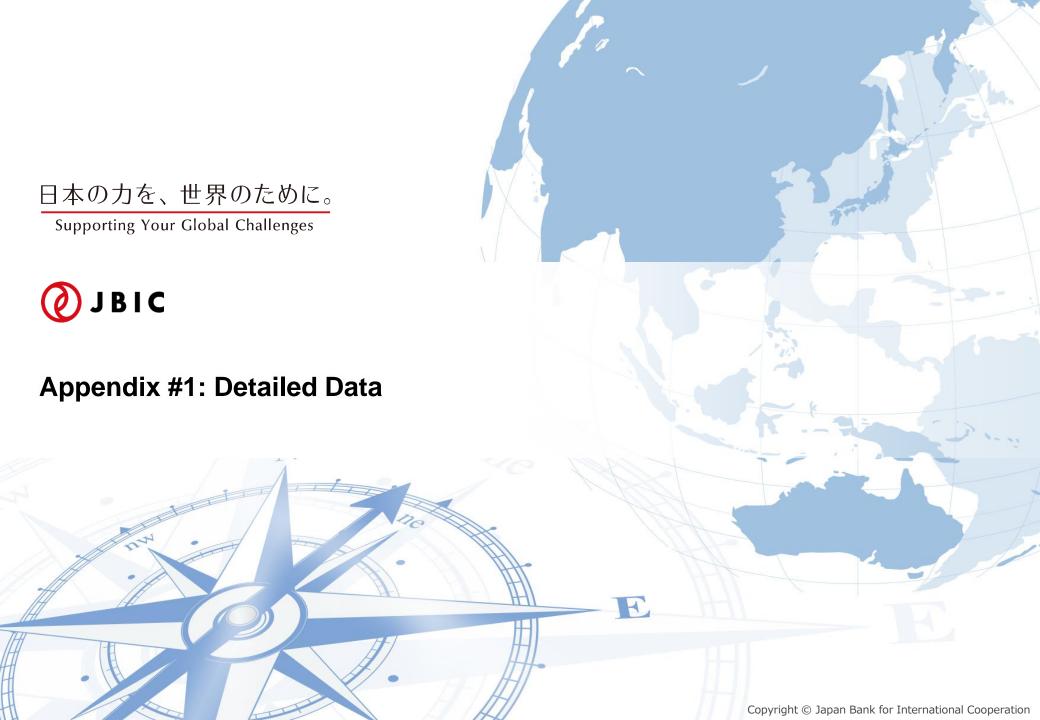


### (Reference) Examples of Initiatives by Category



Ca	itegory	Detail	Examples
	Category1	Purchased goods and services	Procurement of environmentally friendly raw materials and consumables, Reduction of paper consumption
	Category2	Construction/installation of plants/manufacturing facilities	Implementation of low-carbon facilities, Implementation of high-efficiency equipment
	Category3	Production of purchased fuels and energy	Increasing the percentage of renewable energy procurement, Implementation of low-carbon facilities, Implementation of high- efficiency equipment
upst	Category4	Transportation for procurement/delivery	Reducing the use of gasoline vehicles, Improving transportation efficiency by redeveloping the logistics network, Reducing the number of transportations (e.g., by ordering in one go)
upstream	Category5	Transportation or disposal of waste generated in operations	Reducing the use of gasoline vehicles, Improving transportation efficiency by redeveloping the logistics network, Reducing the number of transportations (e.g., by ordering in one go)
	Category6	Business travel	Reduction of business trips by introducing web conferencing
	Category7	Employee commuting	Teleworking, Utilizing public transportation
	Category8	Operation of leased assets	Selection and introduction of low-carbon, high-efficiency leasing assets
	Category9	Transpotation of sold products to the end consumer	Reducing the use of gasoline vehicles, Improving transportation efficiency by redeveloping the logistics network, Reducing the number of transportations (e.g., by ordering in one go)
	Category10	Process by which sold products become final products	Using environmentally friendly raw materials and consumables
dov	Category11	Use of sold products	Using refillable containers. Introduction of sharing services
downstream	Category12	Disposal of sold products	Reducing the use of containers and packaging, Improving the recycling rate
am	Category13	Operation of assets that are leased to other companies	Implementation of low-carbon facilities, Implementation of high-efficiency equipment
	Category14	Operation of franchises	Promoting visualization of emissions, Encouraging the introduction of low-carbon and high-efficiency equipment
	Category15	Operation of investments	Engaging investees to set emission reduction targets, Adjusting portfolio ratios according to the degree of reduction targets
No	te: Prepared by .	BIC Research Division with reference to GH	G Protocol, Ministry of Economy, Trade and Industry, Ministry of the Environment, company websites, etc. This example is only a part of the case study.

Note: Prepared by JBIC Research Division with reference to GHG Protocol, Ministry of Economy, Trade and Industry, Ministry of the Environment, company websites, etc. This example is only a part of the case study.



### **Overseas Production/Sales Ratios**



				Over	seas Pro	duction I	Ratio						0	verseas S	Sales Ra	tio		
	FY2		FY2			2020		2021	Mediur		FY2			2019		2020		2021
Industry	(act	No. of	(act	No. of	(act	uai) No. of	(proje	ected) No. of	plans(F	No. of	(act	No. of	(act	ual) No. of	(act	No. of	(proje	ected) No. of
Food	28.9%	Companie 18	18.0%	Companie 20	21.3%	Companie 19	21.8%	Companie 19	22.9%	Companie 19	30.2%	Companie 21	16.4%	Companie 22	20.0%	Companie 22	20.0%	Companie 22
Textiles	55.0%	21	57.1%	19	52.7%	22	51.8%	22	52.5%	20	30.2%	23	32.0%	20		<u> </u>	27.2%	<del>                                     </del>
Paper, Pulp & Wood	19.4%	9	19.4%	9	13.2%	11	13.0%	10	18.3%	9	19.4%	9	18.3%	9	16.8%	11	16.8%	11
Chemicals (total)	35.1%	69	30.9%	64	26.4%	70	26.6%	70	27.4%	67	37.5%	85	35.1%	74	33.2%	79	34.2%	76
Chemicals (incl. plastic products)	35.5%	66	32.1%	58	27.2%	65	27.3%	65	28.2%	62	38.1%	80	35.7%	68	33.9%	74	35.0%	71
Pharmaceuticals	28.3%	3	20.0%	6	17.0%	5	17.0%	5	17.0%	5	27.0%	5	28.3%	6	23.0%	5	23.0%	5
Petroleum & Rubber	32.3%	11	41.7%	12	43.2%	11	43.2%	11	44.1%	11	32.3%	11	40.0%	12	40.0%	12	40.0%	12
Ceramics, Cement & Glass	35.0%	7	30.7%	7	43.2%	11	44.0%	10	45.0%	10	42.5%	8	35.0%	10	41.7%	12	43.2%	11
Steel	31.2%	13	25.0%	15	27.0%	10	21.7%	9	23.8%	8	28.6%	14	24.4%	16	24.0%	10	23.9%	9
Nonferrous Metals	31.3%	24	35.0%	14	38.0%	20	38.2%	19	39.2%	19	35.8%	26	32.1%	17	34.0%	21	33.5%	20
Metal Products	40.6%	25	31.7%	24	30.0%	20	28.7%	19	29.2%	19	39.4%	27	35.8%	25	38.5%	20	37.6%	19
General Machinery (total)	33.9%	54	26.3%	45	25.2%	55	25.4%	54	26.9%	53	42.0%	57	37.4%	46	35.0%	57	35.7%	57
Assembly	34.5%	44	23.7%	39	23.8%	42	23.8%	41	25.3%	40	42.0%	47	37.0%	40	36.6%	44	37.3%	44
Parts	31.0%	10	43.3%	6	29.6%	13	30.4%	13	31.9%	13	42.0%	10	40.0%	6	29.6%	13	30.4%	13
Electrical Equipment & Electronics (total)	42.5%	68	40.6%	57	41.8%	56	42.3%	56	44.2%	53	45.1%	76	43.8%	65	46.4%	66	47.3%	66
Assembly	35.0%	32	33.5%	27	31.5%	23	32.0%	23	35.0%	21	35.9%	34	36.3%	30	34.6%	27	35.4%	27
Parts	49.2%	36	47.0%	30	48.9%	33	49.5%	33	50.3%	32	52.6%	42	50.1%	35	54.5%	39	55.5%	39
Transportation Equipment (excl. Automobiles)	21.7%	15	32.1%	14	30.8%	12	31.7%	12	38.0%	10	30.6%	16	34.3%	14	42.5%	12	41.7%	12
Automobiles (total)	44.8%	100	42.1%	99	41.4%	105	41.6%	104	43.5%	96	44.1%	104	43.4%	104	40.1%	108	40.5%	107
Assembly	47.5%	4	58.3%	3	40.0%	4	41.7%	3	30.0%	2	65.0%	5	77.5%	4	55.0%	5	60.0%	4
Parts	44.7%	96	41.6%	96	41.4%	101	41.6%	101	43.8%	94	43.1%	99	42.0%	100	39.4%	103	39.8%	103
Precision Machinery (total)	28.2%	28	30.3%	30	25.7%	29	26.4%	29	28.9%	28	43.6%	29	41.8%	31	37.0%	30	38.9%	28
Assembly	23.8%	16	23.9%	19	20.6%	18	20.6%	18	23.2%	17	43.8%	17	43.9%	19	35.6%	18	39.1%	17
Parts	34.2%	12	41.4%	11	34.1%	11	35.9%	11	37.7%	11	43.3%	12	38.3%	12	39.2%	12	38.6%	11
Other	28.0%	43	23.6%	42	23.1%	16	25.0%	15	27.0%	15	32.0%	54	26.7%	48	19.7%	17	16.9%	16
Overall	36.8%	505	33.9%	471	33.6%	467	33.8%	459	35.4%	437	38.7%	560	36.2%	513	35.8%	500	36.3%	489

