

2019

# ECONOMIC OVERVIEW OF TOHOKU REGION



Tohoku Bureau of  
Economy, Trade and Industry

# Contents

## 1. Overview of the Tohoku Region

- (1) Overview of the Tohoku Region.....2
- (2) Positioning of Tohoku as Shown in Major Economic Indicators .....3

## 2. Economic Structure and Trends in the Tohoku Region

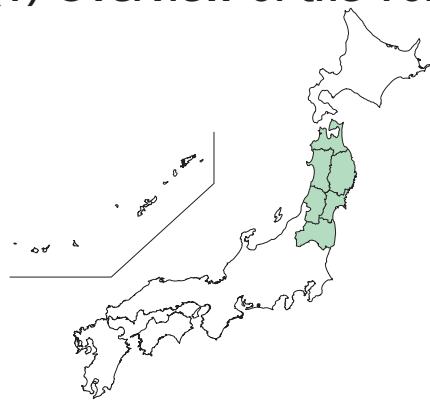
- (1) Gross Product.....4
- (2) Real Economic Growth Rate .....5
- (3) Population .....6
- (4) Demographics .....7
- (5) Number of Business Establishments (Private) .....8
- (6) Industrial Production .....9
- (7) Consumption ..... 11
- (8) Private Sector Capital Spending ..... 12
- (9) Acquisition of Plant Locations..... 13
- (10) Labor Force Population ..... 14
- (11) Employment ..... 15
- (12) Business Entry and Exit Rates ..... 16
- (13) Internationalization
  - ① Internationalization of Trade..... 17
  - ② Internationalization of Corporate Activities ..... 19
  - ③ International Arrivals/Departures and Foreign Residents ..... 20
- (14) Tourism
  - ① Domestic Tourism ..... 21
  - ② International Inbound Tourism..... 22
- (15) Reconstruction Related Trends ..... 23

## 3. Industrial Structure of the Tohoku Region

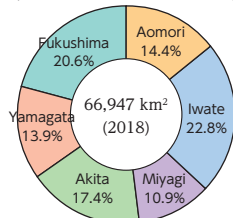
- (1) Manufacturing industry
  - ① Overview ..... 25
  - ② National Share by Industry Sector ..... 26
  - ③ Shares of Industry Sectors by Year and Prefecture ..... 27
  - ④ Value of Manufactured Goods Shipped from Major Industry Sectors and Value-added Productivity by Region ..... 28
  - ⑤ Manufacturing Companies Headquartered in the Tohoku Region ..... 29
  - ⑥ Industrial Property Rights ..... 31
- (2) Commerce
  - ① Overview ..... 32
- (3) Service industry..... 33
- (4) Agriculture, Forestry, and Fisheries ..... 34

Note: Due to rounding up/off, not all totals equal the sum of separate figures in tables and graphs throughout this document.

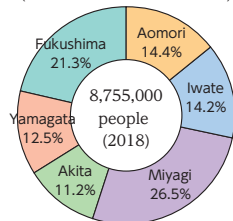
## (1) Overview of the Tohoku Region



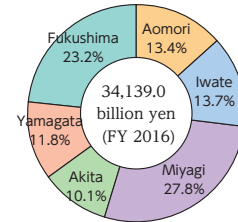
Land Area  
(17.7% of national total)



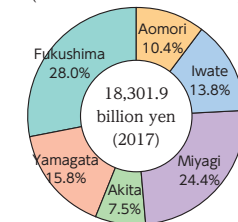
Population  
(6.9% of national total)



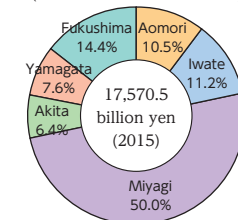
Gross Regional Domestic Product (GRDP)  
(6.4% of national total)<sup>Note 4</sup>



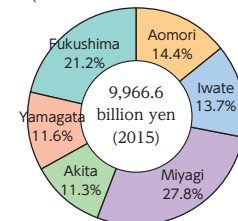
Value of Manufactured Goods Shipped  
(5.7% of national total)



Wholesale Annual Sales  
(4.3% of national total)



Retail Annual Sales  
(7.2% of national total)



## Economic Indicators for the Tohoku Region

Item	Tohoku	Data and source	Item	Tohoku	Data and source
Major economic indicators			Major economic indicators		
Land area <km²> (As of October 1, 2018) <sup>Note 1</sup>	66,947	2018 National Land Area Survey of Prefectures and Municipalities, Geospatial Information Authority of Japan	Income per capita <Thousands of yen> (FY 2016)	2,800	FY 2016 Annual Report on Prefectural Accounts, Cabinet Office; and documents released from each prefecture
Population <Thousands> (As of October 1, 2018)	8,755	Population Estimates, Ministry of Internal Affairs and Communications	No. of business establishments (As of June 1, 2016) <sup>Note 3</sup>	414,657	2016 Economic Census for Business Activity, Ministry of Internal Affairs and Communications and Ministry of Economy, Trade and Industry
No. of households <Thousands> (As of October 1, 2015)	3,468	2015 Population Census, Ministry of Internal Affairs and Communications	No. of employees <Thousands> (As of June 1, 2016)	3,726	
Nominal GRDP <Hundred millions of yen> (FY 2016)	341,390	FY 2016 Annual Report on Prefectural Accounts, Cabinet Office; and documents released from each prefecture	Value of manufactured goods shipped <Hundred millions of yen> (2017)	183,019	2018 Census of Manufacture, Ministry of Economy, Trade and Industry
(Primary industry) <sup>Note 2</sup>	9,176		Wholesale sales value <Hundred millions of yen> (2015)	175,705	2016 Economic Census for Business Activity, Ministry of Internal Affairs and Communications and Ministry of Economy, Trade and Industry
(Secondary industry) <sup>Note 2</sup>	98,436				
(Tertiary industry) <sup>Note 2</sup>	233,650				
No. of municipalities (As of August 1, 2019)	77 cities 116 towns 34 villages	Number of Municipalities in Each Prefecture, Ministry of Internal Affairs and Communications	Retail sales value <Hundred millions of yen> (2015)	99,666	

Note 1: For the areas of prefectures with undefined boundaries, reference values recorded in the *National Land Area Survey of Prefectures and Municipalities* (Geospatial Information Authority of Japan) are used.

