

Economic DI in over half of business sectors surpassed the pre-Covid level.

~ However, a polarization trend has appeared in recovery speed among business sectors ~

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(Companies researched: 23,826; Valid responses: 10,769; Response rate: 45.2%; Survey start date: May 2002)

< Overview of December 2021: Recovery trend >

The economic diffusion index (DI) in December 2021 was 43.9, up 0.8 points from the previous month, and improved for the fourth straight month. Although the domestic economy continued to recover gradually, a gap in the degree of recovery among business sectors was evident.

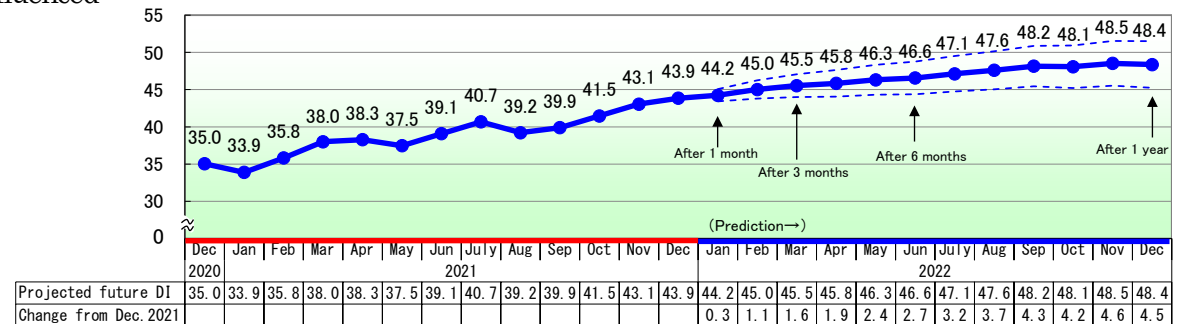
< Future outlook: Recovery trend >

The economy is believed to be on a gradual recovery trend, albeit influenced by the status of infection by the mutated variant.

By industry: While the economy has surpassed the pre-Covid level in 29 business sectors, shortages and soaring costs of raw materials continue.

By size: Improved in all sizes for the fourth straight month, with positive factors of larger turnout of people and production recovery.

By region: Improved in nine of the ten regions. Automobile-related and public works, etc., became positive factors.



*: 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

	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Ratio to the Previous Month
Total	35.0	33.9	35.8	38.0	38.3	37.5	39.1	40.7	39.2	39.9	41.5	43.1	43.9	0.8
Large Firms	37.4	36.3	38.2	40.2	40.8	40.2	41.9	42.9	41.4	42.5	43.8	45.7	45.9	0.2
Small to Medium-sized Firms	34.5	33.4	35.3	37.5	37.7	36.9	38.5	40.2	38.8	39.4	41.0	42.5	43.5	1.0
Micro Firms	34.2	32.8	34.7	36.7	36.3	35.6	37.1	38.4	37.4	38.7	40.0	41.3	42.1	0.8