Note 1: Overseas Production Ratio = Overseas Production / (Domestic Production + Overseas Production)

Note 2: Overseas Sales Ratio = Overseas Sales / (Domestic Sales + Overseas Sales)



#### Future Business Expansions: Stances Toward Strengthening/Expanding **Business by Industry (Overseas/International)**



	Overseas		gthen pand		ntain nt level		back draw
	Overseas	2020	2021	2020	2021	2020	2021
All	Industries	59.3%	63.7%	37.9%	34.7%	2.8%	1.6%
Fo	od	77.3%	91.3%	22.7%	8.7%	-	-
Te	extiles	42.1%	56.5%	57.9%	43.5%	-	-
Pa	per, Pulp & Wood	55.6%	63.6%	22.2%	36.4%	22.2%	-
Cr	nemicals (total)	60.6%	63.6%	38.0%	36.4%	1.4%	-
	Chemicals (incl. plastic products)	58.5%	63.9%	40.0%	36.1%	1.5%	-
	Pharmaceuticals	83.3%	60.0%	16.7%	40.0%	-	-
Pe	troleum & Rubber	53.8%	50.0%	46.2%	50.0%	-	-
Сє	eramics, Cement & Glass	66.7%	58.3%	33.3%	41.7%	-	-
St	eel	38.9%	66.7%	55.6%	25.0%	5.6%	8.3%
No	onferrous Metals	70.6%	57.1%	23.5%	38.1%	5.9%	4.8%
Me	etal Products	50.0%	52.4%	46.2%	42.9%	3.8%	4.8%
Ge	eneral Machinery (total)	74.5%	75.9%	23.4%	24.1%	2.1%	-
	Assembly	73.2%	80.0%	24.4%	20.0%	2.4%	-
	Parts	83.3%	61.5%	16.7%	38.5%	-	-
Ele	ectrical Equipment & Electronics (to	64.5%	81.5%	33.9%	18.5%	1.6%	-
	Assembly	69.0%	77.8%	27.6%	22.2%	3.4%	-
	Parts	60.6%	84.2%	39.4%	15.8%	-	-
Tra	Insportation Equipment (excl. Automobiles)	57.1%	72.7%	35.7%	27.3%	7.1%	-
Αu	tomobiles (total)	46.0%	43.4%	50.0%	53.8%	4.0%	2.8%
	Assembly	-	20.0%	-	60.0%	100.0%	20.0%
	Parts	46.9%	44.6%	51.0%	53.5%	2.0%	2.0%
Pr	ecision Machinery (total)	59.4%	81.3%	40.6%	15.6%	-	3.1%
	Assembly	65.0%	80.0%	35.0%	15.0%	-	5.0%
	Parts	50.0%	83.3%	50.0%	16.7%	-	-
Ot	her	72.0%	50.0%	26.0%	44.4%	2.0%	5.6%

Domestic		gthen and		ntain nt level	Scale	back	Undecided
	2020	2021	2020	2021	2020	2021	2020
All Industries	38.9%	47.3%	50.4%	52.1%	3.5%	0.6%	7.2%
Food	40.9%	47.8%	54.5%	52.2%	4.5%	-	-
Textiles	20.0%	26.1%	65.0%	69.6%	5.0%	4.3%	10.0%
Paper, Pulp & Wood	55.6%	30.0%	22.2%	70.0%	-	-	22.2%
Chemicals (total)	45.8%	54.5%	45.8%	45.5%	4.2%	-	4.2%
Chemicals (incl. plastic products)	45.5%	54.2%	45.5%	45.8%	4.5%	-	4.5%
Pharmaceuticals	50.0%	60.0%	50.0%	40.0%	-	-	-
Petroleum & Rubber	-	21.4%	76.9%	78.6%	-	-	23.1%
Ceramics, Cement & Glass	44.4%	41.7%	33.3%	58.3%	-	-	22.2%
Steel	31.6%	25.0%	57.9%	75.0%	5.3%	-	5.3%
Nonferrous Metals	41.2%	47.6%	47.1%	52.4%	5.9%	-	5.9%
Metal Products	52.0%	52.4%	40.0%	47.6%	4.0%	-	4.0%
General Machinery (total)	42.6%	55.2%	55.3%	44.8%	-	-	2.1%
Assembly	43.9%	57.8%	53.7%	42.2%	-	-	2.4%
Parts	33.3%	46.2%	66.7%	53.8%	-	-	-
Electrical Equipment & Electronics (total)	46.8%	58.5%	45.2%	41.5%	3.2%	-	4.8%
Assembly	44.8%	44.4%	48.3%	55.6%	3.4%	-	3.4%
Parts	48.5%	68.4%	42.4%	31.6%	3.0%	-	6.1%
Transportation Equipment (excl. Automobiles)	28.6%	54.5%	50.0%	45.5%	7.1%	-	14.3%
Automobiles (total)	28.2%	34.3%	58.3%	63.8%	3.9%	1.9%	9.7%
Assembly	-	20.0%	66.7%	80.0%	-	-	33.3%
Parts	29.0%	35.0%	58.0%	63.0%	4.0%	2.0%	9.0%
Precision Machinery (total)	40.6%	68.8%	46.9%	31.3%	6.3%	-	6.3%
Assembly	50.0%	65.0%	45.0%	35.0%	-	-	5.0%
Parts	25.0%	75.0%	50.0%	25.0%	16.7%	-	8.3%
Other	48.0%	52.9%	42.0%	47.1%	2.0%		8.0%



### **Promising Countries/Regions: Time Series Data**



#### Promising Countries/Regions over the Mid-term (Next 3 Years)

Rank	FY2021 Survey	No.of Companies 345		FY2020 Survey	No.of Companies 356	Percentage share (%)	FY2019 Survey	No.of Companies 404		FY2018 Survey	No.of Companies 431	Percentage share (%)	FY2017 Survey	No.of Companies 444	Percentage share (%)
1	China	162		China	168		India	193		China	225		China	203	45.7
2	India	131	38.0	India	163	45.8	China	180		India	199	46.2	India	195	43.9
3	US	113	32.8	Vietnam	131	36.8	Vietnam	147	36.4	Thailand	160	37.1	Vietnam	169	38.1
4	Vietnam	105	30.4	Thailand	111	31.2	Thailand	133	32.9	Vietnam	146	33.9	Thailand	153	34.5
5	Thailand	77	22.3	US	98		Indonesia	102		Indonesia	131		Indonesia	147	33.1
6	Indonesia	67		Indonesia	96	27.0		93	23.0	US	124	28.8		116	26.1
7	Philippines	31		Philippines	37		Philippines	48		Mexico	59		Mexico	81	18.2
8	Mexico	30	8.7	Malaysia	34		Mexico	47	11.6	Philippines	43		Philippines	47	10.6
9	Malaysia	27	7.8	Mexico	32		Myanmar	41		Myanmar	37	8.6	Myanmar	40	9.0
10	Taiwan	19	5.5	Myanmar	25	7.0	Malaysia J			Malaysia	36	-	Brazil	28	6.3
11	Germany	17	4.9	Germany	20	5.6	Taiwan	18	4.5	Germany	25	5.8	Korea	J [	
12	Korea	16	4.6	Taiwan	18		Korea	15	3.7	Brazil	24	5.6	Malaysia	26	5.9
13	Brazil	13	3.8	Bangladesh	16	4.5	Singapore J			Korea	22		Russia	19	4.3
14	Australia	12	3.5	Australia	14	3.9	Germany	14		Taiwan	19	4.4	Singapore	17	3.8
15	Singapore J			Korea	12	3.4	Australia	13		Russia	16			J [	
16	Myanmar 📄	10	2.9	Singapore	11	3.1	Cambodia	12	3.0	Singapore	15		Germany	13	2.9
17	Bangladesh			Brazil J			Brazil	11	2.7	Cambodia	13	3.0	Turkey	12	2.7
18	Russia			UK	9	2.5	Russia	9	2.2	Australia	12		Australia	10	2.3
19	Turkey			Russia	8	2.2	France			Turkey	9		Canada	J [	
20	Canada	7	2.0	Turkey	7	2.0	Turkey	8	2.0	Laos	7	1.6	Cambodia	9	2.0
										France J					