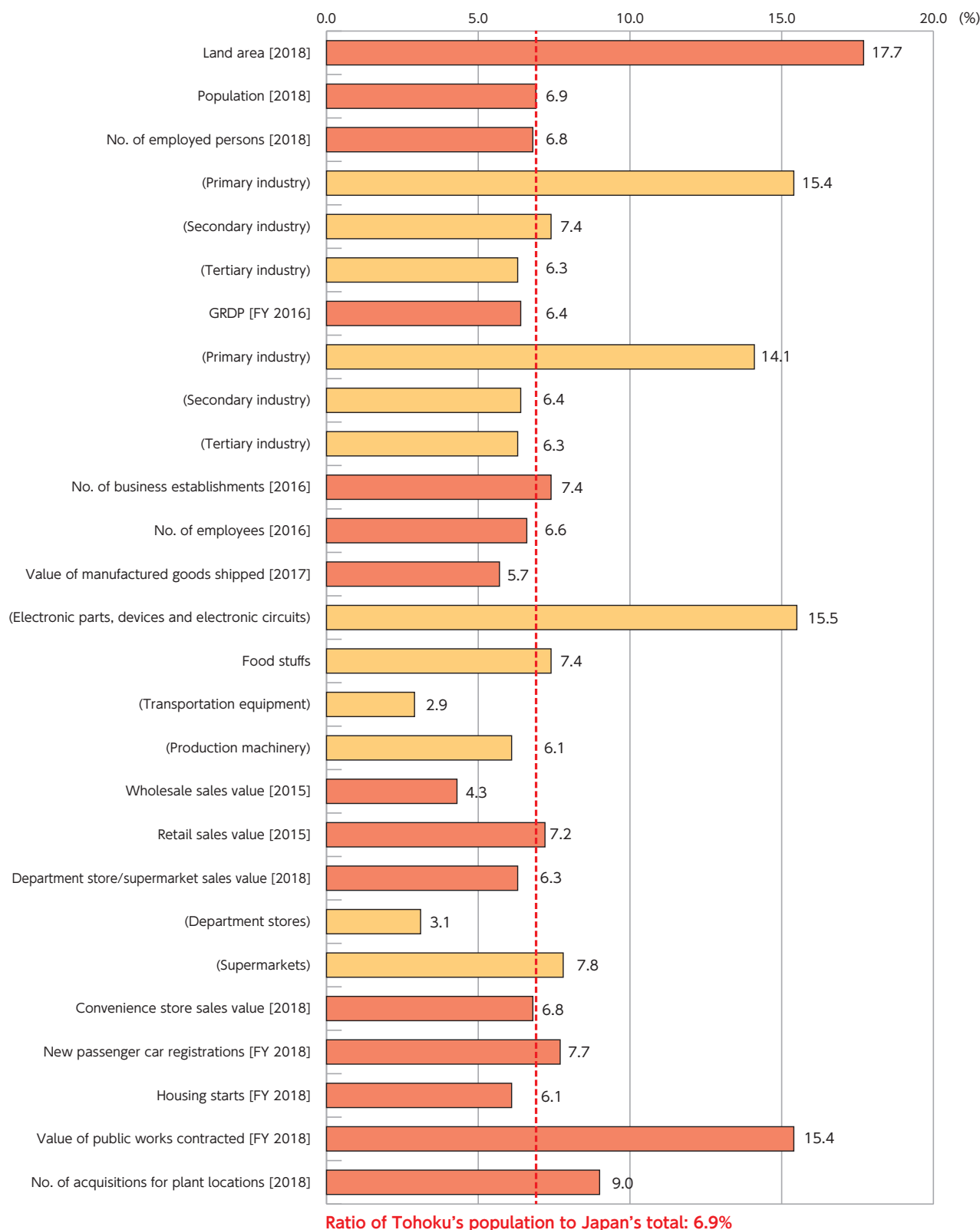
Note 2: Figures by industry are before the addition or deduction of import duties, imputed interest, etc. on imported goods.

Note 3: The number of business establishments includes only the number of private business establishments.

Note 4: To calculate the ratio of the gross regional domestic product (GRDP) for Tohoku to the total gross domestic product (GDP) for Japan, the figures for Japan are taken from the System of National Accounts (SNA).

## (2) Positioning of Tohoku Shown in Major Economic Indicators

Although Tohoku's population accounts for 6.9% of Japan's population, Tohoku is below the national level from the perspective of "gross regional domestic product (GRDP)" and "value of manufactured goods shipped." In the manufacturing industry, Tohoku's position is higher for "electronic parts, devices and electronic circuits."



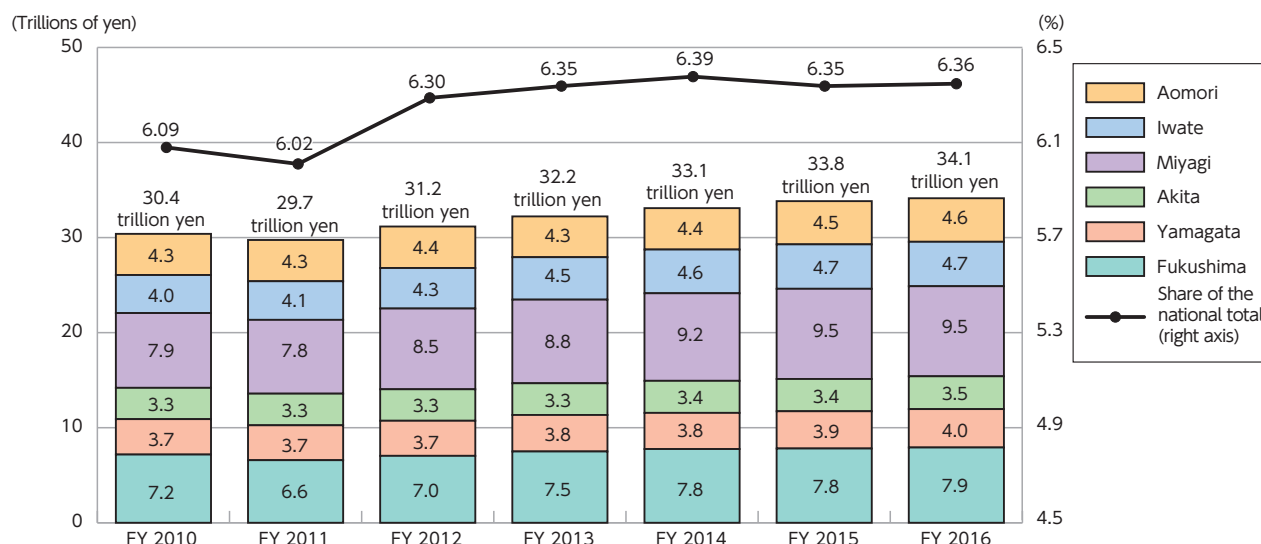
Note: The number of employees is based on the *Labor Force Survey (2018 Preliminary Report)*, Ministry of Internal Affairs and Communications.

## (1) Gross Product

The Gross Regional Domestic Product (GRDP) is 34.1 trillion yen, or 6.36% of the national total.

- In fiscal year 2016, the Tohoku region's nominal GRDP was 34,139.0 billion yen, up 0.9% year-on-year, and 6.36% of the national total. The GRDP increased in Aomori, Akita, Yamagata and Yamagata.

