TDB Trends Research (Research & Summary for October 2018)

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Economic diffusion index (DI) worsened for two months in a row, domestic economy is weak
～ An increase in the cost burden resulting from the high price of crude oil and manpower shortage ～

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（Companies researched: 23,076 ; Valid responses: 9,938 ; Response rate: 43.1 %; Survey start date: May 2002）

< Overview of October 2018: Weak domestic economy >

The economic diffusion index (DI) in October 2018 was 49.0, down 0.4 point from the previous month, and worsening for the second consecutive month. Fuel price hikes due to the high price of crude oil, and the serious manpower shortage have led to a further increase in the cost burden, which resulted in the weakened domestic economy.
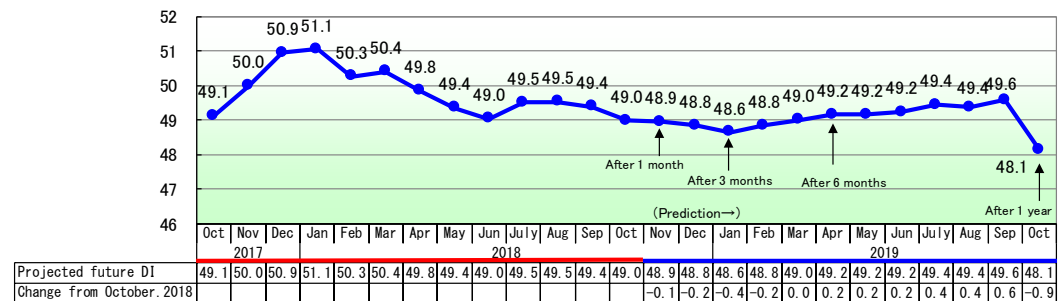
< Future outlook: Uncertainty has intensified >

While capital investment is expected to continue to be strong, and last-minute demand due to the hike in the consumption tax rate is expected, there are concerns about the possibility of the high price of crude oil and overseas risks holding down the economy, and uncertainty has intensified.

By industry : Nine of the ten industries worsened. The cost burden increases against the backdrop of the high price of crude oil.

By size : "Small enterprises" worsened for the first time in four months. "Large enterprises" continue at a standstill.

By region : Seven of the ten regions worsened. A serious manpower shortage and fuel price hikes are also bearish factors.

	Oct 2017	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct 2018	Nov	Dec	Jan 2019	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct
Projected future DI	49.1	50.0	50.9	51.1	50.3	50.4	49.8	49.4	49.0	49.5	49.5	49.4	49.0	48.9	48.8	48.6	48.8	49.0	49.2	49.2	49.2	49.4	49.4	49.6	48.1
Change from October.2018														−0.1	−0.2	−0.4	−0.2	0.0	0.2	0.2	0.2	0.4	0.4	0.6	−0.9

(Prediction→)

After 1 month / After 3 months / After 6 months / After 1 year

＊: 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

	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Ratio to the PrFDious Month
Total	49.1	50.0	50.9	51.1	50.3	50.4	49.8	49.4	49.0	49.5	49.5	49.4	49.0	▲ 0.4
Large Firms	51.6	52.1	53.0	53.2	52.2	52.5	52.2	51.6	51.3	51.8	51.6	51.4	51.4	0.0
Small to Medium-sized Firms	48.5	49.4	50.4	50.5	49.8	49.9	49.3	48.8	48.5	48.9	49.0	48.9	48.4	▲ 0.5
Micro Firms	47.6	48.7	49.8	49.6	49.0	49.2	48.1	48.1	47.6	48.1	48.4	48.4	47.9	▲ 0.5

		Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Ratio to the PrFDious Month
Agriculture,Forestry,Fisheries		47.5	46.7	49.2	47.1	45.5	44.4	43.5	44.2	43.3	43.4	45.7	43.8	41.5	▲ 2.3
Finance		47.9	49.0	48.9	49.6	48.0	50.3	49.4	47.8	47.2	49.5	47.5	48.5	46.2	▲ 2.3
Construction		52.7	53.7	54.2	54.0	53.4	52.9	51.4	51.8	51.9	52.8	53.1	53.8	53.4	▲ 0.4
Real Estate		50.9	50.3	51.3	52.3	52.1	53.1	50.9	51.0	51.1	50.5	51.1	50.7	49.3	▲ 1.4
Manufacturing	Food,BEWerages,Livestock Feed	42.8	42.9	44.8	44.0	43.2	41.9	42.9	43.4	43.2	43.1	43.3	42.9	42.0	▲ 0.9
	Textile,Textile Products,Clothing	38.6	39.6	42.0	39.1	41.3	42.4	42.4	42.7	42.8	42.1	41.8	41.9	41.4	▲ 0.5
	Construction Materials,Furniture,Ceramics,Stone and Clay Products	47.0	46.8	48.0	46.8	46.2	46.3	45.7	45.8	45.9	46.6	45.6	45.2	46.1	0.9
	Pulp, Paper and Paper Products	46.6	45.6	48.7	46.6	44.1	45.8	46.3	43.1	45.2	44.5	44.5	45.4	44.3	▲ 1.1
	Publishing,Printing	35.7	35.4	35.8	36.4	37.4	37.1	36.2	36.3	33.7	35.0	33.8	34.6	33.2	▲ 1.4
	Chemical	52.5	53.3	54.1	53.9	53.2	53.8	52.3	51.8	51.6	52.2	51.3	51.4	50.4	▲ 1.0
	Steel,Nonferrous Metals,Mining	54.3	56.6	56.3	57.6	55.6	55.6	53.7	53.5	53.3	54.1	54.2	52.8	53.0	0.2
	General Machinery	59.3	59.3	60.8	62.4	62.0	61.2	60.9	60.6	60.3	60.7	59.9	59.1	58.1	▲ 1.0
	Electrical Machinery	53.7	54.5	55.7	56.9	56.5	54.8	54.9	53.4	53.4	52.8	52.0	53.3	52.9	▲ 0.4
	Transportation Machinery,Equipment	54.2	58.6	56.9	57.9	56.6	59.8	57.6	58.4	57.3	56.6	58.7	58.3	56.9	▲ 1.4
	Precision Machinery,Medical Instruments and Equipment	53.2	55.1	54.7	57.4	56.2	54.8	57.5	56.6	57.2	55.1	54.8	54.3	53.7	▲ 0.6
	Other	39.6	40.9	42.6	43.4	43.1	43.8	43.2	44.3	42.5	41.5	40.7	42.6	42.8	0.2
	Total	50.3	51.2	52.1	52.6	51.9	51.6	51.0	50.8	50.4	50.6	50.2	50.0	49.5	▲ 0.5
Wholesale	Food,BEWerages	41.1	42.4	43.5	42.9	42.1	43.0	42.9	42.8	42.4	40.9	41.9	41.3	40.6	▲ 0.7
	Textile,Textile Products,Clothing	35.4	36.1	37.4	37.2	35.5	37.2	37.2	36.8	37.3	35.9	37.3	35.1	35.3	0.2
	Construction Materials,Furniture,Ceramics,Stone and Clay Products	44.2	45.1	46.7	46.2	44.9	44.7	45.0	43.3	44.4	44.8	44.2	44.8	43.9	▲ 0.9
	Paper Products,Stationery,Books	38.4	38.9	38.4	37.6	34.9	36.8	38.0	37.5	36.2	35.4	36.6	36.9	36.5	▲ 0.4
	Chemical	48.1	48.6	50.7	49.7	49.0	49.1	49.1	49.1	46.8	48.9	48.1	47.1	47.0	▲ 0.1
	Recycled Resources	51.6	57.8	58.3	56.2	51.0	51.9	49.5	46.6	50.6	48.2	51.2	47.8	49.4	1.6
	Steel,Nonferrous Metals,Mining Products	49.5	50.5	52.3	53.1	51.9	50.8	49.7	48.2	47.8	48.0	50.3	49.2	49.4	0.2
	Machinery,Equipment	49.3	50.9	52.1	52.3	51.4	51.8	51.1	50.6	50.0	50.9	51.0	50.2	49.6	▲ 0.6
	Other	42.0	42.7	43.7	43.9	42.8	43.8	45.4	43.4	43.3	43.2	42.4	42.4	43.4	1.0
	Total	45.5	46.5	47.9	47.8	46.6	47.1	47.0	46.1	45.7	45.9	46.3	45.6	45.4	▲ 0.2

