TDB Trends Research (Research & Summary for November 2018)

Economic DI improved for the first time in four months

 $\sim\,$ Disaster recovery and reconstruction and construction demand rippled across related industries $\sim\,$

(Companies researched: 23,052 ; Valid responses: 9,746 ; Response rate: 42.3 %; Survey start date: May 2002)

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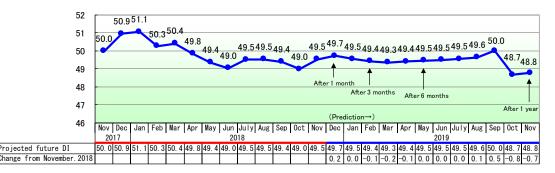
< Overview of November 2018: Weak domestic economy >

The economic diffusion index (DI) in November 2018 was 49.5, up 0.5 point from the previous month, and the first improvement in four months. The domestic economy has improved because construction demand, such as disaster recovery, reconstruction work and housing construction, has rippled across related industries. Along with the contribution of demand towards the end of the year and stability in fuel price, the weakening trend temporarily receded.

< Future outlook: Uncertainty has intensified >

While capital investment is going to support the domestic economy, lastminute demand due to the hike in the consumption tax rate is expected. On the other hand, there are concerns about the reactionary decline and overseas risks, and uncertainty has intensified.

- By industry : Seven industries improved. Expansion in construction demand rippled across related industries.
- By size : "SMEs" and "small enterprises" improved for the first time in three months.
- By region : Six of the ten regions improved. Recovery and reconstruction from natural disasters are progressing.



*: 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

	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Ratio to the PrFDious Month
Total	50.0	50.9	51.1	50.3	50.4	49.8	49.4	49.0	49.5	49.5	49.4	49.0	49.5	0.5
Large Firms	52.1	53.0	53.2	52.2	52.5	52.2	51.6	51.3	51.8	51.6	51.4	51.4	51.4	0.0
Small to Medium-sized Firms	49.4	50.4	50.5	49.8	49.9	49.3	48.8	48.5	48.9	49.0	48.9	48.4	49.0	0.6
Micro Firms	48.7	49.8	49.6	49.0	49.2	48.1	48.1	47.6	48.1	48.4	48.4	47.9	48.2	0.3

		Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Ratio to the PrFDious Month
Agriculture,Forestry,Fisheries			49.2	47.1	45.5	44.4	43.5	44.2	43.3	43.4	45.7	43.8	41.5	40.7	▲ 0.8
Finance			48.9	49.6	48.0	50.3	49.4	47.8	47.2	49.5	47.5	48.5	46.2	47.1	0.9
Construction		53.7	54.2	54.0	53.4	52.9	51.4	51.8	51.9	52.8	53.1	53.8	53.4	53.9	0.5
Real Estate		50.3	51.3	52.3	52.1	53.1	50.9	51.0	51.1	50.5	51.1	50.7	49.3	49.3	0.0
	Food,BEWerages,Livestock Feed	42.9	44.8	44.0	43.2	41.9	42.9	43.4	43.2	43.1	43.3	42.9	42.0	42.4	0.4
	Textile,Textile Products,Clothing	39.6	42.0	39.1	41.3	42.4	42.4	42.7	42.8	42.1	41.8	41.9	41.4	41.6	0.2
	Construction Materials,Furniture, Ceramics,Stone and Clay Products	46.8	48.0	46.8	46.2	46.3	45.7	45.8	45.9	46.6	45.6	45.2	46.1	47.5	1.4
	Pulp, Paper and Paper Products	45.6	48.7	46.6	44.1	45.8	46.3	43.1	45.2	44.5	44.5	45.4	44.3	46.5	2.2
	Publishing, Printing	35.4	35.8	36.4	37.4	37.1	36.2	36.3	33.7	35.0	33.8	34.6	33.2	34.8	1.6
Manufacturing	Chemical	53.3	54.1	53.9	53.2	53.8	52.3	51.8	51.6	52.2	51.3	51.4	50.4	51.4	1.0
	Steel,Nonferrous Metals,Mining	56.6	56.3	57.6	55.6	55.6	53.7	53.5	53.3	54.1	54.2	52.8	53.0	54.4	1.4
	General Machinery	59.3	60.8	62.4	62.0	61.2	60.9	60.6	60.3	60.7	59.9	59.1	58.1	57.5	▲ 0.6
	Electrical Machinery	54.5	55.7	56.9	56.5	54.8	54.9	53.4	53.4	52.8	52.0	53.3	52.9	52.5	▲ 0.4
	Transportation Machinery, Equipment	58.6	56.9	57.9	56.6	59.8	57.6	58.4	57.3	56.6	58.7	58.3	56.9	56.4	▲ 0.5
	Precision Machinery, Medical Instruments and Equipment	55.1	54.7	57.4	56.2	54.8	57.5	56.6	57.2	55.1	54.8	54.3	53.7	53.4	▲ 0.3
	Other	40.9	42.6	43.4	43.1	43.8	43.2	44.3	42.5	41.5	40.7	42.6	42.8	41.8	▲ 1.0
	Total	51.2	52.1	52.6	51.9	51.6	51.0	50.8	50.4	50.6	50.2	50.0	49.5	50.0	0.5
	Food,BEWerages	42.4	43.5	42.9	42.1	43.0	42.9	42.8	42.4	40.9	41.9	41.3	40.6	41.9	1.3
	Textile,Textile Products,Clothing	36.1	37.4	37.2	35.5	37.2	37.2	36.8	37.3	35.9	37.3	35.1	35.3	33.5	▲ 1.8
	Construction Materials, Furniture,Ceramics, Stone and Clay Products	45.1	46.7	46.2	44.9	44.7	45.0	43.3	44.4	44.8	44.2	44.8	43.9	46.9	3.0
Wholesale	Paper Products, Stationery, Books	38.9	38.4	37.6	34.9	36.8	38.0	37.5	36.2	35.4	36.6	36.9	36.5	38.1	1.6
	Chemical	48.6	50.7	49.7	49.0	49.1	49.1	49.1	46.8	48.9	48.1	47.1	47.0	47.8	0.8
	Recycled Resources	57.8	58.3	56.2	51.0	51.9	49.5	46.6	50.6	48.2	51.2	47.8	49.4	44.0	▲ 5.4
	Steel,Nonferrous Metals, Mining Products	50.5	52.3	53.1	51.9	50.8	49.7	48.2	47.8	48.0	50.3	49.2	49.4	48.8	▲ 0.6
	Machinery,Equipment	50.9	52.1	52.3	51.4	51.8	51.1	50.6	50.0	50.9	51.0	50.2	49.6	49.9	0.3
	Other	42.7	43.7	43.9	42.8	43.8	45.4	43.4	43.3	43.2	42.4	42.4	43.4	44.0	0.6
	Total	46.5	47.9	47.8	46.6	47.1	47.0	46.1	45.7	45.9	46.3	45.6	45.4	46.0	0.6

		Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Ratio to the PrFDious Month
	Food,BEWerages	45.2	45.3	44.1	45.6	46.1	47.4	45.7	45.2	44.5	45.3	45.7	44.4	45.5	1.1
	Textile, Textile Products, Clothing	32.7	35.6	41.0	38.2	37.3	38.9	36.7	32.1	34.6	32.7	30.6	32.7	31.3	▲ 1.4
	Drugs,Sundries	46.2	44.4	46.4	45.7	47.2	44.9	47.1	42.9	41.0	41.3	40.2	38.4	42.4	4.0
	Furniture	45.0	40.7	43.9	35.2	35.0	36.7	35.2	38.3	38.3	37.0	37.0	37.9	37.5	▲ 0.4
Retail	Electrical Household Appliances, Information Machinery and Equipment	43.9	47.7	41.9	40.4	45.7	46.5	40.2	41.9	45.5	43.7	42.8	40.6	39.7	▲ 0.9
	Motor Vehicles, Motor Vehicle Parts	45.6	44.2	49.2	47.8	48.3	48.2	43.5	42.9	45.0	43.5	46.1	40.8	41.5	0.7
	Special Merchandise	38.8	41.5	41.9	42.5	42.9	41.0	39.7	39.7	40.7	39.1	39.1	39.7	43.3	3.6
	Various Merchandise	45.7	46.4	46.9	46.0	47.5	49.6	44.1	44.2	48.2	46.5	43.6	46.4	43.6	▲ 2.8
	Other	43.3	50.0	50.0	43.3	41.7	36.1	41.7	33.3	36.1	40.5	38.9	41.7	38.1	▲ 3.6
	Total	42.4	43.4	44.3	43.8	44.8	44.6	42.0	41.3	42.7	41.7	41.6	40.9	42.1	1.2
Transportati	ansportation,Warehousing		52.5	50.7	49.6	50.5	50.0	49.3	48.7	50.3	50.3	49.5	48.7	50.1	1.4
	Restaurants	42.9	44.9	45.2	43.6	44.2	44.7	45.0	42.5	42.7	42.5	39.3	37.0	37.6	0.6
	Postal, Telecommunications	57.7	56.4	56.1	59.1	57.7	56.9	50.0	54.5	55.6	55.0	56.1	59.7	57.1	▲ 2.6
	Electricity,Gas,Water,Heat	59.5	54.2	60.4	58.3	61.1	54.2	56.3	57.4	56.3	57.4	59.3	56.7	57.1	0.4
	Leasing,Rentals	54.9	55.9	56.9	56.0	56.0	55.2	51.5	52.9	54.5	54.2	55.9	56.5	57.1	0.6
	Lodging, Hotels	51.9	48.0	46.9	48.7	52.0	51.7	50.6	50.0	45.2	46.6	43.6	41.0	45.5	4.5
	Recreation	39.0	42.2	41.7	42.2	42.5	41.5	39.5	40.9	39.8	40.0	39.9	35.5	40.6	5.1
	Broadcasting	44.4	47.6	47.6	47.4	47.0	39.7	37.2	40.3	42.3	38.5	41.7	40.5	40.0	▲ 0.5
Service	Maintenance, Guarding, Testing	51.6	50.3	51.5	50.7	51.1	49.9	50.2	48.5	50.5	52.3	51.8	51.4	51.6	0.2
	Advertising	41.8	41.5	46.1	42.3	43.4	44.2	43.0	40.2	41.7	41.4	42.3	42.3	41.2	▲ 1.1
	Information	57.6	58.4	59.4	58.8	58.6	59.4	58.4	58.8	58.7	59.1	59.7	59.8	60.7	0.9
	Labor Dispatching	59.0	57.9	58.6	56.5	57.9	57.8	59.0	59.1	59.3	59.2	58.0	59.4	58.8	▲ 0.6
	Special Services	53.2	55.5	53.4	53.1	54.3	53.6	53.7	54.6	54.8	55.3	53.9	55.0	54.6	▲ 0.4
	Medical,Welfare,Public Health	47.9	48.3	47.6	48.6	48.1	48.8	48.0	46.8	46.1	48.2	48.3	48.8	48.3	▲ 0.5
	Education	40.5	42.4	45.1	41.7	44.2	42.4	42.8	40.6	42.6	46.5	46.4	43.8	43.5	▲ 0.3
	Other	53.9	52.6	51.6	51.3	51.8	50.7	50.8	50.0	51.3	50.2	51.6	49.3	49.8	0.5
	Total	52.5	53.0	53.4	52.7	53.1	52.8	52.1	52.0	52.4	52.8	52.9	52.9	53.2	0.3
Other		47.9	48.2	47.8	47.9	50.8	49.2	50.0	46.3	46.1	45.0	46.3	46.2	45.3	▲ 0.9