Changes in Nominal GRDP for Tohoku and its Prefectures and Tohoku's Share for Japan



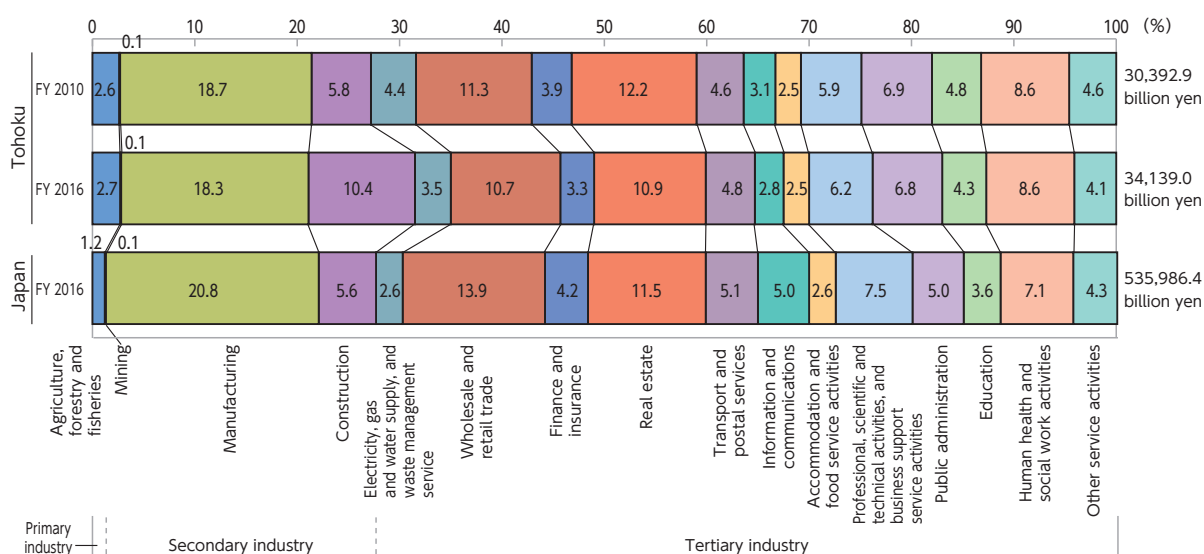
Note 1: With the System of Prefectural Accounts, the figures of previous fiscal years are amended retrospectively according to the estimates for the latest fiscal year.

Note 2: To calculate the ratio of the gross domestic product for Tohoku to the total gross domestic product for Japan, the figures for Japan are taken from the System of National Accounts (SNA) of Japan for FY 2017.

Source: Annual Report on Prefectural Accounts and Annual Report on National Accounts, Cabinet Office

- According to the breakdown of shares in fiscal year 2016 by industry classification, primary industries accounted for 2.7%, secondary industries for 28.8%, and tertiary industries for 68.5%. Share of the construction industry rose to 10.4%, up 4.6 percentage points compared to that of fiscal year 2010 before the Great East Japan Earthquake, which was due to recovery-related projects after the disaster.

Changes in the Share in Nominal GRDP between Industry Sectors



Note 1: The figures for Japan were calculated based on the Gross Domestic Product by Economic Activities (calendar year) from the System of National Accounts (SNA) of Japan for FY 2017.

Note 2: The shares are before the addition and deduction of duties, customs and so forth on imported goods.

Source: Annual Report on Prefectural Accounts and Annual Report on National Accounts, Cabinet Office

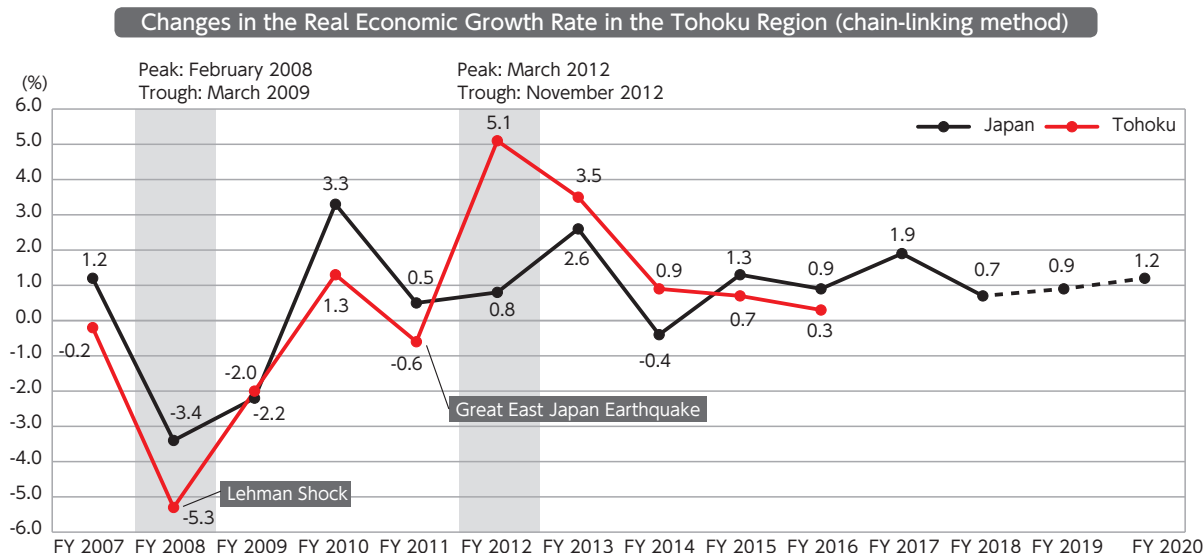


## (2) Real Economic Growth Rate

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The real economic growth rate is 0.3%, showing positive growth for five consecutive years.

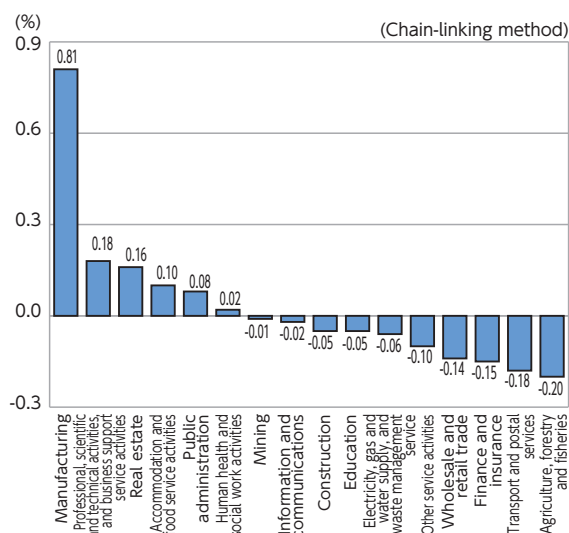
- The Tohoku region's real economic growth rate in fiscal year 2016 was 0.3% (cf. 0.9% for Japan), continuing the trend of positive growth for five consecutive years, though it was below the rate for Japan.



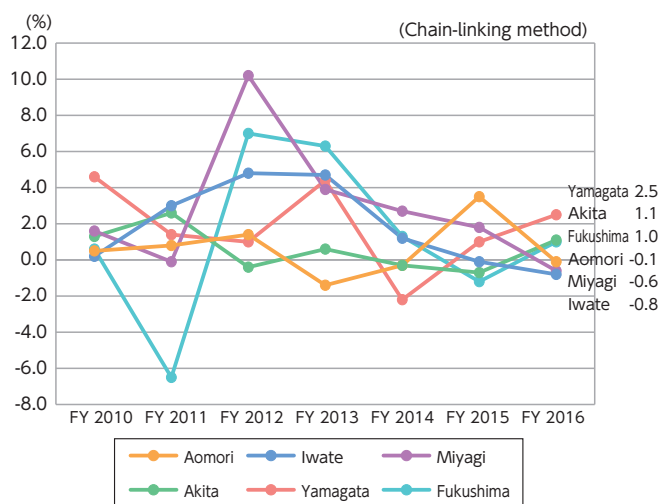
Note 1: The above figures for Japan after 2007 are taken from the System of National Accounts of Japan for FY 2017 (benchmark year = 2011, 2008 SNA).  
 Note 2: Japan's figures for fiscal years 2018, 2019 and 2020 are taken from the *Mid-Year Economic Projection for FY 2019* released by the Cabinet Office on July 29, 2019.  
 Note 3: The figures for the Tohoku region are estimated based on the bench mark year of 2011 using the chain-linking method (chain-linking of price indices based on the calendar year of 2011).  
 Note 4: The figures for the Tohoku region from FY 2017 onward are not indicated because the six Tohoku prefectures have not yet released their datasets publicly.  
 Note 5: Business-cycle peaks and troughs are based on the Cabinet Office's reference dates for the business cycle.  
 Source: *Annual Report on Prefectural Accounts* and *Annual Report on National Accounts*, Cabinet Office