Economic Diffusion Index (Economic DI)2/2

		Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Ratio to the PrFDious Month
Retail	Food,BEWerages	42.1	45.2	45.3	44.1	45.6	46.1	47.4	45.7	45.2	44.5	45.3	45.7	44.4	▲ 1.3
	Textile,Textile Products,Clothing	37.5	32.7	35.6	41.0	38.2	37.3	38.9	36.7	32.1	34.6	32.7	30.6	32.7	2.1
	Drugs,Sundries	44.9	46.2	44.4	46.4	45.7	47.2	44.9	47.1	42.9	41.0	41.3	40.2	38.4	▲ 1.8
	Furniture	40.9	45.0	40.7	43.9	35.2	35.0	36.7	35.2	38.3	38.3	37.0	37.0	37.9	0.9
	Electrical Household Appliances, Information Machinery and Equipment	43.9	43.9	47.7	41.9	40.4	45.7	46.5	40.2	41.9	45.5	43.7	42.8	40.6	▲ 2.2
	Motor Vehicles,Motor Vehicle Parts	45.3	45.6	44.2	49.2	47.8	48.3	48.2	43.5	42.9	45.0	43.5	46.1	40.8	▲ 5.3
	Special Merchandise	39.6	38.8	41.5	41.9	42.5	42.9	41.0	39.7	39.7	40.7	39.1	39.1	39.7	0.6
	Various Merchandise	46.3	45.7	46.4	46.9	46.0	47.5	49.6	44.1	44.2	48.2	46.5	43.6	46.4	2.8
	Other	46.7	43.3	50.0	50.0	43.3	41.7	36.1	41.7	33.3	36.1	40.5	38.9	41.7	2.8
	Total	42.4	42.4	43.4	44.3	43.8	44.8	44.6	42.0	41.3	42.7	41.7	41.6	40.9	▲ 0.7
Transportation,Warehousing		49.9	50.7	52.5	50.7	49.6	50.5	50.0	49.3	48.7	50.3	50.3	49.5	48.7	▲ 0.8
Service	Restaurants	45.1	42.9	44.9	45.2	43.6	44.2	44.7	45.0	42.5	42.7	42.5	39.3	37.0	▲ 2.3
	Postal,Telecommunications	54.5	57.7	56.4	56.1	59.1	57.7	56.9	50.0	54.5	55.6	55.0	56.1	59.7	3.6
	Electricity,Gas,Water,Heat	58.3	59.5	54.2	60.4	58.3	61.1	54.2	56.3	57.4	56.3	57.4	59.3	56.7	▲ 2.6
	Leasing,Rentals	54.2	54.9	55.9	56.9	56.0	56.0	55.2	51.5	52.9	54.5	54.2	55.9	56.5	0.6
	Lodging, Hotels	43.6	51.9	48.0	46.9	48.7	52.0	51.7	50.6	50.0	45.2	46.6	43.6	41.0	▲ 2.6
	Recreation	39.1	39.0	42.2	41.7	42.2	42.5	41.5	39.5	40.9	39.8	40.0	39.9	35.5	▲ 4.4
	Broadcasting	46.2	44.4	47.6	47.6	47.4	47.0	39.7	37.2	40.3	42.3	38.5	41.7	40.5	▲ 1.2
	Maintenance,Guarding,Testing	50.3	51.6	50.3	51.5	50.7	51.1	49.9	50.2	48.5	50.5	52.3	51.8	51.4	▲ 0.4
	Advertising	43.6	41.8	41.5	46.1	42.3	43.4	44.2	43.0	40.2	41.7	41.4	42.3	42.3	0.0
	Information	57.9	57.6	58.4	59.4	58.8	58.6	59.4	58.4	58.8	58.7	59.1	59.7	59.8	0.1
	Labor Dispatching	58.2	59.0	57.9	58.6	56.5	57.9	57.8	59.0	59.1	59.3	59.2	58.0	59.4	1.4
	Special Services	53.3	53.2	55.5	53.4	53.1	54.3	53.6	53.7	54.6	54.8	55.3	53.9	55.0	1.1
	Medical,Welfare,Public Health	44.1	47.9	48.3	47.6	48.6	48.1	48.8	48.0	46.8	46.1	48.2	48.3	48.8	0.5
	Education	41.0	40.5	42.4	45.1	41.7	44.2	42.4	42.8	40.6	42.6	46.5	46.4	43.8	▲ 2.6
	Other	50.6	53.9	52.6	51.6	51.3	51.8	50.7	50.8	50.0	51.3	50.2	51.6	49.3	▲ 2.3
	Total	51.8	52.5	53.0	53.4	52.7	53.1	52.8	52.1	52.0	52.4	52.8	52.9	52.9	0.0
Other		43.3	47.9	48.2	47.8	47.9	50.8	49.2	50.0	46.3	46.1	45.0	46.3	46.2	▲ 0.1

