TDB Trends Research (Research & Summary for March 2019)

Manufacturing industry's downturn continues mainly in machinery-related businesses

～ Domestic economy has worsened for four months in a row ～

（Companies researched: 23,181; Valid responses: 9,712; Response rate: 41.9%; Survey start date: May 2002）

< Overview of March 2019: Signs of entering a recession phase >

The economic diffusion index (DI) in March 2019 was 46.9, down 0.3 points from the previous month, and worsened for the fourth consecutive month. A downturn in the manufacturing industry and increased cost burden, etc., became the negative factors, and there is a possibility that the domestic economy has partially entered a recession phase.

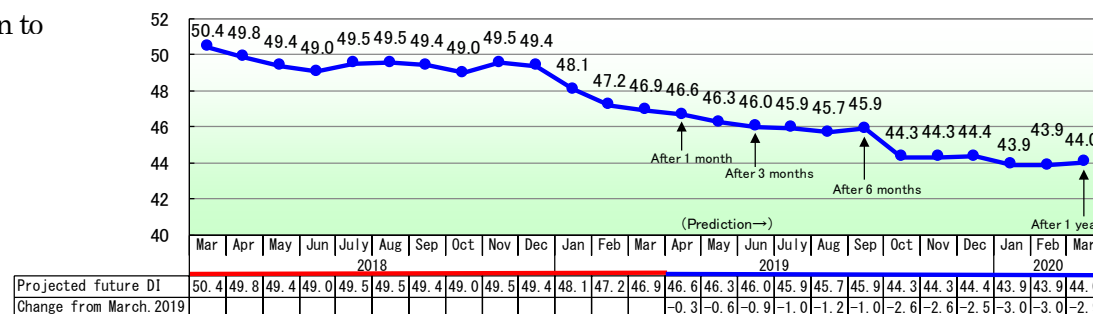< Future outlook: Uncertainty has further intensified >

While a large-scale event, etc., will be a positive factor for the domestic economy, uncertainty has further intensified with overseas risks in addition to sluggish exports and a slowdown in capital investment.

By industry：The economic DI fell below 50 for all 12 businesses in the "manufacturing" industry.

By size：" SMEs" worsened for the fourth consecutive month. The earnings environment is also severe due to an increase in purchase prices.

By region：Eight of the ten regions worsened partially due to overseas economies and the tendency for warmer winters.

	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
					2018							2019													2020
Projected future DI	50.4	49.8	49.4	49.0	49.5	49.5	49.4	49.0	49.5	49.4	48.1	47.2	46.9	46.6	46.3	46.0	45.9	45.7	45.9	44.3	44.3	44.4	43.9	43.9	44.0
Change from March.2019														-0.3	-0.6	-0.9	-1.0	-1.2	-1.0	-2.6	-2.6	-2.5	-3.0	-3.0	-2.9

＊: Economic DIs are calculated based on the structural ARIMA model, in which economic statistics are incorporated to the ARIMA model.

Economic Diffusion Index (Economic DI)1/2

	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Ratio to the PrFDious Month
Total	50.4	49.8	49.4	49.0	49.5	49.5	49.4	49.0	49.5	49.4	48.1	47.2	46.9	▲ 0.3
Large Firms	52.5	52.2	51.6	51.3	51.8	51.6	51.4	51.4	51.4	51.7	50.6	49.8	49.8	0.0
Small to Medium-sized Firms	49.9	49.3	48.8	48.5	48.9	49.0	48.9	48.4	49.0	48.8	47.4	46.5	46.2	▲ 0.3
Micro Firms	49.2	48.1	48.1	47.6	48.1	48.4	48.4	47.9	48.2	48.2	47.0	46.5	46.3	▲ 0.2

		Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Ratio to the PrFDious Month
Agriculture,Forestry,Fisheries		44.4	43.5	44.2	43.3	43.4	45.7	43.8	41.5	40.7	40.7	41.8	41.7	42.3	0.6
Finance		50.3	49.4	47.8	47.2	49.5	47.5	48.5	46.2	47.1	46.5	46.1	45.2	45.9	0.7
Construction		52.9	51.4	51.8	51.9	52.8	53.1	53.8	53.4	53.9	54.1	53.9	53.6	53.6	0.0
Real Estate		53.1	50.9	51.0	51.1	50.5	51.1	50.7	49.3	49.3	49.7	49.1	47.5	47.4	▲ 0.1
Manufacturing	Food,BEWerages,Livestock Feed	41.9	42.9	43.4	43.2	43.1	43.3	42.9	42.0	42.4	43.0	41.6	40.6	40.6	0.0
	Textile,Textile Products,Clothing	42.4	42.4	42.7	42.8	42.1	41.8	41.9	41.4	41.6	41.3	37.7	38.8	39.2	0.4
	Construction Materials,Furniture,Ceramics,Stone and Clay Products	46.3	45.7	45.8	45.9	46.6	45.6	45.2	46.1	47.5	48.3	47.1	45.5	44.1	▲ 1.4
	Pulp, Paper and Paper Products	45.8	46.3	43.1	45.2	44.5	44.5	45.4	44.3	46.5	49.3	44.6	45.2	44.1	▲ 1.1
	Publishing,Printing	37.1	36.2	36.3	33.7	35.0	33.8	34.6	33.2	34.8	35.0	33.5	33.2	34.4	1.2
	Chemical	53.8	52.3	51.8	51.6	52.2	51.3	51.4	50.4	51.4	50.2	48.1	46.3	45.4	▲ 0.9
	Steel,Nonferrous Metals,Mining	55.6	53.7	53.5	53.3	54.1	54.2	52.8	53.0	54.4	52.5	50.4	48.0	45.4	▲ 2.6
	General Machinery	61.2	60.9	60.6	60.3	60.7	59.9	59.1	58.1	57.5	55.9	52.5	51.4	48.9	▲ 2.5
	Electrical Machinery	54.8	54.9	53.4	53.4	52.8	52.0	53.3	52.9	52.5	50.5	49.2	47.6	46.0	▲ 1.6
	Transportation Machinery,Equipment	59.8	57.6	58.4	57.3	56.6	58.7	58.3	56.9	56.4	53.8	52.3	50.9	49.3	▲ 1.6
	Precision Machinery,Medical Instruments and Equipment	54.8	57.5	56.6	57.2	55.1	54.8	54.3	53.7	53.4	54.0	51.3	48.6	45.5	▲ 3.1
	Other	43.8	43.2	44.3	42.5	41.5	40.7	42.6	42.8	41.8	42.8	42.7	42.1	45.3	3.2
	Total	51.6	51.0	50.8	50.4	50.6	50.2	50.0	49.5	50.0	49.2	47.1	45.8	44.5	▲ 1.3
Wholesale	Food,BEWerages	43.0	42.9	42.8	42.4	40.9	41.9	41.3	40.6	41.9	41.1	39.4	40.5	40.5	0.0
	Textile,Textile Products,Clothing	37.2	37.2	36.8	37.3	35.9	37.3	35.1	35.3	33.5	34.3	34.0	32.0	33.6	1.6
	Construction Materials,Furniture,Ceramics,Stone and Clay Products	44.7	45.0	43.3	44.4	44.8	44.2	44.8	43.9	46.9	47.8	47.4	46.5	46.4	▲ 0.1
	Paper Products,Stationery,Books	36.8	38.0	37.5	36.2	35.4	36.6	36.9	36.5	38.1	39.3	37.9	36.0	39.0	3.0
	Chemical	49.1	49.1	49.1	46.8	48.9	48.1	47.1	47.0	47.8	47.7	45.3	44.3	44.3	0.0
	Recycled Resources	51.9	49.5	46.6	50.6	48.2	51.2	47.8	49.4	44.0	47.6	39.8	45.6	48.6	3.0
	Steel,Nonferrous Metals,Mining Products	50.8	49.7	48.2	47.8	48.0	50.3	49.2	49.4	48.8	50.2	46.3	45.0	43.7	▲ 1.3
	Machinery,Equipment	51.8	51.1	50.6	50.0	50.9	51.0	50.2	49.6	49.9	50.0	48.4	46.9	46.5	▲ 0.4
	Other	43.8	45.4	43.4	43.3	43.2	42.4	42.4	43.4	44.0	43.9	41.9	41.2	42.5	1.3
	Total	47.1	47.0	46.1	45.7	45.9	46.3	45.6	45.4	46.0	46.3	44.4	43.6	43.7	0.1