#### Promising Countries/Regions in the Long-term (Next 10 Years)

Rank	FY2021 Survey	No.of Companies 243	Percentage share (%)	FY2020 Survey	No.of Companies 264	Percentage share (%)
1	India	120	49.4	India	140	53.0
2	China	99	40.7	China	116	43.9
3	US	71	29.2	Vietnam	82	31.1
4	Vietnam	69	28.4	US	73	27.7
5	Indonesia	57	23.5	Indonesia	71	26.9
6	Thailand	46	18.9	Thailand	61	23.1
7	Brazil	22	9.1	Mexico	30	11.4
8	Myanmar	21	8.6	Myanmar	26	9.8
9	Mexico	17	7.0	Philippines	25	9.5
10	Philippines			Brazil	22	8.3



### **Promising Countries/Regions: SMEs**



#### Promising Countries/Regions for Overseas Business over the Mid-term (Next 3 Years) (SMEs)

Question

Please provide us with the names of up to 5 countries that you consider to have promising prospects for business operations over the mid-term (next 3 years). (Multiple answers allowed)

Note: Percentage of votes (%)

= Number of votes for country / Number of respondent companies

R	ankir	n.a		No.	of		ntage
1 0	ariikii	19	Country/Region	Comp		Shar	e(%)
2021	$\leftarrow$	2020	Country/region	2021	2020	2021	2020
2021			(Total)	122	129		
1	<b></b>	2	China	43	50	35.2	38.8
2		6	US	42	29	34.4	22.5
	$\overline{\Phi}$	1	India	41	54	33.6	41.9
4	$\triangle$	3	Vietnam	31	46	25.4	35.7
5		4	Thailand	22	43	18.0	33.3
6	$\triangle$	5	Indonesia	21	33	17.2	25.6
7	<del>-</del>	7	Philippines	16	17	13.1	13.2
7	↔	8	Mexico	16	15	13.1	11.6
9	$\triangle$	8	Malaysia	9	15	7.4	11.6
10	分	17	Australia	5	3	4.1	2.3
11	分	14	Singapore	4	4	3.3	3.1
11	仓	20	Korea	4	2	3.3	1.6
11	↔	20	Turkey	4	2	3.3	1.6
14	$\overline{\Phi}$	10	Myanmar	3	12	2.5	9.3
14	$\overline{\Gamma}$	11	Germany	3	9	2.5	7.0
14	$\overline{\Gamma}$	12	Bangladesh	3	7	2.5	5.4
14	$\overline{\Gamma}$	12	Taiwan	3	7	2.5	5.4
18	$\triangle$	17	France	2	3	1.6	2.3
18	<b>企</b>	20	Cambodia	2	2	1.6	1.6
18	<b>企</b>	20	Italy	2	2	1.6	1.6
18	<b>☆</b>	28	Brazil	3 3 3 2 2 2 2 2 2	1	1.6	0.8
18	<b></b>	28	Canada	2	1	1.6	0.8
18	\$\frac{1}{1}\frac{1}\frac{1}{1}\frac{1}{1}\frac{1}{1}\frac{1}{1}\frac{1}{1}\frac{1}{1}\frac{1}{1}\frac{1}{1}\frac{1}{1}\frac{1}{1}\frac{1}{1}\frac{1}{1}\frac{1}{1}\frac{1}{1}\frac{1}{1}\frac{1}\frac{1}{1}\frac{1}\frac{1}{1}\frac{1}\frac{1}{1}\frac{1}\frac{1}{1}\frac{1}	28	Russia	2	1	1.6	0.8
18	<del></del>	-	Japan	2	-	1.6	-



### **Promising Countries/Regions: Details of Promising Reasons**



Note 1: The number of responding companies refers to the number of companies that cited reasons for a country being promising. Note 2: The colored cell indicate the top three reasons most often cited for each country.

					NOIE Z.	THE COID	rea cen i	Hulcale	the top t	illee lea	50115 1110	St Oileii	cited ioi	each co	uniny.					
		1		2		3	4	4		5	(	6		7		8		9	1	0
FY2021 Survey	Ch	ina	In	dia	L	JS	Viet	nam	Tha	iland	Indo	nesia	Philip	pines	Me	xico	Mal	aysia	Tai	wan
1 12021 Survey	# companies	Ratio	# companies	Ratio	# companies	Ratio	# companies	Ratio	# companies	Ratio	# companies	Ratio	# companies	Ratio	# companies	Ratio	# companies	Ratio	# companies	Ratio
No. of responding companies	162	100%	130	100%	113	100%	104	100%	77	100%	67	100%	30	100%	30	100%	27	100%	19	100%
Qualified human resources	21	13.0%	19	14.6%	13	11.5%	24	23.1%	6	7.8%	2	3.0%	3	10.0%	1	3.3%	3	11.1%	3	15.8%
2. Inexpensive source of labor	12	7.4%	43	33.1%	1	0.9%	48	46.2%	17	22.1%	24	35.8%	12	40.0%	11	36.7%	6	22.2%	-	0.0%
3. Inexpensive components/raw materials	24	14.8%	20	15.4%	3	2.7%	10	9.6%	4	5.2%	6	9.0%	3	10.0%	2	6.7%	3	11.1%	-	0.0%
4. Supply base for assemblers	36	22.2%	27	20.8%	19	16.8%	15	14.4%	17	22.1%	12	17.9%	7	23.3%	11	36.7%	3	11.1%	1	5.3%
5. Concentration of industry	47	29.0%	19	14.6%	31	27.4%	9	8.7%	23	29.9%	4	6.0%	3	10.0%	7	23.3%	2	7.4%	4	21.1%
6. Good for risk diversification to other countries	1	0.6%	12	9.2%	4	3.5%	26	25.0%	14	18.2%	6	9.0%	7	23.3%	1	3.3%	2	7.4%	2	10.5%
7. Base of export to Japan	12	7.4%	6	4.6%	-	0.0%	18	17.3%	16	20.8%	7	10.4%	7	23.3%	-	0.0%	2	7.4%	2	10.5%
Base of export to third countries	18	11.1%	18	13.8%	5	4.4%	23	22.1%	22	28.6%	14	20.9%	5	16.7%	8	26.7%	4	14.8%	5	26.3%
Current size of local market	107	66.0%	62	47.7%	83	73.5%	20	19.2%	22	28.6%	31	46.3%	14	46.7%	9	30.0%	7	25.9%	11	57.9%
10. Future growth potential of local market	109	67.3%	114	87.7%	63	55.8%	77	74.0%	43	55.8%	54	80.6%	14	46.7%	15	50.0%	17	63.0%	12	63.2%
11. Profitability of local market	26	16.0%	7	5.4%	37	32.7%	7	6.7%	8	10.4%	7	10.4%	1	3.3%	2	6.7%	3	11.1%	-	0.0%
12. Developed local infrastructure	23	14.2%	1	0.8%	33	29.2%	8	7.7%	16	20.8%	2	3.0%	2	6.7%	3	10.0%	8	29.6%	2	10.5%
13. Developed local logistics services	14	8.6%	-	0.0%	17	15.0%	2	1.9%	7	9.1%	-	0.0%	1	3.3%	3	10.0%	2	7.4%	-	0.0%
14. Tax incentives for investment	6	3.7%	2	1.5%	2	1.8%	7	6.7%	12	15.6%	5	7.5%	3	10.0%	2	6.7%	5	18.5%	1	5.3%
15. Stable policies to attract foreign investment	5	3.1%	-	0.0%	2	1.8%	7	6.7%	8	10.4%	3	4.5%	3	10.0%	-	0.0%	1	3.7%	-	0.0%
16. Social/political situation stable	10	6.2%	3	2.3%	27	23.9%	18	17.3%	6	7.8%	3	4.5%	1	3.3%	3	10.0%	5	18.5%	_	0.0%