- With respect to the level of contribution between different economic activities (by industrial sector) to the real economic growth rate for fiscal year 2016, manufacturing made a positive contribution of 0.81%; professional, scientific and technical activities, and business support service activities with a positive contribution of 0.18%; and real estate with a positive contribution of 0.16%, while agriculture, forestry and fisheries had a negative contribution of 0.20%.
- Looking at the real economic growth rate in fiscal year 2016 by prefecture in the Tohoku region, Akita, Yamagata and Fukushima had positive growth, while Aomori, Iwate and Miyagi had negative growth. When compared to fiscal year 2015, the rate turned from negative to positive in Akita and Fukushima.

Contribution to the Real Economic Growth Rate in FY 2016 by Economic Activity



Changes in Real Economic Growth Rate by Prefecture

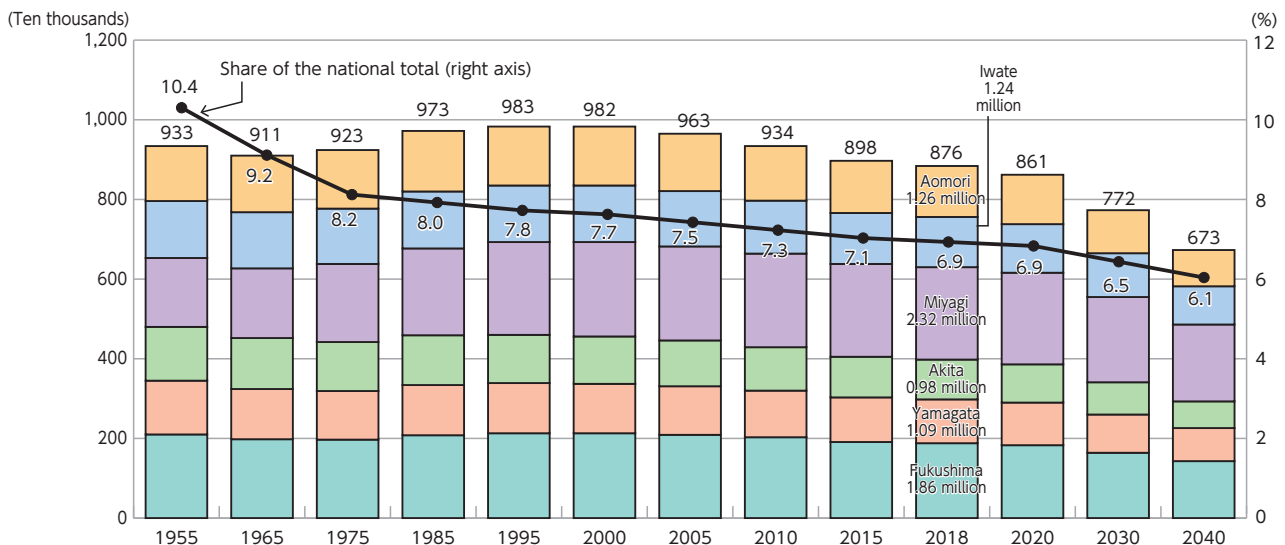


### (3) Population

The productive-age population in the Tohoku region is projected to shrink by 33.9% in 2040 compared to 2018.

- In 2018, the Tohoku region had a population of 8.76 million, accounting for 6.9% of the national population (126.44 million). Tohoku's population started to decrease after peaking in 1995, and is projected to decrease 23.1% to 6.73 million in 2040 compared to 2018, accounting for 6.1% of the national population.

Changes in the Population of the Tohoku Region



Note: The above estimates are based on medium assumptions of births and deaths.

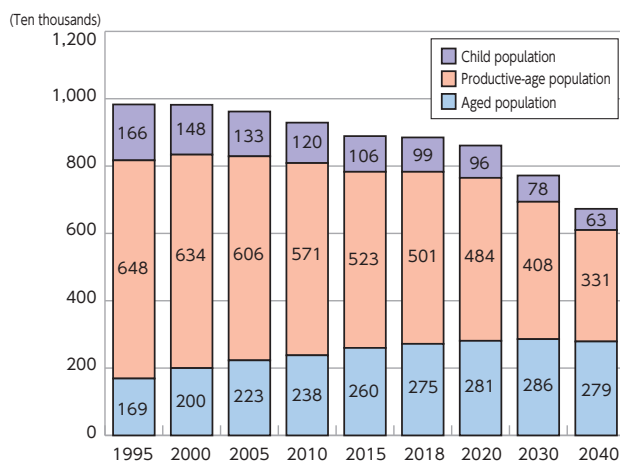
Source: (1955 to 2015) Population Census of Japan, the Statistics Bureau of the Ministry of Internal Affairs and Communications

(2018) Population Estimates, Ministry of Internal Affairs and Communications

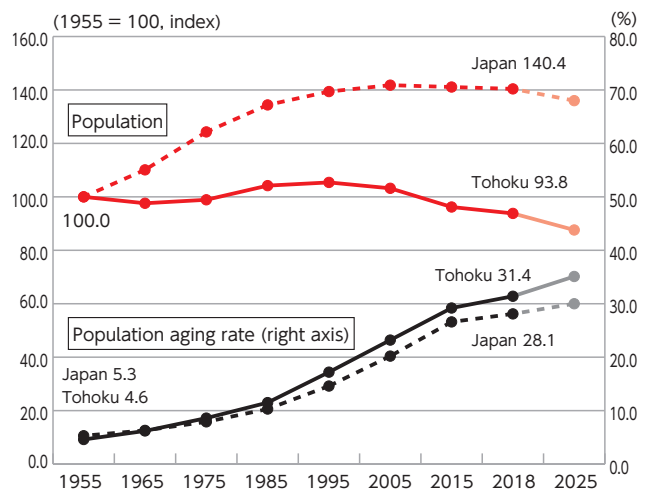
(From 2020 onward) Population Projections by Prefecture, the National Institute of Population and Social Security Research (Projection from March 2018)

- In terms of population changes in three age groups between 2018 and 2040, the productive-age population (15 to 64 year-olds) and the child population (0 to 14 year-olds) are projected to decrease by 1.70 million and 360,000 respectively, while the aged population (aged 65 or older) is projected to increase by 40,000. The decrease in population along with the declining birth rate and aging population is advancing in the Tohoku region ahead of the national average.

Population Trends of Three Age Groups



Changes in the Population and the Population Aging Rate



Note: The people whose age is unknown are distributed proportionally in 2018 and beyond.