	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Ratio to the Previous Month	
Agriculture,Forestry,Fisheries	35.4	30.9	33.8	35.0	37.5	37.7	39.1	38.5	37.0	38.1	41.1	42.6	38.2	▲ 4.4	
Finance	35.6	36.1	38.3	39.2	38.3	39.5	41.7	42.8	39.7	41.5	43.0	43.3	43.8	0.5	
Construction	40.9	39.4	40.6	41.6	41.4	40.0	41.6	42.7	42.5	43.7	44.7	45.4	45.2	▲ 0.2	
Real Estate	36.4	35.5	38.3	40.6	40.8	39.4	40.9	41.8	39.4	42.6	43.6	44.7	46.7	2.0	
Manufacturing	Food,BEWerages,Livestock Feed	32.5	30.7	30.8	34.4	35.2	33.6	34.0	35.5	32.8	34.1	38.1	39.6	40.8	1.2
	Textile,Textile Products,Clothing	26.1	24.5	26.0	26.8	28.7	29.2	29.3	31.0	29.3	28.2	30.2	31.4	34.1	2.7
	Construction Materials,Furniture,Ceramics,Stone and Clay Products	36.0	37.3	37.2	37.8	39.3	38.6	40.1	42.5	41.2	42.7	43.7	44.9	46.4	1.5
	Pulp, Paper and Paper Products	29.3	27.6	29.4	33.0	34.3	33.5	34.9	37.2	36.6	36.2	39.3	41.4	42.9	1.5
	Publishing,Printing	21.8	20.2	22.2	26.0	27.2	24.2	27.1	27.4	25.6	27.1	29.4	30.2	32.1	1.9
	Chemical	39.3	38.0	40.9	43.3	44.2	44.3	44.5	46.3	45.0	41.9	42.6	45.7	46.7	1.0
	Steel,Nonferrous Metals,Mining	34.3	33.9	37.0	39.3	40.5	39.9	43.4	46.4	45.1	43.8	44.2	45.9	46.4	0.5
	General Machinery	33.5	33.6	36.9	41.2	42.1	42.2	43.7	45.9	46.6	46.2	47.2	47.8	49.1	1.3
	Electrical Machinery	35.5	36.1	39.6	42.6	43.2	42.8	45.0	46.8	45.9	45.8	47.5	47.0	48.5	1.5
	Transportation Machinery,Equipment	40.1	40.1	40.3	45.3	45.2	45.3	47.1	50.6	48.2	37.6	37.7	43.4	45.6	2.2
	Precision Machinery,Medical Instruments and Equipment	37.1	37.9	42.4	44.6	45.6	48.7	49.1	50.5	50.9	50.8	50.4	49.8	53.0	3.2
Other	31.9	31.5	31.4	34.1	35.3	33.0	34.1	37.6	33.9	35.3	35.5	36.9	41.1	4.2	
Total	33.9	33.4	35.6	38.5	39.5	39.0	40.6	42.7	41.5	40.7	42.1	43.6	45.1	1.5	
Wholesale	Food,BEWerages	29.5	26.8	29.2	30.7	30.1	29.4	30.7	31.3	29.1	29.8	33.0	36.9	38.2	1.3
	Textile,Textile Products,Clothing	22.7	21.2	19.8	23.9	23.1	21.7	22.5	22.8	21.2	22.4	24.5	27.4	29.3	1.9
	Construction Materials,Furniture,Ceramics,Stone and Clay Products	36.1	34.7	34.8	36.7	37.2	36.5	36.3	37.8	37.7	39.6	39.9	42.6	42.4	▲ 0.2
	Paper Products,Stationery,Books	28.3	26.3	29.3	32.2	32.4	30.6	31.4	31.2	29.2	29.6	31.8	35.0	34.2	▲ 0.8
	Chemical	35.7	34.3	37.7	39.1	40.9	40.7	42.0	42.4	40.7	42.2	44.2	45.3	45.3	0.0
	Recycled Resources	44.4	45.6	42.4	45.4	55.1	53.4	52.0	53.7	51.4	51.8	53.4	52.9	52.8	▲ 0.1
	Steel,Nonferrous Metals,Mining Products	34.0	32.6	33.4	36.0	37.2	37.5	38.7	41.1	41.1	41.6	41.6	43.2	45.2	2.0
	Machinery,Equipment	34.4	34.6	36.7	39.5	40.1	39.0	40.7	43.1	41.3	41.8	42.6	44.4	44.7	0.3
	Other	31.6	29.0	31.3	34.4	34.1	32.2	35.5	36.6	33.0	34.4	37.8	39.7	40.1	0.4
	Total	32.8	31.6	33.3	35.8	36.2	35.3	36.8	38.3	36.6	37.6	39.1	41.3	41.8	0.5