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FY2020 Survey	Ch	ina	In	dia	Viet	nam	Tha	land	U	IS	Indo	nesia	Philip	pines	Mala	aysia	Me	xico	Myar	nmar
·	# companies	Ratio																		
No. of responding companies	167	100%	160	100%	131	100%	111	100%	96	100%	92	100%	35	100%	34	100%	31	100%	25	100%
Qualified human resources	23	13.8%	31	19.4%	33	25.2%	20	18.0%	16	16.7%	8	8.7%	6	17.1%	2	5.9%	-	0.0%	1	4.0%
Inexpensive source of labor	15	9.0%	56	35.0%	56	42.7%	23	20.7%		0.0%	28	30.4%	16	45.7%	4	11.8%	13	41.9%	13	52.0%
<ol><li>Inexpensive components/raw materials</li></ol>	25	15.0%	18	11.3%	11	8.4%	8	7.2%	1	1.0%	4	4.3%	1	2.9%	2	5.9%	2	6.5%	1	4.0%
4. Supply base for assemblers	33	19.8%	33	20.6%	17	13.0%	21	18.9%	13	13.5%	15	16.3%	6	17.1%	4	11.8%	20	64.5%	1	4.0%
5. Concentration of industry	38	22.8%	14	8.8%	6	4.6%	26	23.4%	23	24.0%	6	6.5%	3	8.6%	5	14.7%	9	29.0%	-	0.0%
6. Good for risk diversification to other countries	2	1.2%	10	6.3%	19	14.5%	12	10.8%	5	5.2%	5	5.4%	7	20.0%	5	14.7%	1	3.2%	2	8.0%
7. Base of export to Japan	14	8.4%	6	3.8%	16	12.2%	11	9.9%	2	2.1%	8	8.7%	4	11.4%	1	2.9%	-	0.0%	1	4.0%
Base of export to third countries	15	9.0%	21	13.1%	20	15.3%	27	24.3%	1	1.0%	19	20.7%	4	11.4%	3	8.8%	10	32.3%	3	12.0%
9. Advantages in terms of raw material procurement	14	8.4%	5	3.1%	3	2.3%	4	3.6%	5	5.2%	3	3.3%	1	2.9%	1	2.9%	-	0.0%	-	0.0%
10. Current size of local market	111	66.5%	57	35.6%	27	20.6%	43	38.7%	72	75.0%	32	34.8%	8	22.9%	9	26.5%	6	19.4%	1	4.0%
11. Future growth potential of local market	97	58.1%	122	76.3%	78	59.5%	47	42.3%	45	46.9%	46	50.0%	19	54.3%	14	41.2%	14	45.2%	16	64.0%
12. Profitability of local market	22	13.2%	11	6.9%	8	6.1%	15	13.5%	27	28.1%	3	3.3%	4	11.4%	1	2.9%	2	6.5%	1	4.0%
13. Base for product development	13	7.8%	4	2.5%	1	0.8%	4	3.6%	16	16.7%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%
14. Developed local infrastructure	21	12.6%	-	0.0%	5	3.8%	20	18.0%	32	33.3%	3	3.3%	2	5.7%	6	17.6%	2	6.5%	1	4.0%
15. Developed local logistics services	11	6.6%	1	0.6%	4	3.1%	7	6.3%	18	18.8%	-	0.0%	-	0.0%	1	2.9%	-	0.0%	-	0.0%
16. Tax incentives for investment	4	2.4%	4	2.5%	9	6.9%	8	7.2%	4	4.2%	1	1.1%	4	11.4%	3	8.8%	-	0.0%	1	4.0%
17. Stable policies to attract foreign investment	3	1.8%	2	1.3%	5	3.8%	4	3.6%	4	4.2%	3	3.3%	4	11.4%	-	0.0%	1	3.2%	2	8.0%

10.8%

18. Social/political situation stable



### **Promising Countries/Regions: Details of Issues**



Note 1: The number of respondent companies refers to the number of companies that cited issues. Note 2: The colored cell indicate the top three reasons most often cited for each country.

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FY2021 Survey	Ch	nina	In	dia	l	JS	Vie	tnam	Tha	iland	Indo	nesia	Philip	pines	Me	xico	Mala	aysia	Tai	wan
1 12021 Survey	# companies	Ratio	# companies	Ratio	# companies	Ratio	# companies	Ratio												
Respondent companies	154	100%	118	100%	98	100%	92	100%	67	100%	60	100%	28	100%	28	100%	20	100%	16	100%
Underdeveloped legal system	7	4.5%	19	16.1%	2	2.0%	17	18.5%	1	1.5%	10	16.7%	6	21.4%	2	7.1%	1	5.0%	-	0.0%
Execution of legal system unclear	67	43.5%	51	43.2%	2	2.0%	38	41.3%	12	17.9%	29	48.3%	10	35.7%	4	14.3%	2	10.0%	1	6.3%
Complicated tax system	19	12.3%	43	36.4%	3	3.1%	12	13.0%	4	6.0%	8	13.3%	4	14.3%	4	14.3%	1	5.0%	-	0.0%
Execution of tax system unclear	31	20.1%	23	19.5%	-	0.0%	19	20.7%	2	3.0%	17	28.3%	7	25.0%	2	7.1%	1	5.0%	-	0.0%
5. Increased taxation	33	21.4%	12	10.2%	12	12.2%	10	10.9%	7	10.4%	10	16.7%	3	10.7%	2	7.1%	1	5.0%	-	0.0%
Restriction for foreign investment	48	31.2%	18	15.3%	1	1.0%	10	10.9%	7	10.4%	12	20.0%	4	14.3%	2	7.1%	1	5.0%	1	6.3%
7. Complicated/unclear procedures for investment permission	26	16.9%	21	17.8%	1	1.0%	14	15.2%	6	9.0%	13	21.7%	3	10.7%	3	10.7%	1	5.0%	1	6.3%
Insufficient protection for intellectual property rights	58	37.7%	14	11.9%	-	0.0%	12	13.0%	6	9.0%	6	10.0%	2	7.1%	1	3.6%	-	0.0%	1	6.3%
9. Restrictions on foreign currency/ transfers of money overseas	48	31.2%	19	16.1%	-	0.0%	19	20.7%	1	1.5%	4	6.7%	2	7.1%	1	3.6%	1	5.0%	1	6.3%
10. Import restrictions/customs procedures	35	22.7%	22	18.6%	5	5.1%	15	16.3%	1	1.5%	10	16.7%	4	14.3%	3	10.7%	1	5.0%	1	6.3%
11. Difficult to secure technical/engineering staff	26	16.9%	21	17.8%	31	31.6%	17	18.5%	17	25.4%	11	18.3%	5	17.9%	15	53.6%	2	10.0%	3	18.8%
12. Difficult to secure management-level staff	27	17.5%	30	25.4%	24	24.5%	24	26.1%	19	28.4%	20	33.3%	6	21.4%	19	67.9%	7	35.0%	1	6.3%
13. Rising labor costs	104	67.5%	18	15.3%	37	37.8%	35	38.0%	34	50.7%	22	36.7%	4	14.3%	9	32.1%	7	35.0%	6	37.5%
14. Labor problems	26	16.9%	25	21.2%	13	13.3%	16	17.4%	3	4.5%	14	23.3%	1	3.6%	6	21.4%	1	5.0%	-	0.0%
15. Intense competition with other companies	98	63.6%	55	46.6%	63	64.3%	32	34.8%	35	52.2%	25	41.7%	7	25.0%	10	35.7%	7	35.0%	8	50.0%
16. Difficulty in raising funds	8	5.2%	12	10.2%	2	2.0%	7	7.6%	2	3.0%	2	3.3%	2	7.1%	2	7.1%	-	0.0%	-	0.0%
17. Underdeveloped local supporting industries	3	1.9%	16	13.6%	1	1.0%	12	13.0%	1	1.5%	6	10.0%	3	10.7%	5	17.9%	2	10.0%	-	0.0%
18. Underdeveloped infrastructure	5	3.2%	54	45.8%	1	1.0%	18	19.6%	1	1.5%	18	30.0%	8	28.6%	4	14.3%	-	0.0%	-	0.0%
19. Security/social instability	27	17.5%	31	26.3%	6	6.1%	4	4.3%	14	20.9%	14	23.3%	13	46.4%	9	32.1%	1	5.0%	4	25.0%
20. Lack of information on the country	6	3.9%	8	6.8%	3	3.1%	9	9.8%	3	4.5%	4	6.7%	1	3.6%	3	10.7%	1	5.0%	1	6.3%