Source: (1955 to 2015) Population Census of Japan, the Statistics Bureau of the Ministry of Internal Affairs and Communications

(2018) Population Estimates, Ministry of Internal Affairs and Communications

(From 2020 onward) Population Projections by Prefecture, the National Institute of Population and Social Security Research (Projection from March 2018)

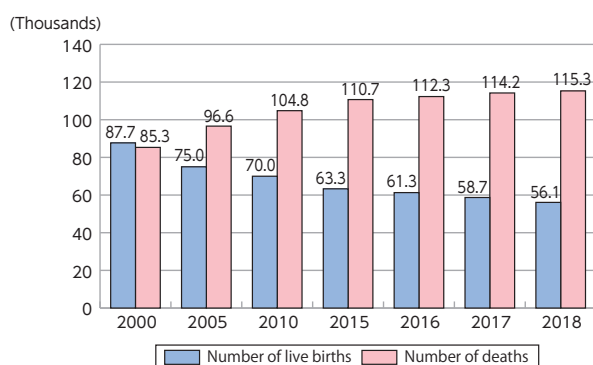
## (4) Demographics

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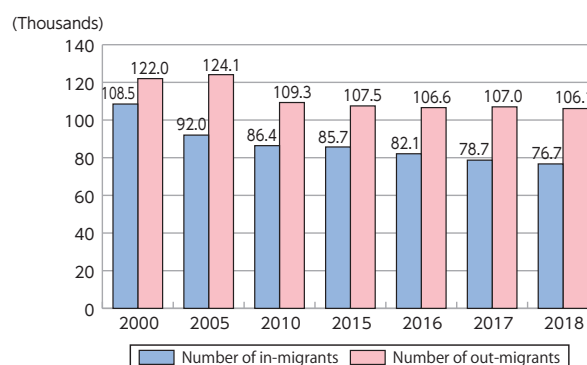
Tohoku's population is shrinking more with natural population reduction of 59,000 and net migration loss of 29,000.

- In 2018, the number of live births in the Tohoku region was 56,100, down 2,600 year-on-year, while there were 115,300 deaths, up 1,100 year-on-year. As a result, the natural population reduction increased from 55,500 in 2017 to 59,200.
- In 2018, 76,700 people moved into the Tohoku region, down 2,000 people year-on-year, while 106,100 people moved out of the Tohoku region, down 900 people year-on-year. As a result, Tohoku's net migration loss (in-migrants minus out-migrants) increased from 28,300 in 2017 to 29,400.
- Among the 154,400 people who moved out of any prefecture in the Tohoku region, 48,400 people moved into another prefecture within the Tohoku region, and 106,100 people moved out of the region, showing that about 70% of the people moving left the Tohoku region. The destination of most of the people moving within the Tohoku region was Miyagi Prefecture.

Changes in the Number of Live Births and Deaths



Changes in In-migrants and Out-migrants



Note: The 2018 values are approximate.

Source: Annual Report on Demographic Statistics, Ministry of Health, Labour and Welfare

Note: The number of in-migrants/out-migrants does not include people who moved within the Tohoku region.

Source: Annual Report on the Internal Migration in Japan Derived from the Basic Resident Registers, Ministry of Internal Affairs and Communications

Number of Migrants within and into/out of the Tohoku Region (2018)

		Prefecture/region (migration destination)									Out-migrants total
		Aomori	Iwate	Miyagi	Akita	Yamagata	Fukushima	Inside Tohoku total	Outside Tohoku total		
								Tokyo area only			
Prefecture/region (migration origin)	Aomori		1,903	3,182	885	384	568	6,922	16,274	9,871	23,196
	Iwate	1,771		4,982	812	534	768	8,867	12,418	7,728	21,285
	Miyagi	1,920	3,510		1,593	2,715	4,058	13,796	33,562	19,883	47,358
	Akita	906	1,066	2,578		520	393	5,463	9,648	6,373	15,111
	Yamagata	281	440	3,660	468		1,015	5,864	10,473	6,571	16,337
	Fukushima	408	653	4,988	411	981		7,441	23,700	14,039	31,141
	Inside Tohoku total	5,286	7,572	19,390	4,169	5,134	6,802	48,353	106,075	64,465	154,428
	Outside Tohoku total	11,458	8,713	26,268	6,400	7,321	16,498	76,658			
	Tokyo area only	6,115	5,075	13,807	3,859	4,143	8,874	41,873			
	In-migrants total	16,744	16,285	45,658	10,569	12,455	23,300	125,011			

Source: Annual Report on the Internal Migration in Japan Derived from the Basic Resident Registers, Ministry of Internal Affairs and Communications



## (5) Number of Business Establishments (Private)

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Private business establishments in the Tohoku region represent 7.4% of the national total, while the number of employees accounts for 6.6% of the national total.

- In 2016, the Tohoku region had 414,657 private business establishments or 7.4% of the national total of 5,578,975 establishments (7.3% in 2014). The number of the establishments decreased 2.3% from the previous 2014 survey. Akita, Aomori and Yamagata, in particular, saw significant decreases of 3.4%, 3.0% and 3.0% respectively.
- In 2016, the total number of employees in the Tohoku region was 3,726,422, down 0.9% from the previous 2014 survey.

Numbers of Private Business Establishments and Employees by Prefecture

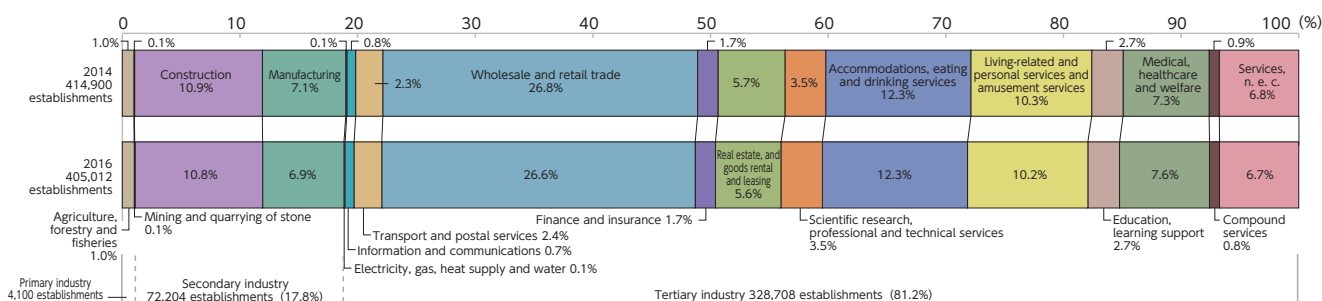
	Number of private business establishments				Number of employees			
	2014	2016	Comparison to 2014 (%)	Comparison to national total (%)	2014	2016	Comparison to 2014 (%)	Comparison to national total (%)
Aomori	60,866	59,069	-3.0	1.1	508,770	498,988	-1.9	0.9
Iwate	60,543	59,451	-1.8	1.1	536,313	525,264	-2.1	0.9
Miyagi	103,505	102,026	-1.4	1.8	1,010,795	1,006,886	-0.4	1.8
Akita	51,156	49,432	-3.4	0.9	418,534	413,719	-1.2	0.7
Yamagata	58,292	56,551	-3.0	1.0	480,627	475,435	-1.1	0.8
Fukushima	89,971	88,128	-2.0	1.6	803,372	806,130	0.3	1.4
Tohoku	424,333	414,657	-2.3	7.4	3,758,411	3,726,422	-0.9	6.6
Japan	5,779,072	5,578,975	-3.5	100.0	57,427,704	56,872,826	-1.0	100.0

Note: The number of private business establishments includes those whose business details are unclear.