Economic Diffusion Index (Economic DI)2/2

		Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Ratio to the PrFDious Month
Retail	Food,BEWerages	46.1	47.4	45.7	45.2	44.5	45.3	45.7	44.4	45.5	42.8	43.4	41.5	42.5	1.0
	Textile,Textile Products,Clothing	37.3	38.9	36.7	32.1	34.6	32.7	30.6	32.7	31.3	34.0	30.9	32.7	38.9	6.2
	Drugs,Sundries	47.2	44.9	47.1	42.9	41.0	41.3	40.2	38.4	42.4	44.4	44.8	39.7	39.7	0.0
	Furniture	35.0	36.7	35.2	38.3	38.3	37.0	37.0	37.9	37.5	35.4	38.9	33.3	33.3	0.0
	Electrical Household Appliances, Information Machinery and Equipment	45.7	46.5	40.2	41.9	45.5	43.7	42.8	40.6	39.7	43.1	39.0	40.7	38.9	▲ 1.8
	Motor Vehicles,Motor Vehicle Parts	48.3	48.2	43.5	42.9	45.0	43.5	46.1	40.8	41.5	42.2	44.6	44.3	45.2	0.9
	Special Merchandise	42.9	41.0	39.7	39.7	40.7	39.1	39.1	39.7	43.3	43.2	41.9	41.3	40.8	▲ 0.5
	Various Merchandise	47.5	49.6	44.1	44.2	48.2	46.5	43.6	46.4	43.6	44.7	42.9	41.9	43.5	1.6
	Other	41.7	36.1	41.7	33.3	36.1	40.5	38.9	41.7	38.1	35.7	35.7	31.3	33.3	2.0
	Total	44.8	44.6	42.0	41.3	42.7	41.7	41.6	40.9	42.1	42.3	41.6	40.8	41.4	0.6
Transportation,Warehousing		50.5	50.0	49.3	48.7	50.3	50.3	49.5	48.7	50.1	50.5	49.1	48.2	48.1	▲ 0.1
Service	Restaurants	44.2	44.7	45.0	42.5	42.7	42.5	39.3	37.0	37.6	40.7	37.9	41.0	37.8	▲ 3.2
	Postal,Telecommunications	57.7	56.9	50.0	54.5	55.6	55.0	56.1	59.7	57.1	54.5	60.0	57.6	62.1	4.5
	Electricity,Gas,Water,Heat	61.1	54.2	56.3	57.4	56.3	57.4	59.3	56.7	57.1	61.9	57.4	57.4	56.3	▲ 1.1
	Leasing,Rentals	56.0	55.2	51.5	52.9	54.5	54.2	55.9	56.5	57.1	55.7	55.0	52.0	52.7	0.7
	Lodging, Hotels	52.0	51.7	50.6	50.0	45.2	46.6	43.6	41.0	45.5	45.7	44.9	44.2	42.3	▲ 1.9
	Recreation	42.5	41.5	39.5	40.9	39.8	40.0	39.9	35.5	40.6	39.3	38.9	37.8	41.0	3.2
	Broadcasting	47.0	39.7	37.2	40.3	42.3	38.5	41.7	40.5	40.0	36.7	40.5	44.4	43.3	▲ 1.1
	Maintenance,Guarding,Testing	51.1	49.9	50.2	48.5	50.5	52.3	51.8	51.4	51.6	50.7	50.7	51.0	50.0	▲ 1.0
	Advertising	43.4	44.2	43.0	40.2	41.7	41.4	42.3	42.3	41.2	41.7	40.4	40.1	40.3	0.2
	Information	58.6	59.4	58.4	58.8	58.7	59.1	59.7	59.8	60.7	59.3	60.1	59.0	60.3	1.3
	Labor Dispatching	57.9	57.8	59.0	59.1	59.3	59.2	58.0	59.4	58.8	59.0	57.2	54.6	53.8	▲ 0.8
	Special Services	54.3	53.6	53.7	54.6	54.8	55.3	53.9	55.0	54.6	53.6	53.5	52.8	52.5	▲ 0.3
	Medical,Welfare,Public Health	48.1	48.8	48.0	46.8	46.1	48.2	48.3	48.8	48.3	47.4	47.5	46.5	47.1	0.6
	Education	44.2	42.4	42.8	40.6	42.6	46.5	46.4	43.8	43.5	46.2	38.5	44.7	45.8	1.1
	Other	51.8	50.7	50.8	50.0	51.3	50.2	51.6	49.3	49.8	52.0	50.2	49.7	49.0	▲ 0.7
	Total	53.1	52.8	52.1	52.0	52.4	52.8	52.9	52.9	53.2	52.7	52.4	51.7	51.9	0.2
Other		50.8	49.2	50.0	46.3	46.1	45.0	46.3	46.2	45.3	46.6	44.1	48.3	45.2	▲ 3.1