		1		2	;	3		4		5		6		7	3	8		9		0
FY2020 Survey	Ch	ina	In	dia	Viet	nam	Tha	iland	l	JS	Indo	nesia	Phili	opines	Mala	aysia	Me	exico	Myaı	nmar
1 12020 Survey	# companies	Ratio	# companies	Ratio	# companies	Ratio	# companies	Ratio												
Respondent companies	156	100%	134	100%	109	100%	88	100%	78	100%	72	100%	30	100%	20	100%	25	100%	19	100%
Underdeveloped legal system	12	7.7%	17	12.7%	18	16.5%	5	5.7%	-	0.0%	12	16.7%	4	13.3%	-	0.0%	2	8.0%	10	52.6%
Execution of legal system unclear	76	48.7%	46	34.3%	39	35.8%	13	14.8%	2	2.6%	25	34.7%	10	33.3%	2	10.0%	3	12.0%	5	26.3%
Complicated tax system	19	12.2%	35	26.1%	10	9.2%	3	3.4%	1	1.3%	8	11.1%	2	6.7%	2	10.0%	3	12.0%	2	10.5%
Execution of tax system unclear	24	15.4%	33	24.6%	14	12.8%	7	8.0%	2	2.6%	12	16.7%	4	13.3%	-	0.0%	4	16.0%	3	15.8%
5. Increased taxation	29	18.6%	17	12.7%	11	10.1%	10	11.4%	10	12.8%	11	15.3%	2	6.7%	1	5.0%	2	8.0%	1	5.3%
Restriction for foreign investment	40	25.6%	11	8.2%	12	11.0%	10	11.4%	-	0.0%	11	15.3%	5	16.7%	-	0.0%	2	8.0%	3	15.8%
<ol><li>Complicated/unclear procedures for investment permission</li></ol>	19	12.2%	15	11.2%	11	10.1%	4	4.5%	1	1.3%	11	15.3%	3	10.0%	1	5.0%	3	12.0%	4	21.1%
Insufficient protection for intellectual property rights	58	37.2%	10	7.5%	3	2.8%	4	4.5%	1	1.3%	3	4.2%	2	6.7%	-	0.0%	2	8.0%	2	10.5%
9. Restrictions on foreign currency/ transfers of money overseas	51	32.7%	12	9.0%	10	9.2%	2	2.3%	1	1.3%	5	6.9%	1	3.3%	1	5.0%	1	4.0%	2	10.5%
10. Import restrictions/customs procedures	32	20.5%	14	10.4%	8	7.3%	3	3.4%	4	5.1%		12.5%	2	6.7%	1	5.0%	2	8.0%	-	0.0%
11. Difficult to secure technical/engineering staff	26	16.7%	20	14.9%	17	15.6%	20	22.7%	18	23.1%	21	29.2%	6	20.0%	7	35.0%	10	40.0%	4	21.1%
12. Difficult to secure management-level staff	27	17.3%	34	25.4%	29	26.6%	30	34.1%	18	23.1%	19	26.4%	8	26.7%	8	40.0%	14	56.0%	9	47.4%
13. Rising labor costs	98	62.8%	26	19.4%	33	30.3%	34	38.6%	24	30.8%	29	40.3%	9	30.0%	3	15.0%	6	24.0%	2	10.5%
14. Labor problems	26	16.7%	24	17.9%	12	11.0%	7	8.0%	9	11.5%	12	16.7%	3	10.0%	1	5.0%	2	8.0%	2	10.5%
15. Intense competition with other companies	107	68.6%	56	41.8%	35	32.1%	54	61.4%	55	70.5%	27	37.5%	5	16.7%	8	40.0%	14	56.0%	4	21.1%
16. Difficulties in recovering money owed	42	26.9%	29	21.6%	8	7.3%	9	10.2%	-	0.0%	6	8.3%	3	10.0%	-	0.0%	2	8.0%	4	21.1%
17. Difficulty in raising funds	6	3.8%	7	5.2%	2	1.8%	2	2.3%	-	0.0%		4.2%	-	0.0%	1	5.0%	1	4.0%	1	5.3%
18. Underdeveloped local supporting industries	2	1.3%	12	9.0%	13	11.9%	3	3.4%	2	2.6%	11	15.3%	5	16.7%	3	15.0%	6	24.0%	6	31.6%
19. Sense of instability regarding currency and/or costs	3	1.9%	17	12.7%	5	4.6%	2	2.3%	-	0.0%		16.7%	2	6.7%	2	10.0%	5	20.0%	4	21.1%
20. Underdeveloped infrastructure	7	4.5%	49	36.6%	15	13.8%	4	4.5%	-	0.0%	16	22.2%	8	26.7%	-	0.0%	1	4.0%	13	68.4%
21. Security/social instability	33	21.2%	41	30.6%	4	3.7%	10	11.4%	5	6.4%	21	29.2%	14	46.7%	1	5.0%	9	36.0%	5	26.3%
22. Lack of information on the country	3	1.9%	16	11.9%	14	12.8%	4	4.5%	2	2.6%	5	6.9%	-	0.0%	2	10.0%	3	12.0%	7	36.8%



### **Promising Countries/Regions: Existence of Business Plans**



#### Existence of Business Plans in Promising Countries

Note: Each ratio refers to the number of companies answering "A new business plan exists", "A business plan for additional investment exists", "No plans" or "No response", divided by the total number of respondent companies for the respective countries.

	No	. 1	No	. 2	No	. 3	No.	4	No	. 5	No	. 6	No.	. 7	No	. 8	No	. 9	No.	10
	Chi	na	Inc	dia	U	S	Vietr	am	Thai	land	Indor	esia	Philip	pines	Mex	ico	Mala	ysia	Taiw	/an
	Respondent companies	Ratio																		
Total	162	100%	131	100%	113	100%	105	100%	77	100%	67	100%	31	100%	30	100%	27	100%	19	100%
A new business plan exists	8	4.9%	10	7.6%	14	12.4%	6	5.7%	6	7.8%	6	9.0%	5	16.1%	3	10.0%	4	14.8%	1	5.3%
A business plan for additional investment exists	64	39.5%	33	25.2%	52	46.0%	28	26.7%	24	31.2%	15	22.4%	6	19.4%	13	43.3%	5	18.5%	6	31.6%
No plans	87	53.7%	88	67.2%	46	40.7%	68	64.8%	44	57.1%	46	68.7%	20	64.5%	14	46.7%	18	66.7%	12	63.2%
No response	3	1.9%	1	0.8%	2	1.8%	3	2.9%	3	3.9%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%

	No.	11	No.	12	No.	13	No.	14	No.	14	No.	16	No.	16	No.	16	No.	16	No.	20
	Germ	nany	Kor	ea	Bra	zil	Austr	alia	Singa	pore	Myar	nmar	Bangla	adesh	Rus	sia	Turk	кеу	Can	ada
	Respondent companies	Ratio																		
Total	17	100%	16	100%	13	100%	12	100%	12	100%	10	100%	10	100%	10	100%	10	100%	7	100%
A new business plan exists	1	5.9%	2	12.5%	1	7.7%	3	25.0%	5	41.7%	3	30.0%	3	30.0%	3	30.0%	1	10.0%	0	0.0%
A business plan for additional investment exists	11	64.7%	4	25.0%	3	23.1%	5	41.7%	0	0.0%	0	0.0%	1	10.0%	0	0.0%	1	10.0%	3	42.9%
No plans	5	29.4%	9	56.3%	9	69.2%	4	33.3%	7	58.3%	6	60.0%	6	60.0%	6	60.0%	7	70.0%	4	57.1%
No response	0	0.0%	1	6.3%	0	0.0%	0	0.0%	0	0.0%	1	10.0%	0	0.0%	1	10.0%	1	10.0%	0	0.0%

#### Promising Countries/Regions (Number of Respondent Companies)

		No. of res	spondent	Change from			
Rank	Country	comp	companies				
		FY2021	FY2020	('21-'20)			
1	China	72	66	6			
2	US	66	46	20			
3	India	43	52	<b>▲</b> 9			
4	Vietnam	34	46	▲ 12			
5	Thailand	30	34	<b>▲</b> 4			
6	Indonesia	21	28	<b>▲</b> 7			
7	Mexico	16	13	3			
8	Germany	12	8	4			
9	Philippines	11	17	<b>▲</b> 6			
10	Malaysia	9	9	0			



### **Supply Chains: External Shocks (by Industry)**



	No. of respondent companies	Disruption and pressure on logistics	Diseases (incl. COVID-19 pandemic)	Political risks (incl. US-China tensions)	Earthquakes, storms and flood damages
Total	497	214	183	55	45
Food	21	11	7	2	1
Textiles	23	6	11	3	3
Paper, Pulp & Wood	11	3	8	0	0
Chemicals (subtotal)	77	35	21	10	11
Chemicals (incl. plastics)	72	33	20	10	9
Pharmaceuticals	5	2	1	0	2
Petroleum & Rubber	14	6	8	0	0
Ceramics, Cement & Glass	11	5	4	1	1
Steel	11	5	5	0	1
Nonferrous Metals	21	9	10	2	0
Metal Products	21	4	8	6	3
General Machinery (subtotal)	55	16	30	6	3
General Machinery (assembler)	43	13	23	4	3
General Machinery (parts)	12	3	7	2	0
Electrical Equipment & Electronics (subtotal)	65	36	19	6	4
Electrical Equipment & Electronics (assembler)	27	17	6	2	2
Electrical Equipment & Electronics (parts)	38	19	13	4	2
Transportation Equipment (excl. automobiles)	12	7	1	3	1
Automobiles (subtotal)	106	46	41	5	14
Automobiles (assembler)	5	3	1	0	1
Automobiles (parts)	101	43	40	5	13
Precision Machinery (subtotal)	32	18	4	9	1
Precision Machinery (assembler)	20	12	2	6	0
Precision Machinery (parts)	12	6	2	3	1
Others	17	7	6	2	2