Economic Diffusion Index (Economic DI)2/2

		Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Ratio to the Previous Month
Retail	Food,BEverages	34.6	33.8	33.1	34.1	32.8	32.6	34.9	37.5	36.0	33.1	38.0	39.7	41.1	1.4
	Textile,Textile Products,Clothing	22.0	22.7	21.4	23.3	25.0	21.2	20.3	25.0	21.4	21.5	27.9	34.1	40.0	5.9
	Drugs,Sundries	31.3	30.2	32.5	31.1	35.8	29.3	31.4	32.5	33.3	34.6	45.8	37.5	38.4	0.9
	Furniture	35.4	34.4	36.7	38.9	42.7	40.6	39.8	36.9	34.6	32.2	35.6	34.5	42.9	8.4
	Electrical Household Appliances, Information Machinery and Equipment	29.5	28.3	36.3	34.4	37.8	30.8	35.8	37.7	33.8	33.8	34.6	35.9	35.5	▲ 0.4
	Motor Vehicles,Motor Vehicle Parts	37.2	35.7	37.6	37.0	38.3	38.6	40.7	40.5	36.8	37.2	35.9	37.8	36.5	▲ 1.3
	Special Merchandise	34.7	32.6	35.5	35.9	34.6	34.5	34.8	34.3	32.6	31.7	32.8	33.5	36.0	2.5
	Various Merchandise	39.2	38.7	36.2	37.3	32.2	31.1	33.0	35.6	27.3	33.0	35.9	38.0	37.5	▲ 0.5
	Other	33.3	30.3	33.3	35.0	40.5	25.0	33.3	35.7	37.0	35.4	31.7	37.9	43.3	5.4
	Total	34.2	32.9	34.5	34.9	34.7	33.1	34.5	35.4	32.7	32.6	34.8	36.0	37.7	1.7
Transportation,Warehousing		31.5	30.0	31.7	33.9	34.5	33.7	34.5	36.3	36.0	35.8	37.1	39.1	40.3	1.2
Service	Restaurants	15.3	10.3	12.8	18.9	14.9	13.0	20.5	19.7	14.8	15.2	27.8	31.4	34.7	3.3
	Postal,Telecommunications	38.9	46.3	38.1	43.8	38.9	40.5	27.8	42.9	39.6	41.7	50.0	40.5	41.7	1.2
	Electricity,Gas,Water,Heat	38.6	42.5	39.5	47.1	40.4	41.2	45.0	40.8	44.4	45.8	42.6	38.9	39.7	0.8
	Leasing,Rentals	36.2	33.5	32.8	35.0	35.4	35.0	38.1	41.0	37.4	39.6	43.9	44.9	44.8	▲ 0.1
	Lodging, Hotels	11.9	3.4	4.4	10.9	8.6	5.6	11.6	13.0	10.0	10.4	22.6	30.2	29.5	▲ 0.7
	Recreation	27.0	24.0	25.8	33.1	25.8	29.5	29.2	34.8	29.2	29.0	34.0	36.7	38.4	1.7
	Broadcasting	42.2	36.3	42.6	51.0	42.7	42.2	42.2	42.2	38.9	39.2	49.1	48.1	46.9	▲ 1.2
	Maintenance,Guarding,Testing	38.6	36.3	37.5	40.4	39.2	40.8	42.7	41.9	41.6	44.0	44.3	45.3	45.7	0.4
	Advertising	22.5	20.2	24.7	26.5	25.6	23.4	27.5	27.5	26.8	29.5	32.4	36.8	37.7	0.9
	Information	41.2	41.3	43.6	45.5	45.2	44.9	46.8	48.2	46.7	48.5	50.5	51.2	52.5	1.3
	Labor Dispatching	31.5	31.6	33.6	34.1	35.8	35.5	36.2	41.9	38.4	41.9	39.7	44.3	43.3	▲ 1.0
	Special Services	41.0	38.8	42.9	43.6	43.5	41.5	43.4	47.3	44.4	45.5	47.9	49.2	50.3	1.1
	Medical,Welfare,Public Health	34.8	32.7	34.7	37.1	39.1	39.2	41.2	42.1	41.1	41.4	42.8	45.7	43.2	▲ 2.5
	Education	34.0	33.3	34.0	32.1	35.7	37.1	38.7	40.3	37.5	39.0	43.5	39.1	43.2	4.1
Other	32.6	30.9	34.2	34.5	34.8	35.2	35.8	37.4	34.7	39.2	40.6	41.7	42.4	0.7	
Total	35.7	33.9	36.5	38.5	37.9	37.5	39.7	41.5	39.1	41.1	43.6	45.3	46.1	0.8	
Other		30.8	29.5	30.5	34.4	34.1	33.3	35.5	34.7	35.3	35.6	38.0	39.6	40.5	0.9

		Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Ratio to the Previous Month
Hokkaido		33.0	32.4	33.9	35.3	36.2	34.5	37.1	38.3	38.0	38.5	40.8	40.8	41.1	0.3
Tohoku		35.4	33.8	35.4	36.8	38.0	37.7	39.3	40.0	38.4	39.0	40.2	42.1	41.7	▲ 0.4
kitakanto		35.9	34.9	37.2	39.2	39.7	39.5	41.2	42.7	41.5	40.4	42.8	44.4	45.0	0.6
minamikanto		35.2	34.0	35.9	38.4	38.7	38.4	39.8	41.0	40.0	41.4	42.4	43.9	44.8	0.9
Hokuriku		35.0	32.7	34.6	38.2	38.6	37.1	39.2	40.6	39.1	40.4	41.2	42.6	43.6	1.0
Tokai		35.3	34.1	36.1	38.4	38.9	37.9	39.4	42.0	40.0	39.1	40.1	42.4	44.4	2.0
Kinki		33.9	33.1	35.5	37.4	37.0	36.2	38.1	40.3	38.7	39.3	41.3	42.7	43.3	0.6
Chugoku		34.8	34.5	36.2	37.7	37.8	36.0	37.9	39.0	38.2	38.7	41.2	42.3	42.9	0.6
Shikoku		35.4	33.8	35.4	37.5	36.4	35.8	37.6	38.2	36.9	38.3	39.0	41.8	43.2	1.4
Kyushu		36.9	35.3	37.0	39.0	39.5	37.5	38.3	40.5	37.4	39.1	42.0	44.3	44.5	0.2

Appendix

1. Research Subjects (Companies researched: 23,826; Valid responses: 10,769; Response rate: 45.2%)

1. Region

Hokkaido	534	Tokai	1,219
Tohoku	766	Kinki	1,847
kitaKanto	814	Chugoku	629
minamikanto	3,223	Shikoku	346
Hokuriku	582	Kyushu	809
		Total	10,769