	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Ratio to the PrFDious Month
Hokkaido	46.6	46.2	45.8	46.5	46.6	47.5	44.3	43.9	45.2	45.2	43.9	44.4	44.6	0.2
Tohoku	46.4	45.7	45.0	44.2	46.8	46.6	46.4	45.9	46.5	45.4	44.4	43.1	42.8	▲ 0.3
kitakanto	51.4	50.7	49.8	49.4	50.6	50.0	50.0	49.0	48.5	48.5	45.8	44.8	44.7	▲ 0.1
minamikanto	51.5	50.7	50.3	50.2	50.3	50.0	49.8	50.4	50.1	49.0	48.1	47.8		▲ 0.3
Hokuriku	48.5	48.7	48.5	48.7	49.4	49.8	49.3	49.4	49.3	48.6	47.7	46.3	45.3	▲ 1.0
Tokai	52.3	51.9	51.9	50.9	51.6	51.8	51.4	51.3	51.8	51.8	50.1	48.6	48.4	▲ 0.2
Kinki	50.0	49.7	48.8	48.4	48.6	49.4	48.9	48.8	49.7	49.7	48.4	47.6	47.3	▲ 0.3
Chugoku	49.6	48.7	48.7	47.9	47.0	47.1	48.0	48.6	48.5	48.7	47.7	47.2	46.7	▲ 0.5
Shikoku	48.4	48.2	47.8	47.2	47.5	47.9	47.0	47.6	47.2	48.4	46.8	47.6	46.8	▲ 0.8
Kyushu	51.7	51.4	50.4	49.8	50.9	50.6	50.6	50.8	49.1	50.6	50.7	49.7	48.5	48.6	0.1

Appendix

Appendix

1.Region

Hokkaido	504	Tokai	1,073
Tohoku	608	Kinki	1,622
kitaKanto	735	Chugoku	543
minamikanto	3,123	Shikoku	284
Hokuriku	536	Kyushu	684
		Total	9,712

2.Industry (10 Industries 51 Lines of business)