Source: 2014 Economic Census for Business Frame and 2016 Economic Census for Business Activity, Ministry of Internal Affairs and Communications and the Ministry of Economy, Trade and Industry

- Looking at the breakdown of private business establishments by industry (major group category), wholesale and retail trade had the largest share at 26.6%, followed by accommodations, eating and drinking services at 12.3% and construction at 10.8%. The tertiary industry had a significant share at 81.2%. In comparison to 2014, medical, healthcare and welfare increased its share by 0.3 percentage points, while manufacturing and wholesale and retail trade each decreased their shares by 0.2 percentage points.

Changes in the Breakdown of Private Business Establishments by Industry (Major Group Category)

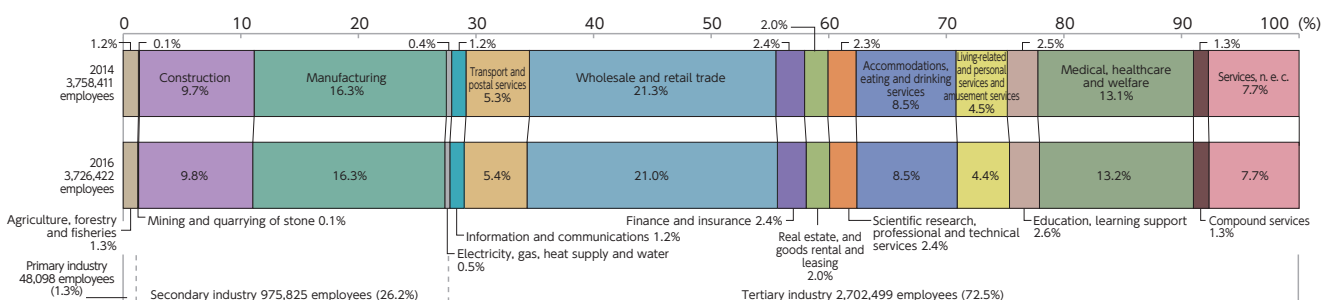


Note: The number of business establishments by industry includes only those for which numerical data for necessary items were obtained.

Source: 2014 Economic Census for Business Frame and 2016 Economic Census for Business Activity, Ministry of Internal Affairs and Communications and the Ministry of Economy, Trade and Industry

- In 2016, the number of employees in the Tohoku region was 3,726,422 or 6.6% of the national total (6.5% in the 2014 survey). The breakdown of employees in private business establishments by industry (major group category) was 1.3% for the primary industry, 26.2% for the secondary industry and 72.5% for the tertiary industry. In comparison to 2014, the employees in wholesale and retail trade decreased by 0.3 percentage points and those in living-related and personal services and amusement services by 0.1 percentage points.

Changes in the Breakdown of Employees by Industry (Major Group Category)



Note: The number of employees by industry for 2014 is as of July 1, 2014, and that for 2016 is as of June 1, 2016.

Source: 2014 Economic Census for Business Frame and 2016 Economic Census for Business Activity, Ministry of Internal Affairs and Communications and the Ministry of Economy, Trade and Industry

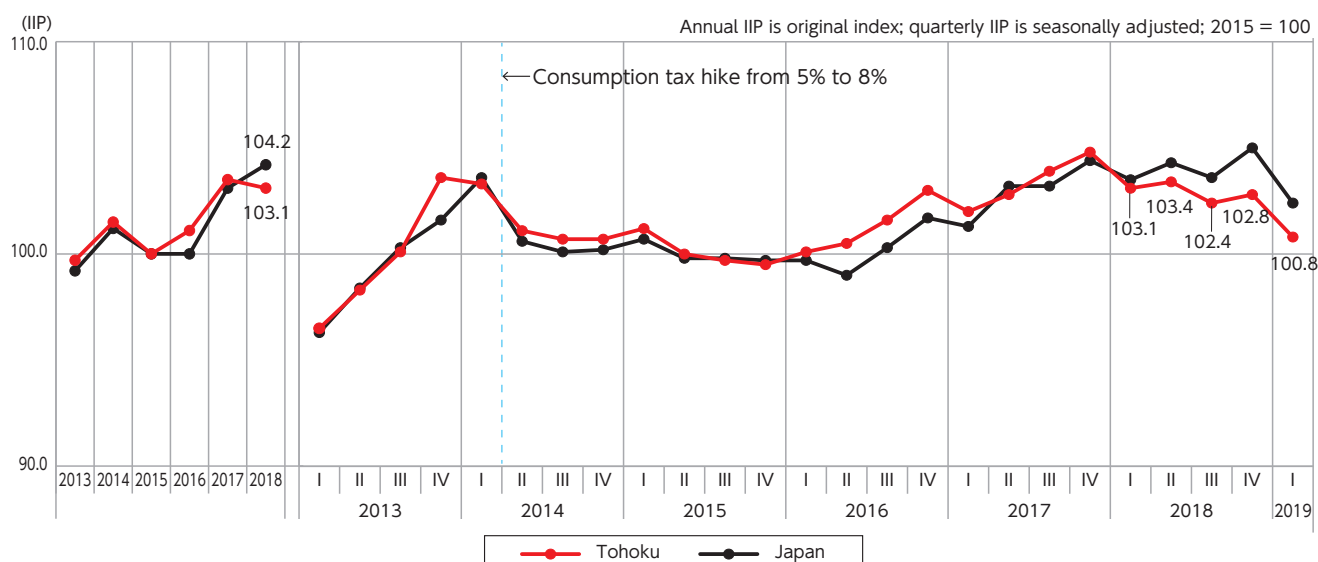
## (6) Industrial Production

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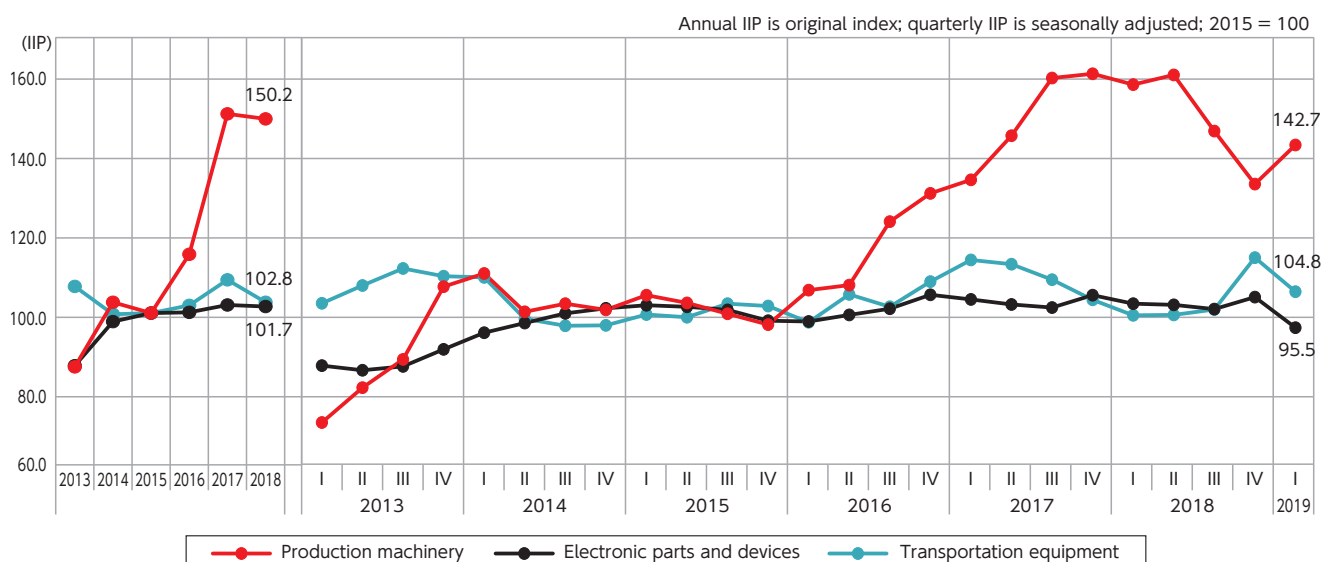
Industrial production is at a standstill.