2. Industry (10 Industries 51 Lines of business)

Agriculture, Forestry, Fisheries	65	
Finance	107	
Construction	1,780	
Real Estate	370	
Manufacturing (2,966)	Food, Beverages, Livestock Feed	348
	Textile, Textile Products, Clothing	110
	Construction Materials, Furniture, Ceramics, Stone and Clay Products	229
	Pulp, Paper and Paper Products	94
	Publishing, Printing	167
	Chemical	418
	Steel, Nonferrous Metals, Mining	524
	General Machinery	488
	Electrical Machinery	317
	Transportation Machinery, Equipment	109
Wholesale (2,723)	Precision Machinery, Medical Instruments and Equipment	78
	Others	84
	Food, Beverages	365
	Textile, Textile Products, Clothing	173
	Construction Materials, Furniture, Ceramics, Stone and Clay Products	318
	Paper Products, Stationery, Books	98
	Chemical	264
	Recycled Resources	30
	Steel, Nonferrous Metals, Mining Products	286
	Machinery, Equipment	859
Others	330	

Retail (447)	Food, Beverages	62
	Textile, Textile Products, Clothing	30
	Drugs, Sundries	23
	Furniture	14
	Electrical Household Appliances, Information Machinery and Equipment	31
	Motor Vehicles, Motor Vehicle Parts	74
	Special Merchandise	159
	Various Merchandise	44
Others	10	
Transportation, Warehousing		520
Service (1,742)	Restaurants	59
	Telecommunications	6
	Electricity, Gas, Water, Heat	13
	Leasing, Rentals	113
	Lodging, Hotels	35
	Recreation	62
	Broadcasting	16
	Maintenance, Guarding, Testing	194
	Advertising	96
	Information	451
	Labor Dispatching	65
	Special Services	295
	Medical, Welfare, Public Health	111
Education	32	
Others	194	
Others		49
Total		10,769

3. Size

Large Firms	1,855	17.2%
Small to Medium-sized Firms	8,914	82.8%
micro Firms	3,158	29.3%
Total	10,769	100.0%

Survey of Corporate Attitudes towards DX promotion

15.7%, one in seven companies, understand and work on DX

— Lack of human resources, skills and know-how in half of companies are challenges for DX —

The business environment is going to change tremendously due to advances in digital technologies, such as the evolution of Artificial Intelligence (AI) and the fifth generation mobile communication system (5G). Companies will be required to realize a “Digital Transformation (hereinafter referred to as DX)” which will build a competitive advantage through products that utilize data and digital technologies, and transformation of service business models. The government also launched the Digital Agency in September, 2021, and aims to create public-private digital age infrastructure through the promotion of DX throughout society.

Teikoku Databank has therefore conducted a survey of corporate attitudes towards DX promotion.

* Survey period: December 16, 2021 – January 5, 2022; Companies Surveyed: 23,826; Valid Responses: 10,769 (Response Rate: 45.2%).

* Details of this survey can be found on the dedicated Economic Trend Survey website. (<http://www.tdb-di.com>)

Survey results (Summary)

1. 15.7%, one in seven companies, understand and work on DX

15.7%, approximately one in seven companies, “understand the meaning of DX and work on it”. Including those companies which “intend to understand its meaning and work on it” (25.7%), 40% have a positive view of DX efforts. Conversely, DX efforts are not progressing in over half of companies, such as “not working on it, although understanding its meaning” (31.6%), “cannot understand its meaning, although knowing the word” (13.3%), and “even do not know the word” (6.4%).

2. Full-fledged DX is progressing in one in three companies that are working on it

In terms of details of the efforts being made in the companies which “understand the meaning of DX and work on it”, 37.4%, one in three, work on full-fledged DX such as “high added value of existing products and services”, “creation of new products and services”, and “transformation of business models”. Efforts in terms of human resources and organization, such as “development of digital workforce” and “setting up an organization dedicated to promote DX”, also have been actively undertaken in many companies.

3. Half of those companies cite lack of human resources, skills and know-how as challenges for DX

As challenges in working on DX, “no workforce which can address it” (50.6%) and “not having necessary skills and know-how” (47.7%), etc., were cited by half of the companies. The lack of human resources, skills and know-how are challenges, even among those companies which already understand and work on DX.

■ “We are indeed facing the 2025 cliff, and considering reform, including of the core system. ICT literacy of the in-house workforce is low, so we are developing human resources who use ICT.” (civil engineering and construction service)

■ “The heart of the matter in DX is process design after a digital tool is introduced, so our recognition is a shortage of human resources who can plan and promote that process design.” (wholesale of medical apparatus and instruments)

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 December 16 2021 – January 5 2022

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 24,000 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

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

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

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 medium-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 medium-sized corporations in Small to Medium-Sized Enterprises Basic Act.