Agriculture,Forestry,Fisheries		54	Retail 480	Food,Beverages	71
Finance		115		Textile,Textile Products,Clothing	27
Construction		1,445		Drugs,Sundries	26
Real Estate		307		Furniture	9
Manufacturing 3,223	Food,Beverages,Livestock Feed	301		Electrical Household Appliances,Information Machinery and Equipment	33
	Textile,Textile Products,Clothing	108		Motor Vehicles,Motor Vehicle Parts	63
	Construction Materials,Furniture,Ceramics,Stone and Clay Products	220		Special Merchandise	121
	Pulp, Paper and Paper Products	99		Various Merchandise	41
	Publishing,Printing	171		Others	9
	Chemical	382	Transportation,Warehousing		422
	Steel,Nonferrous Metals,Mining	473	Service 1,384	Restaurants	37
	General Machinery	430		Telecommunications	11
	Electrical Machinery	312		Electricity,Gas,Water,Heat	8
	Transportation Machinery,Equipment	94		Leasing,Rentals	104
	Precision Machinery,Medical Instruments and Equipment	78		Lodging, Hotels	26
	Others	85		Recreation	50
Wholesale 3,959	Food,Beverages	331		Broadcasting	15
	Textile,Textile Products,Clothing	182		Maintenance,Guarding,Testing	147
	Construction Materials,Furniture,Ceramics,Stone and Clay Products	332		Advertising	101
	Paper Products,Stationery,Books	94		Information	410
	Chemical	262		Labor Dispatching	52
	Recycled Resources	35		Special Services	244
	Steel,Nonferrous Metals,Mining Products	278		Medical,Welfare,Public Health	92
	Machinery,Equipment	873		Education	24
	Others	320		Others	150
			Others		38
			Total		9,712

3.Size

Large Firms	1,917	19.7%
Small to Medium-sized Firms	7,795	80.3%
micro Firms	2,618	27.0%
Total	9,712	100.0%

2.Research Items

*Business Confidence (current, in 3 months, in 6 months, in 1 year)

*Business Conditions (sales, purchasing and selling unit price, inventory, capacity utilization ratio, number of employees, overtime work hours)

3.Research Period and Methodology

Internet-based survey conducted March 15 – 31 2019

The explanation of the Economic Diffusion Index

Research Purpose/Researched Terms

TDB Economic Trend Research (started from May 2002) is a monthly statistical survey conducted for over 20,000 nationwide corporations on their general business activities including the current condition and future outlook of the industry business performance and operating climate. The primary purpose of such a survey is to assess the current state of Japan's economy.

Selection of the Subject Corporations

Companies of all sizes in all domestic industries are eligible to participate in the survey.

DI Calculation

The DI（Diffusion Index） is calculated by multiplying the number of responses for each assessment category by the number given in parentheses in the table below, to a seven-level assessment rated by companies.

Selection category	Extremely good	good	fairly good	neither good nor bad	fairly bad	bad	very bad
points	6	5	4	3	2	1	0
number of responses for each category	N_6	N_5	N_4	N_3	N_2	N_1	N_0

Economic DI

$$= \frac{\text{Total of (Points for each category} \times \text{Number of responses for each category)}}{\text{Number of valid responses} N} \times \frac{1}{6} \times 100$$

$$\equiv \frac{\sum_{i=0}^{6} i \times N_i}{N} \times \frac{1}{6} \times 100$$

An economic DI of 50 is **the point separating good and bad**, so a DI over 50 means "good," and below 50 means "bad." (The numbers are rounded off to one decimal place.) No weight is given according to a company's size, and calculations are made on the basis of "one company, one vote."

Size Classification

Industry	Large Firms	Small to Medium-Sized Firms (Micro Firms included)	Micro Firms
Manufacturing and Other Industries*	Capital: More than 300 million yen and No. of Employee: Over 300	Capital: Below 300 million yen or No. of Employee: Below 300	No. of Employee: Below 20
Wholesale Trade	Capital: More than 100 million yen and No. of Employee: Over 100	Capital: Below 100 million yen or No. of Employee: Below 100	No. of Employee: Below 5
Retail Trade	Capital: More than 50 million yen and No. of Employee: Over 50	Capital: Below 50 million yen or No. of Employee: Below 50	No. of Employee: Below 5
Service**	Capital: More than 50 million yen and No. of Employee: Over 100	Capital: Below 50 million yen or No. of Employee: Below 100	No. of Employee: Below 5

Note1: Large Firms refer to companies that rank in the top 3% in terms of sales volume according to the type of business, among small to midium-sized corporations excluding micro firms, which are defined in Small and Medium Enterprises Basic Act.

Note2: Small to Medium-Sized Firms refer to companies that rank in the bottom 50% in terms of sales volume according to the type of business, among those not categorized as small to midium-sized corporations in Small to Medium-Sized Enterprises Basic Act.