	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Ratio to the PrFDious Month
Hokkaido	48.6	48.6	48.4	47.8	45.7	46.6	46.2	45.8	46.5	46.6	47.5	44.3	43.9	▲ 0.4
Tohoku	45.9	47.2	47.9	46.9	46.1	46.4	45.7	45.0	44.2	46.8	46.6	46.4	45.9	▲ 0.5
kitakanto	50.2	51.2	52.9	52.3	51.7	51.4	50.7	49.8	49.4	50.6	50.0	50.0	49.0	▲ 1.0
minamikanto	49.7	50.5	51.3	51.8	51.0	51.5	50.7	50.3	50.2	50.3	50.0	50.4	49.8	▲ 0.6
Hokuriku	49.3	49.0	49.9	49.7	47.7	48.5	48.7	48.5	48.7	49.4	49.8	49.3	49.4	0.1
Tokai	50.0	51.2	52.5	52.6	52.3	52.3	51.9	51.9	50.9	51.6	51.8	51.4	51.3	▲ 0.1
Kinki	48.0	49.0	50.8	51.1	50.3	50.0	49.7	48.8	48.4	48.6	49.4	48.9	48.8	▲ 0.1
Chugoku	48.6	50.1	50.6	50.8	50.1	49.6	48.7	48.7	47.9	47.0	47.1	48.0	48.6	0.6
Shikoku	48.2	48.5	49.0	49.4	48.5	48.4	48.2	47.8	47.2	47.5	47.9	47.0	47.6	0.6
Kyushu	50.5	51.3	51.7	51.7	51.8	51.7	51.4	50.4	49.8	50.9	50.6	50.8	49.1	▲ 1.7

Appendix

1.Research Subjects(Companies Researched 23,076 ; Valid responses: 9,938 ; Response rate: 43.1%)

Appendix

1.Region

Hokkaido	504	Tokai	1,091
Tohoku	637	Kinki	1,655
kitaKanto	728	Chugoku	546
minamikanto	3,220	Shikoku	287
Hokuriku	563	Kyushu	707
		Total	9,938

2.Industry (10 Industries 51 Lines of business)

Agriculture,Forestry,Fisheries			51
Finance			124
Construction			1,482
Real Estate			294
Manufacturing 3,223	Food,Beverages,Livestock Feed		320
	Textile,Textile Products,Clothing		110
	Construction Materials,Furniture,Ceramics,Stone and Clay Products		216
	Pulp, Paper and Paper Products		100
	Publishing,Printing		171
	Chemical		406
	Steel,Nonferrous Metals,Mining		485
	General Machinery		436
	Electrical Machinery		321
	Transportation Machinery,Equipment		94
	Precision Machinery,Medical Instruments and Equipment		73
	Others		90
Wholesale 3,959	Food,Beverages		358
	Textile,Textile Products,Clothing		178
	Construction Materials,Furniture,Ceramics,Stone and Clay Products		331
	Paper Products,Stationery,Books		94
	Chemical		271
	Recycled Resources		28
	Steel,Nonferrous Metals,Mining Products		303
	Machinery,Equipment		883
	Others		337

Retail 480	Food,Beverages	65
	Textile,Textile Products,Clothing	28
	Drugs,Sundries	23
	Furniture	11
	Electrical Household Appliances,Information Machinery and Equipment	32
	Motor Vehicles,Motor Vehicle Parts	60
	Special Merchandise	123
	Various Merchandise	42
	Others	8
Transportation,Warehousing		424
Service 1,384	Restaurants	32
	Telecommunications	12
	Electricity,Gas,Water,Heat	10
	Leasing,Rentals	108
	Lodging, Hotels	24
	Recreation	53
	Broadcasting	14
	Maintenance,Guarding,Testing	147
	Advertising	99
	Information	441
	Labor Dispatching	60
	Special Services	241
	Medical,Welfare,Public Health	99
	Education	27
	Others	164
Others		35
Total		9,938

3.Size

Large Firms	2,027	20.4%
Small to Medium-sized Firms	7,911	79.6%
micro Firms	2,599	26.2%
Total	9,938	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 October 18– 31 2018

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.