- The Tohoku Region's Index of Industrial Production (IIP) in 2018 shows a decrease of 0.4% year-on-year to 103.1 (2015 = 100).
- The quarterly IIP in 2018 (seasonally adjusted: 2015 = 100) in the 1st quarter declined 1.6% quarter-on-quarter to 103.1, owing to electrical machinery caused by a decrease in electric measuring instruments and switchgears and controlling equipment. In the 2nd quarter, the IIP rose 0.3% quarter-on-quarter to 103.4 thanks to chemical and petroleum products caused by the favorable performance of pharmaceuticals. The IIP in the 3rd quarter declined 1.0% quarter-on-quarter to 102.4 owing to production machinery caused by a decrease in semiconductor manufacturing equipment. In the 4th quarter, the IIP rose 0.4% quarter-on-quarter to 102.8 thanks to transportation equipment caused by the favorable performance of cars due to the transfer of production to another plant. The overall IIP in 2018 was at a standstill.
- In 2019, the quarterly IIP in the 1st quarter declined 1.9% quarter-on-quarter to 100.8 owing to electronic parts and devices caused by a decrease in fixed capacitors and connectors mainly used for smartphones.

Changes in the IIP for Tohoku and Japan



Changes in the IIP by Industry Sector

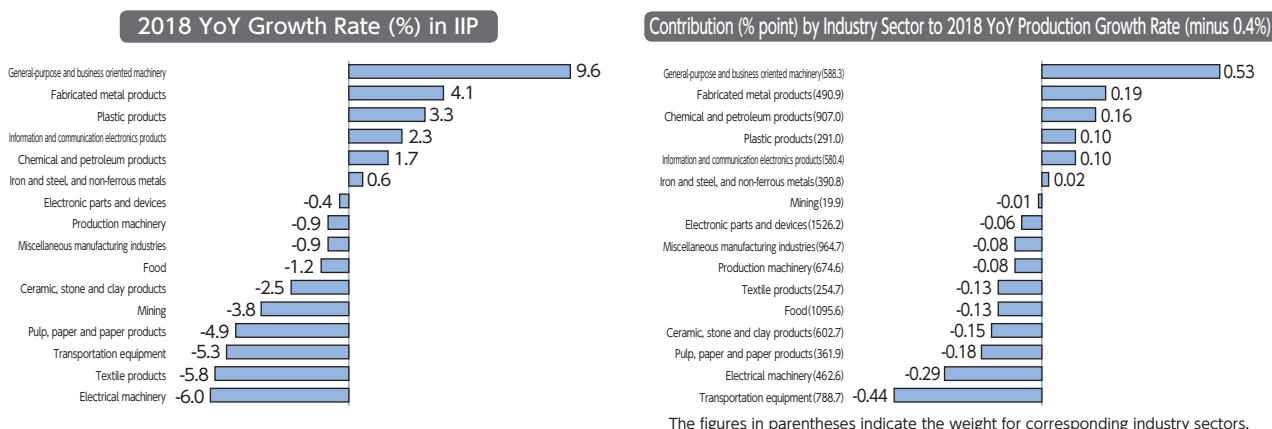


Note 1: The IIP for Japan was prepared by the Ministry of Economy, Trade and Industry, while the IIP for Tohoku was prepared by the Tohoku Bureau of Economy, Trade and Industry.

Note 2: The IIPs for both Tohoku and Japan were based, as reference, on the 2015 productions. The annual revision was given to the IIPs of both Tohoku and Japan for the period from January 2018.

Source: Prepared by the Tohoku Bureau of Economy, Trade and Industry

- In 2018, the IIP showed a positive year-on-year growth rate for general-purpose and business oriented machinery (up 9.6%) and metal products (up 4.1%), while it showed a negative year-on-year growth rate for electrical machinery (down 6.0%) and textile products (down 5.8%).
- When looking at the level of contribution by industrial sector to the year-on-year IIP growth rate of minus 0.4% for 2018, a negative contribution to the overall IIP was made by transportation equipment (-0.44%) due to the decrease in automobile engines and cars, and by electrical machinery (-0.29) due to the decrease in electric measuring instruments and switchgears and controlling equipment. Meanwhile, general-purpose and business oriented machinery made a positive contribution (0.53) caused by the favorable performance of cameras and interchangeable camera lenses.

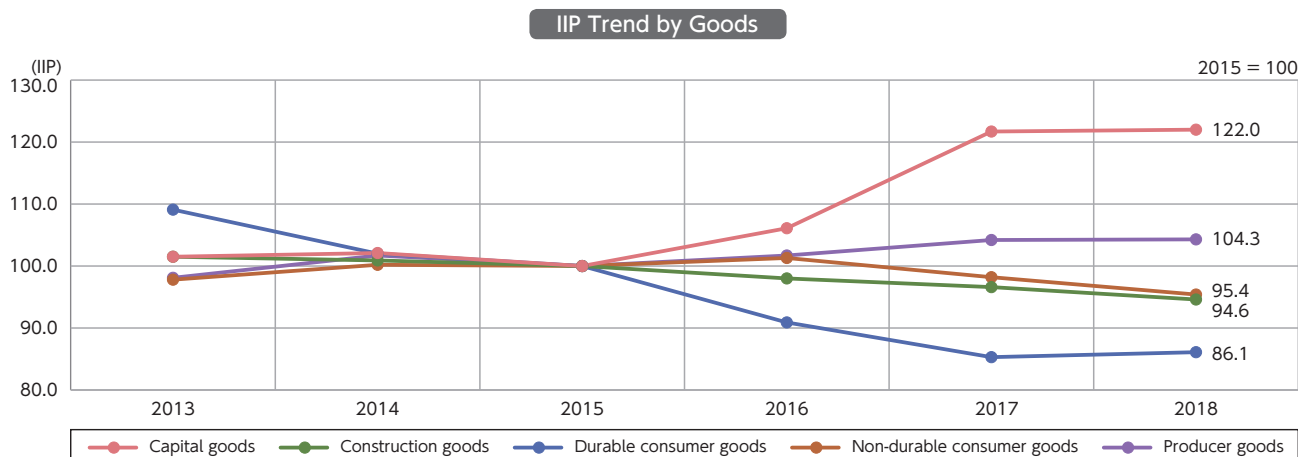


Note: The weight corresponds to the share of each industrial sector in the total (the entire industrial production = 10,000)

Contribution corresponds to the growth rate by industry sector for the entire production. It indicates the level of impact that is made on the entire industrial production through the increase or decrease of production in each industrial sector.