### **Supply Chains: Building Resilience (by Industry)**



No. of respondent companies   No. of respondent companies   No. of respondent companies   No. of respondent companies   No. of production sites and suppliers   No. of partners   No. of production sites and suppliers   No. of partners   No. of production sites and suppliers   No. of partners   No. of production sites and suppliers   No. of partners   No. of p	
Food         21         11         12         10         3         4         3         1           Textiles         22         13         13         8         11         3         3         0           Paper, Pulp & Wood         11         4         5         7         3         3         3         4           Chemicals (subtotal)         75         44         48         25         24         21         13         4           Chemicals (incl. plastics)         70         41         45         23         23         19         12         4           Pharmaceuticals         5         3         3         2         1         2         1         0           Petroleum & Rubber         14         9         8         8         4         3         3         0           Ceramics, Cement & Glass         10         6         4         4         4         2         2         1           Steel         10         2         5         6         1         1         2         0           Nonferrous Metals         21         7         12         9         6         4         2	Others
Textiles         22         13         13         8         11         3         3         0           Paper, Pulp & Wood         11         4         5         7         3         3         3         4           Chemicals (subtotal)         75         44         48         25         24         21         13         4           Chemicals (incl. plastics)         70         41         45         23         23         19         12         4           Pharmaceuticals         5         3         3         2         1         2         1         0           Petroleum & Rubber         14         9         8         8         4         3         3         0           Ceramics, Cement & Glass         10         6         4         4         4         2         2         1           Steel         10         2         5         6         1         1         2         0           Nonferrous Metals         21         7         12         9         6         4         2         1           Metal Products         20         12         10         5         7         5 <t< td=""><td>3</td></t<>	3
Paper, Pulp & Wood         11         4         5         7         3         3         4           Chemicals (subtotal)         75         44         48         25         24         21         13         4           Chemicals (incl. plastics)         70         41         45         23         23         19         12         4           Pharmaceuticals         5         3         3         2         1         2         1         0           Petroleum & Rubber         14         9         8         8         4         3         3         0           Ceramics, Cement & Glass         10         6         4         4         4         2         2         1           Steel         10         2         5         6         1         1         2         0           Nonferrous Metals         21         7         12         9         6         4         2         1           Metal Products         20         12         10         5         7         5         2         1	0
Chemicals (subtotal)         75         44         48         25         24         21         13         4           Chemicals (incl. plastics)         70         41         45         23         23         19         12         4           Pharmaceuticals         5         3         3         2         1         2         1         0           Petroleum & Rubber         14         9         8         8         4         3         3         0           Ceramics, Cement & Glass         10         6         4         4         4         2         2         1           Steel         10         2         5         6         1         1         2         0           Nonferrous Metals         21         7         12         9         6         4         2         1           Metal Products         20         12         10         5         7         5         2         1	0
Chemicals (incl. plastics)         70         41         45         23         23         19         12         4           Pharmaceuticals         5         3         3         2         1         2         1         0           Petroleum & Rubber         14         9         8         8         4         3         3         0           Ceramics, Cement & Glass         10         6         4         4         4         2         2         1           Steel         10         2         5         6         1         1         2         0           Nonferrous Metals         21         7         12         9         6         4         2         1           Metal Products         20         12         10         5         7         5         2         1	0
Pharmaceuticals         5         3         3         2         1         2         1         0           Petroleum & Rubber         14         9         8         8         4         3         3         0           Ceramics, Cement & Glass         10         6         4         4         4         2         2         1           Steel         10         2         5         6         1         1         2         0           Nonferrous Metals         21         7         12         9         6         4         2         1           Metal Products         20         12         10         5         7         5         2         1	1
Petroleum & Rubber         14         9         8         8         4         3         3         0           Ceramics, Cement & Glass         10         6         4         4         4         2         2         1           Steel         10         2         5         6         1         1         2         0           Nonferrous Metals         21         7         12         9         6         4         2         1           Metal Products         20         12         10         5         7         5         2         1	1
Ceramics, Cement & Glass       10       6       4       4       4       2       2       1         Steel       10       2       5       6       1       1       2       0         Nonferrous Metals       21       7       12       9       6       4       2       1         Metal Products       20       12       10       5       7       5       2       1	0
Steel         10         2         5         6         1         1         2         0           Nonferrous Metals         21         7         12         9         6         4         2         1           Metal Products         20         12         10         5         7         5         2         1	0
Nonferrous Metals         21         7         12         9         6         4         2         1           Metal Products         20         12         10         5         7         5         2         1	0
Metal Products 20 12 10 5 7 5 2 1	0
	0
General Machinery (subtotal) 55 35 30 24 16 5 8 1	0
	0
General Machinery (assembler)         43         30         27         18         14         4         5         1	0
General Machinery (parts) 12 5 3 6 2 1 3 0	0
Electrical Equipment & Electronics (subtotal)         64         49         35         34         23         17         10         1	1
Electrical Equipment & Electronics (assembler)         27         20         16         15         11         6         3         1	1
Electrical Equipment & Electronics (parts)         37         29         19         19         12         11         7         0	0
Transportation Equipment (excl. automobiles) 12 8 5 6 3 2 1 0	0
Automobiles (subtotal)         104         49         63         52         39         16         18         7	0
Automobiles (assembler)         5         1         3         4         1         1         2         1	0
Automobiles (parts) 99 48 60 48 38 15 16 6	0
Precision Machinery (subtotal)         31         20         14         11         10         6         6         6         3	0
Precision Machinery (assembler)         19         13         6         6         4         5         5         5         1	0
Precision Machinery (parts)         12         7         8         5         6         1         1         1         2	0
Others         16         10         8         5         6         1         2         1	1



### **Supply Chains: Human Rights Issues (by Industry)**



	No. of respondent companies	Already taking active measures	Making adjustments	Under consideration / Nothing yet	No discussion
Total	490	55	65	127	243
Food	21	2	3	7	9
Textiles	23	3	5	6	9
Paper, Pulp & Wood	10	1	0	4	5
Chemicals (subtotal)	76	12	9	19	36
Chemicals (incl. plastics)	71	12	8	19	32
Pharmaceuticals	5	0	1	0	4
Petroleum & Rubber	14	3	4	4	3
Ceramics, Cement & Glass	11	2	1	0	8
Steel	11	0	1	3	7
Nonferrous Metals	21	5	4	3	9
Metal Products	21	1	1	6	13
General Machinery (subtotal)	54	2	5	14	33
General Machinery (assembler)	42	2	5	13	22
General Machinery (parts)	12	0	0	1	11
Electrical Equipment & Electronics (subtotal)	62	9	10	19	24
Electrical Equipment & Electronics (assembler)	26	5	3	6	12
Electrical Equipment & Electronics (parts)	36	4	7	13	12
Transportation Equipment (excl. automobiles)	12	1	3	1	7
Automobiles (subtotal)	106	8	11	31	56
Automobiles (assembler)	4	1	2	0	1
Automobiles (parts)	102	7	9	31	55
Precision Machinery (subtotal)	31	4	6	5	16
Precision Machinery (assembler)	19	3	4	4	8
Precision Machinery (parts)	12	1	2	1	8
Others	17	2	2	5	8



### **DX: Status of Progress (by Industry)**



		A certain effect is	The effects of the	The pace of DX will			
!	No. of				The pace of DX will	Full-scale	
!	respondent	introduction will be	to be assessed, but	the efforts of DX	slow down to verify	consideration will be	Not sure
!	companies	accelerated in the	we will continue to	have progressed a	the effectiveness	done from now on	
	l	future	work on it	little too much			
Total	500		173		-	224	32
Food	22		7	0	0	9	2
Textiles	23	1	9	0	0	11	2
Paper, Pulp & Wood	11		4	0	0	5	0
Chemicals (subtotal)	76	8	23	0	0	40	5
Chemicals (incl. plastics)	71	8	19	0	0	39	5
Pharmaceuticals	5	0	4	0	0	1	0
Petroleum & Rubber	14	1	7	0	0	6	0
Ceramics, Cement & Glass	12	1	1	0	0	6	4
Steel	12	1	4	0	0	6	1
Nonferrous Metals	21	1	6	0	0	13	1
Metal Products	22	5	7	0	0	8	2
General Machinery (subtotal)	55	7	20	0	0	24	4
General Machinery (assembler)	42	7	16	0	0	16	3
General Machinery (parts)	13	0	4	0	0	8	1
Electrical Equipment & Electronics (subtotal)	65	12	30	0	0	17	6
Electrical Equipment & Electronics (assembler)	26	4	11	0	0	9	2
Electrical Equipment & Electronics (parts)	39		19	0	0	8	4
Transportation Equipment (excl. automobiles)	12	2	8	0	0	2	0
Automobiles (subtotal)	106	18	32	0	0	54	2
Automobiles (assembler)	5	3	2	0	0	0	0
Automobiles (parts)	101	15	30	0	0	54	2
Precision Machinery (subtotal)	32	5	11	0	0	14	2
Precision Machinery (assembler)	20	4	7	0	0	8	1
Precision Machinery (parts)	12	1	4	0	0	6	1
Others	17	3	4	0	0	9	1
4							



### **Decarbonization: Impact of Decarbonization (by Industry)**



	No. of respondent companies	Already affected	Not yet but expected in the future	Not affected now and not expected in the future	Not sure
Total	495	106	287	29	73
Food	21	2	13	3	3
Textiles	23	8	10	1	4
Paper, Pulp & Wood	10	2	7	0	1
Chemicals (subtotal)	76	12	44	4	16
Chemicals (incl. plastics)	71	12	40	3	16
Pharmaceuticals	5	0	4	1	0
Petroleum & Rubber	14	4	8	0	2
Ceramics, Cement & Glass	12	4	6	0	2
Steel	12	3	8	0	1
Nonferrous Metals	21	5	13	0	3
Metal Products	22	3	12	1	6
General Machinery (subtotal)	55	16	28	5	6
General Machinery (assembler)	43	14	22	3	4
General Machinery (parts)	12	2	6	2	2
Electrical Equipment & Electronics (subtotal)	65	18	36	5	6
Electrical Equipment & Electronics (assembler)	26	9	12	3	2
Electrical Equipment & Electronics (parts)	39	9	24	2	4
Transportation Equipment (excl. automobiles)	12	3	8	1	0
Automobiles (subtotal)	103	20	70	1	12
Automobiles (assembler)	5	3	2	0	0
Automobiles (parts)	98	17	68	1	12
Precision Machinery (subtotal)	32	4	17	6	5
Precision Machinery (assembler)	20	1	12	5	2
Precision Machinery (parts)	12	3	5	1	3
Others	17	2	7	2	6