Economic Diffusion Index (Economic DI)2/2

	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Ratio to the PrFDious Month
Hokkaido	48.6	48.4	47.8	45.7	46.6	46.2	45.8	46.5	46.6	47.5	44.3	43.9	45.2	1.3
Tohoku	47.2	47.9	46.9	46.1	46.4	45.7	45.0	44.2	46.8	46.6	46.4	45.9	46.5	0.6
kitakanto	51.2	52.9	52.3	51.7	51.4	50.7	49.8	49.4	50.6	50.0	50.0	49.0	48.5	▲ 0.5
minamikanto	50.5	51.3	51.8	51.0	51.5	50.7	50.3	50.2	50.3	50.0	50.4	49.8	50.4	0.6
Hokuriku	49.0	49.9	49.7	47.7	48.5	48.7	48.5	48.7	49.4	49.8	49.3	49.4	49.3	▲ 0.1
Tokai	51.2	52.5	52.6	52.5	52.3	51.9	51.9	50.9	51.6	51.8	51.4	51.3	51.8	0.5
Kinki	49.0	50.8	51.1	50.3	50.0	49.7	48.8	48.4	48.6	49.4	48.9	48.8	49.7	0.9
Chugoku	50.1	50.6	50.8	50.1	49.6	48.7	48.7	47.9	47.0	47.1	48.0	48.6	48.5	▲ 0.1
Shikoku	48.5	49.0	49.4	48.5	48.4	48.2	47.8	47.2	47.5	47.9	47.0	47.6	47.2	▲ 0.4
Kyushu	51.3	51.7	51.7	51.8	51.7	51.4	50.4	49.8	50.9	50.6	50.8	49.1	50.6	1.5

Appendix

1.Research Subjects(Companies Researched 23,052 ; Valid responses: 9,746 ; Response rate: 42.3%)

Appendix

1.Region

Hokkaido	509	Tokai	1,055
Tohoku	624	Kinki	1,606
kitaKanto	721	Chugoku	540
minamikanto	3,170	Shikoku	281
Hokuriku	537	Kyushu	703
		Total	9,746

2.Industry (10 Industries 51 Lines of business)

Agriculture, For	estry,Fisheries	52		Food,Beverages	6
Finance		115		Textile,Textile Products,Clothing	2
Construction		1,448		Drugs,Sundries	2
Real Estate		294	Retail	Furniture	
	Food,Beverages,Livestock Feed	312	480	Electrical Household Appliances, Information Machinery and Equipment	3
	Textile, Textile Products, Clothing	99		Motor Vehicles,Motor Vehicle Parts	5
	Construction Materials, Furniture, Ceramics, Stone and Clay Products	213		Special Merchandise	12
	Pulp, Paper and Paper Products	99		Various Merchandise	4
	Publishing, Printing	172		Others	
Manufacturing	Chemical	408	Transportation	Warehousing	41
3,223	Steel,Nonferrous Metals,Mining	464		Restaurants	4
	General Machinery	423		Telecommunications	1
	Electrical Machinery	312		Electricity,Gas,Water,Heat	
	Transportation Machinery, Equipment	97		Leasing,Rentals	10
	Precision Machinery, Medical Instruments and Equipment	73		Lodging, Hotels	2
	Others	87		Recreation	5
	Food,Beverages	341	Service	Broadcasting	1
	Textile,Textile Products,Clothing	171	1,384	Maintenance, Guarding, Testing	15
	Construction Materials, Furniture, Ceramics, Stone and Clay Products	316		Advertising	9
Wholesale	Paper Products,Stationery,Books	95		Information	42
3,959	Chemical	267		Labor Dispatching	5
	Recycled Resources	28		Special Services	25
	Steel,Nonferrous Metals,Mining Products	297		Medical,Welfare,Public Health	10
	Machinery,Equipment	862		Education	2
	Others	335		Others	15
		• •	Others	•	3
				Total	9,74

3.Size

υ.	UIZE		
	Large Firms	1,987	20.4%
	Small to Medium-sized Firms	7,759	79.6%
	micro Firms	2,554	26.2%
	Total	9,746	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 November 16-30 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

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

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

An economic DI of 50 is <u>the point separating good and bad</u>, 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	Capital: More than 300 million yen	Capital: Below 300 million yen			
Other Industries*	and	or	No. of Employee: Below 20		
	No. of Employee: Over 300	No. of Employee: Below 300			
Wholesale Trade	Capital: More than 100 million yen	Capital: Below 100 million yen			
	and	or	No. of Employee: Below 5		
	No. of Employee: Over 100	No. of Employee: Below 100			
Retail Trade	Capital: More than 50 million yen	Capital: Below 50 million yen			
	and	or	No. of Employee: Below 5		
	No. of Employee: Over 50	No. of Employee: Below 50			
Service**	Capital: More than 50 million yen	Capital: Below 50 million yen			
	and	or	No. of Employee: Below 5		
	No. of Employee: Over 100	No. of Employee: Below 100			

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.