### Decarbonization: Positive/ Negative Analysis of Impact (by Industry)



	No. of respondent companies	Promote R&D of new products that address decarbonization	Increase in demand for in-house products that address decarbonization	Increase in capital investment to meet increased demand for in-house products	Cosideration of new locations to respond to increased demand for in- house products	Increased manufacturing costs to support decarbonization	Review procurers/suppliers to the status of decarbonization efforts	Reorganization/elim ination of existing manufacturing bases that do not support decarbonization	Review/freeze new investment plants that do not support decarbonization
Total	294	240	131	83	12	236	120	55	38
Food	9	7	3	3	0	10	4	2	0
Textiles	16	14	6	2	0	14	5	3	1
Paper, Pulp & Wood	8	7	6	2	0	6	2	3	1
Chemicals (subtotal)	42	39	19	8	2	44	19	8	6
Chemicals (incl. plastics)	40	37	19	8	2	40	17	8	6
Pharmaceuticals	2	2	0	0	0	4	2	0	0
Petroleum & Rubber	10	9	5	3	1	7	1	2	2
Ceramics, Cement & Glass	7	5	2	4	1	7	4	3	2
Steel	5	2	3	3	0	8	1	1	0
Nonferrous Metals	14	10	5	4	1	16	6	3	4
Metal Products	10	5	6	2	0	8	4	2	1
General Machinery (subtotal)	38	30	21	7	1	19	12	3	1
General Machinery (assembler)	32	25	19	7	1	16	8	3	1
General Machinery (parts)	6	5	2	0	0	3	4	0	0
Electrical Equipment & Electronics (subtotal)	40	28	26	15	3	26	20	6	5
Electrical Equipment & Electronics (assembler)	18	14	11	7	0	12	11	2	3
Electrical Equipment & Electronics (parts)	22	14	15	8	3	14	9	4	2
Transportation Equipment (excl. automobiles)	9	9	_	2	0	7	1	0	0
Automobiles (subtotal)	62	54	16	18	2	50	30	17	13
Automobiles (assembler)	5	5	3	2	0	2	0	0	0
Automobiles (parts)	57	49	13	16	2	48	30	17	13
Precision Machinery (subtotal)	18	16	7	8	1	9	6	1	1
Precision Machinery (assembler)	11	9	4	4	1	6	2	1	1
Precision Machinery (parts)	7	7	3	4	0	3	4	0	0
Others	6	5	0	2	0	5	5	1	1



Supporting Your Global Challenges



### **Appendix #2: Complementary Survey Based on Text Mining**





#### **Overview of the Text Mining Survey**



- This year, we have conducted a text mining survey to complement the questionnaire style survey ("the survey"), focusing on the themes shown in the table below. By text mining survey, we have attempted to analyze the non-manufacturing industry and evaluate the style survey from relative perspectives. (Text mining is a survey method of analyzing a large amount of text by using artificial intelligence. In this survey, we have analyzed newspaper articles and annual reports to find out what are the topics and key words that frequently appear and how they are reported.)
- Database for the analysis: Dow Jones Factiva (41 million articles distributed by 33,000 companies from about 200 countries/regions and in 28 languages for the past year), Nikkei (800,000 articles for the past year), and disclosure documents from EDGAR and EDINET (40,000 documents from the past four years.)
- Research Team: Joint team between JBIC's Strategic research department and data analysts from Deloitte Analytics, member firm of Deloitte Touche Tohmatsu Limited, making use of Microsoft Azure.

Theme	Database	Analysis method
Hot Topics (P.34~35 of the survey)	Dow Jones Factiva	Factiva (Algorism and translation technology invented by Dow Jones)
Logistics Risks (P.37 of the survey)		
Semiconductor Shortage (P.40 of the survey)	Dow Jones Factiva Nikkei	Search Engine: Elasticsearch Morphological Analysis Engine: Mecab (for Japanese text), Natural Language ToolKit (for English text)
DX (P.43~46 of the survey)		*As for positive/negative analysis on semiconductor shortage, we have also used RoBERTa.
Decarbonization (P.48~52 of the survey)	EDGAR, EDINET	



# What are the Hot Topics in Newspapers? (Complement to Page 34~35 of the Survey)



- We have analyzed the level of attention paid to each of the topics in major newspapers, by counting the number of articles whose headline include each keyword. For reference, Factiva covers 41 million articles in the past year, out of which 250 thousand articles are related to either of the keyword.
- Decarbonization is getting attention in both Japanese and Foreign media. However, they report the theme from different perspectives. In Japanese media, we see high level interest in the trend per itself. On the other hand, foreign newspapers are focusing more on concrete technologies to achieve decarbonization, such as battery, solar power, or hydrogen.

	Industry News from	Dow Jones Factiva	the Survey
	in Foreign Languages	in Japanese	
BRI	0.1%	0.2%	1.9%
Myammer	0.1%	4.1%	1.9%
Brexit	6.1%	0.0%	
U.SChina Tensions	0.0%	0.4%	9.8%
Japan UK EPA	0.0%	0.3%	1.3%
Japan EU EPA	0.0%	0.0%	2.2%
RCEP	0.6%	0.9%	3.1%
CPTPP	0.2%	0.1%	2.8%
Battery	12.7%	1.4%	3.4%
Solar Power Generation	27.0%	7.0%	3.9%
Ammonia	1.1%	1.7%	1.1%
Hydrogen	14.3%	8.9%	3.5%
Decarbonization	8.5%	17.7%	8.6%
EV Shift	8.6%	15.6%	1.8%
Semiconductor Shortage	3.1%	5.2%	8.3%
DX	5.2%	15.9%	6.2%
U.S. China Decoupling	0.0%	0.0%	3.0%
Smart City *	1.1%	0.5%	9.1%
Localization of Supply Chains	0.0%	2.3%	3.8%
Human Rights	1.1%	1.8%	2.0%
Green Recovery	0.3%	0.0%	5.3%
Vaccination	8.1%	12.7%	6.3%
Infection Cases	1.8%	0.4%	9.4%
Total	100.0%	100.0%	100.0%
Number of Articles	202,942	45,472	2,789

Foreign media does not pay much attention to U.S.-China Tensions. On the other hand, the Japanese manufacturing industry, which is directly exposed to the impact, shows high level of attention.

As for decarbonization and renewables, we see similar trend of interest in Japanese media and our survey. On the other hand, foreign media put more emphasis on technology solutions, rather than decarbonization per itself.

\*Articles including equivalent words such as "net zero" or "GHG" are also included.

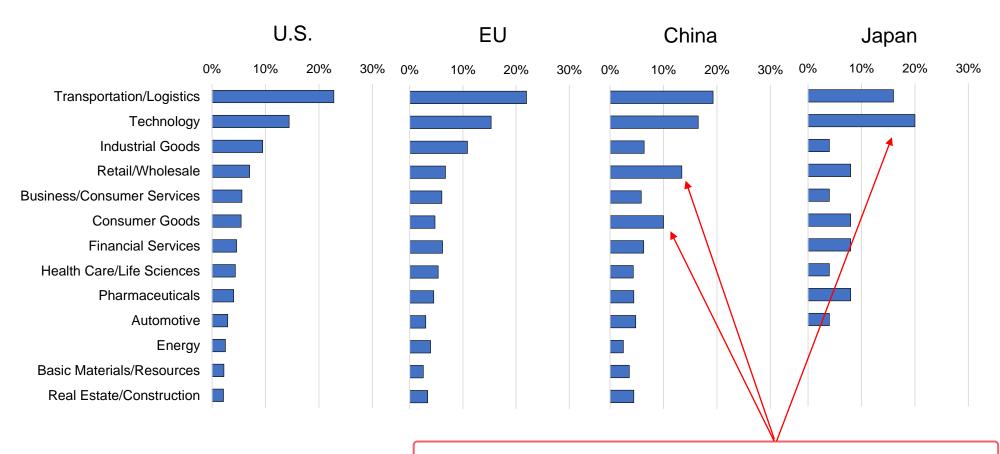


## Ranking of Sectors Exposed to Supply Chain Risks (Complement to Page 37 of the Survey)



- To compare exposure to supply chain risks in each country/region, we have analyzed related articles and counted the number of articles related to each sector\*.
- It can be seen that consumer-related business is exposed to high risks in China. In case of Japan, however, we can see more articles focusing on the Technology sector (including the electronics, such as semiconductor and automobile electronic devices) than on any other sector.

<sup>\*</sup> As for definition of each sector, please refer to Page7.



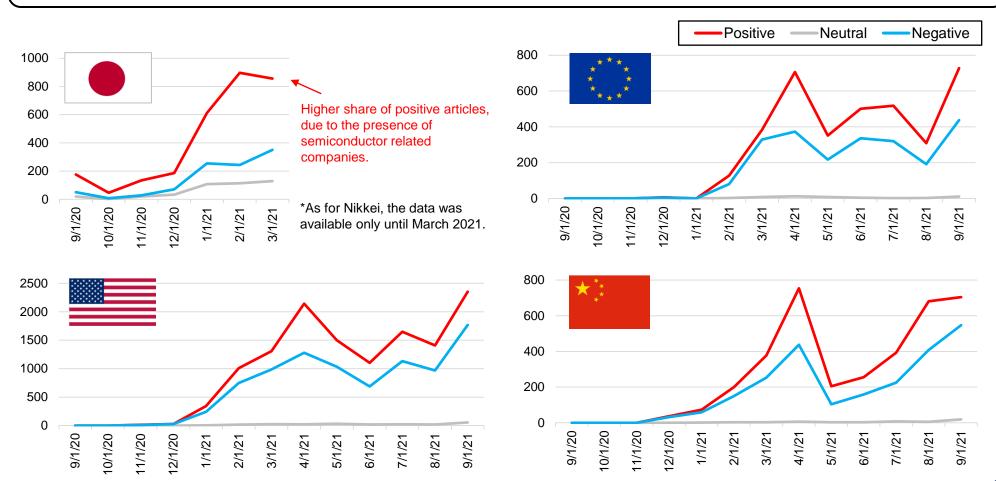
In China, Consumer related sectors are often related to supply chain risk. On the other hand, in Japan, technology, including the Electronics, are focused on in the context of supply chain risk.



# Comparison of the Impact of "Semiconductor Shortage" (Complement to Page 40 of the Survey)



- To compare the perception of the semiconductor shortage in each region, we have analyzed related articles, using positive/negative analysis. (Examples of positive articles: Increasing demand for semiconductors, strong performance of semiconductor-related companies, governments' decision to support the industry, and M & A in the industry. Examples of negative articles: production cuts in industries such as the automobiles due to semiconductor shortages.)
- Overall, the results showed that there were many positive articles, but in Japan, the number of positive articles was higher, probably due to the large number of companies involved in semiconductor manufacturing. (However, as a characteristic of news articles, negative material seems to be less likely to be reported, and the results of this survey may diverge from the actual state of the economy, so further analysis is needed.)



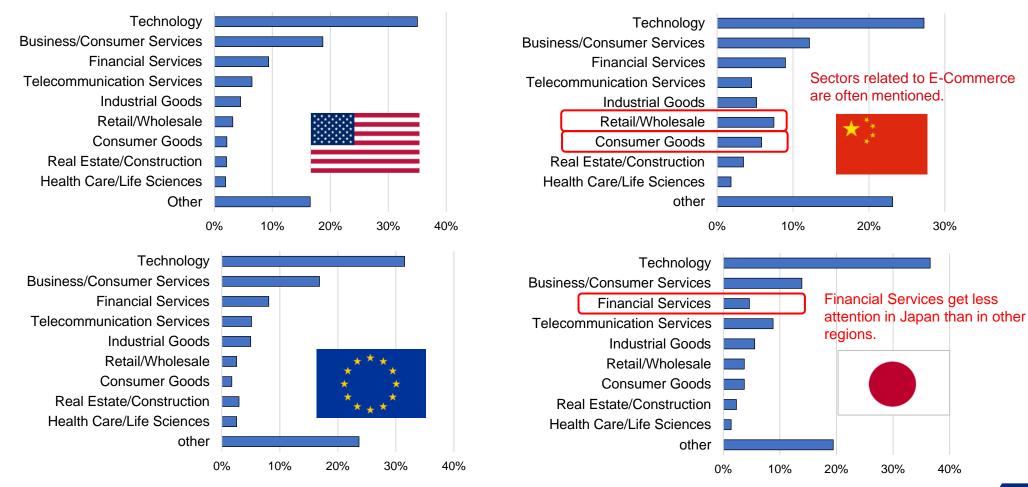


## Focused Sector in the Trend of DX in Each Country/Region (Complement to Page 43~46 of the Survey)



- We have analyzed articles about DX\* to find out which sector is focused on in the trend of DX in each region. In every region, Technology is the most focused sector, followed by Business/Consumer service.
- As for regional difference, Retail/Wholesale and Consumer Goods are the focused sector in China. At the same time, Financial Services get less attention in Japan than in other region.

<sup>\*</sup>Articles including equivalent words (digitalization and digital transformation) are also counted.





# Comparison of EDGAR with EDINET Differences in Decarbonization Strategies between Japan and the U.S.



- We compare the efforts for decarbonization/climate change by listed companies in the U.S and Japan, using disclosure documents (EDGAR for US listed companies and EDINET for Japanese listed companies) as database. While the number of appearance of words related to decarbonization/climate change has been gradually increasing in EDGAR, that in EDINET has surged up over the last few years. This suggests that decarbonization/climate change is a kind of boom between Japanese companies.
- Our finding is that U.S. companies and Japanese companies put emphasis on different technologies. As for alternative fuels, cellulose-derived ethanol are often referred in EDGAR, while in EDINET we can see many references to hydrogen and ammonia. As for renewable energy, biomass and wind power often appear in EDGAR, while in EDINET, solar power, wind power, and geothermal power are frequently seen.

Appearance of words related to decarbonization/climate change Frequency of appearance of technology terms (decarbonization, low carbon, carbon neutral, climate change) (number of appearances) (number of appearances) Ethanol **EDGAR** Nuclear Cellulosic Biomass Fertilizer 1000 Frequent words: Organic 800 ✓ Alternative fuels→"cellulosic" "ethanol" "biofuel" Wind 600 ✓ Renewable energy→ "biomass" "wind" Solar ✓ Terms related to agriculture, such as "fertilizer" 400 Biofuels or "organic" have also often appeared. 200 Hydrogen FY2018 FY2019 FY2020 **EDINET** Hydrogen Bio Battery Solar Frequent words: 800 ✓ Alternative fuels→"hydrogen" "ammonia" Wind 600 ✓ Renewable energy→ "Solar" "Wind power" "Geothermal" Nuclear ✓ "Bio" is used mostly in context of biofuel and biomaterial. 400 ✓ "EV" and "Battery" have also often appeared. Ammonia 200 Terms related to construction, such as "smart construction" Storage Battery "cement" have also often appeared.

Geothermal

100

250

200

FY2020

FY2018

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FY2019



### **Definition of Each Sector in Dow Jones Factiva**



Sector	Definition
Transportation/Logistics	Air Transport, Freight Transport/Logistics, Road/Rail Transport, Space Transport, Water Transport/Shipping
Technology	3D/4D Printing, Agriculture Technology, Artificial Intelligence Technologies, Autonomous Driving Technologies, Biometrics Technology, Blockchain Technology, Computers/Consume, Electronics, E-learning/Educational Technology, Financial Technology, Healthcare Information Technologies, Industrial Electronics (Automobile Electronics, Avionics Batteries, Electric Lighting Equipment, Electrical Components/Equipment, Electronic Navigation/Tracking Systems, Environmental Control Systems, Fuel Cells, Industrial Electrical Equipment, Measuring/Precision Instruments Passive Components, Point of Sale Systems, Security Systems, Semiconductors, Simulators), Online Service Providers, Sports Technologies, Telecommunications Equipment, Broadband Equipment, Mobile Communications Devices, Virtual Reality Technologies
Industrial Goods	Abrasive Products, Aerospace/Defense, Downstream Operations, Drones, Glass/Glass Products, Industrial Ceramics, Industrial Electronics, Machinery, Metal Products, Optical Instruments, Packaging, Plastics Products, Railroad Rolling Stock, Rubber Products, Shipbuilding, Wires/Cables
Retail/Wholesale	Retail, Wholesalers
Business/Consumer Services	Accounting/Consulting, Administrative/Support Services, Advertising/Marketing/Public Relations, Agents/Managers for Public Figures, Commercial Cleaning Services, Computer Services, Debt Recovery/Debt Collection Services, Diversified Holding Companies, Educational Services, Environment/Waste Management, Highway Operation, Investigation Services, Legal Services, Moving/Relocation Services, Parking Lots/Garages, Photographic Processing, Product Repair Services, Professional Bodies, Recruitment Services, Rental/Leasing Services, Scientific Research Services, Security Systems Services, Security/Prison Services, Services to Facilities/Buildings, Shell Company, Specialized Consumer Services, Technical Services
Consumer Goods	Baby Products, Clothing/Textiles, Converted Paper Products, Durable Household Products, Food/Beverages Furniture, Home Improvement Products, Leather/Fur Goods, Leisure/Travel Goods, Luxury Goods, Marijuana Products, Nondurable Household Products, Office Equipment/Supplies, Optical Instruments, Personal Care Products/Appliances, Tobacco Products, Watches/Clocks/Parts
Financial Services	Banking/Credit, Financial Technology, Insurance, Investing/Securities, Rating Agencies, Risk Management Services
Health Care/Life Sciences	Biotechnology, Healthcare Provision, Healthcare Support Services, Medical Equipment/Supplies
Pharmaceuticals	Biopharmaceuticals,Botanical/Homeopathic Drugs, Drug Delivery Systems, Drug Discovery/Development, Generic/Biosimilar Drugs, Over-the-counter Drugs, Prescription Drugs, Specialized Drugs/Medications, Veterinary Drug
Automotives	Autonomous Driving Technologies, Connected Vehicle Technologies, Motor Vehicle Parts, Motor Vehicles

## Survey Report on Overseas Business Operations by Japanese Manufacturing Companies

JBIC Survey 2021

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