Source: Prepared by the Tohoku Bureau of Economy, Trade and Industry

- In 2018, by product category, the IIP of capital goods increased 0.2% year-on-year to 122.0, thanks to positive contributions from cameras, industrial television sets, and industrial robots. Meanwhile, the IIP of construction goods decreased 2.1% year-on-year to 94.6 caused by negative contributions from ready-mixed concrete, built-in kitchens, and aluminum building parts. The IIP of durable consumer goods increased 0.9% year-on-year to 86.1. The increase was due to positive contributions from notebook computers, interchangeable camera lenses, and automobile tires. The IIP of non-durable consumer goods decreased 2.9% year-on-year to 95.4. The decrease was due to negative contributions from magnetic media, pharmaceuticals and woven textile products (garments). The IIP of producer goods increased 0.1% year-on-year to 104.3. The increase was due to positive contributions from silicon wafers, carbide tips, and fine ceramics (structural material), though automobile engines, printing paper (coated), and metal oxide semiconductor integrated circuits (microcomputer) made negative contributions.



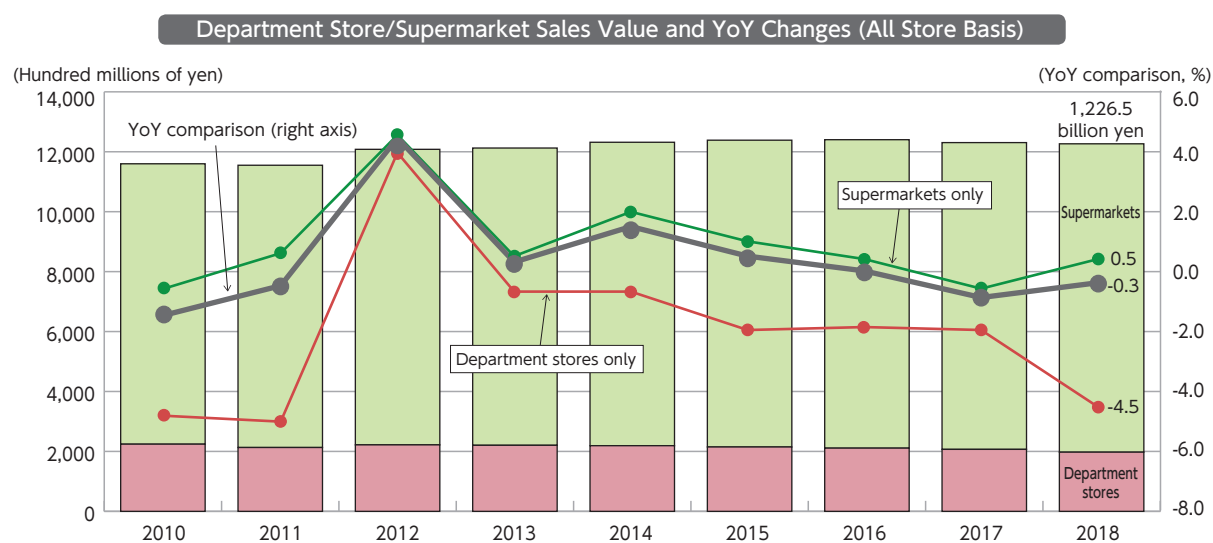
Source: Prepared by the Tohoku Bureau of Economy, Trade and Industry

## (7) Consumption

## (7) Consumption

Retail trade is at a standstill.

- In 2018, department stores and supermarkets in the Tohoku region recorded 1,226.5 billion yen of sales on an all-store basis, down 0.3% year-on-year, marking two consecutive years of sales decline. Meanwhile, sales at existing stores shrank 1.7% year-on-year, declining for six consecutive years.
- In terms of year-on-year comparison of sales by store type (on an all-store basis), department store sales decreased 4.5%, the sixth consecutive year of decrease, while supermarket sales increased 0.5% for the first time in two years.

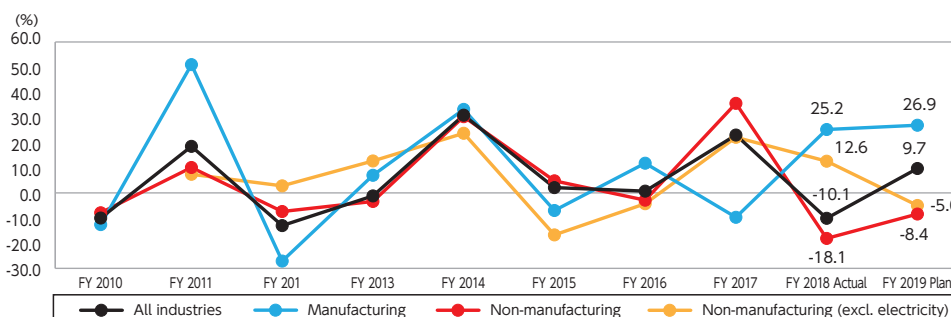


## (8) Private Sector Capital Spending

Capital spending is projected to increase in transportation equipment and electrical machinery.

- The private sector's capital spending in the Tohoku region amounted to 447.2 billion yen in fiscal year 2019, up 9.7% year-on-year (according to the June 2019 survey). The manufacturing industry planned to increase its capital spending by 26.9% year-on-year, while the non-manufacturing industry planned to decrease its capital spending by 8.4% year-on-year (a 5.0% year-on-year decrease when excluding electricity). Meanwhile, the actual capital spending in the Tohoku region for fiscal year 2018 decreased 10.1% year-on-year. This represents a 25.2% year-on-year increase in capital spending by the manufacturing industry and an 18.1% year-on-year decrease by the non-manufacturing industry (a 12.6% year-on-year increase when excluding electricity).

Year-on-year Changes in Capital Spending in the Tohoku Region



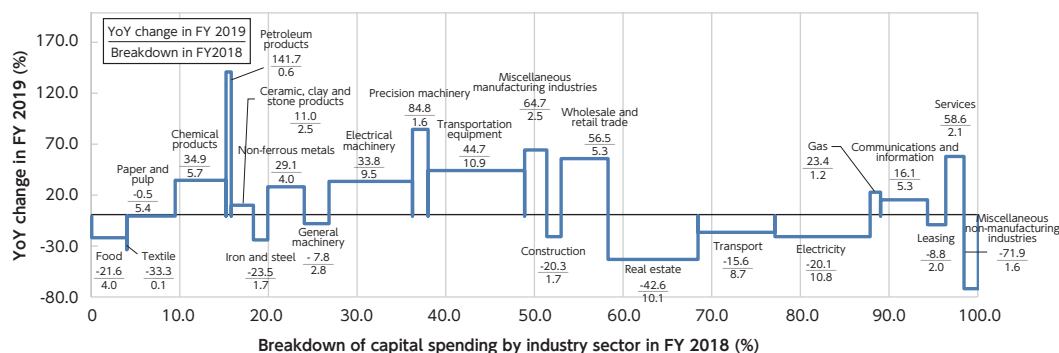
Note 1: The publicly released data (for the seven Tohoku prefectures including Niigata Prefecture) were recalculated for the six Tohoku prefectures. The same shall apply hereinafter.

Note 2: The actual capital spending by industry sector in the seven Tohoku prefectures is not released publicly for 2010.

Source: Survey on Planned Capital Spending in the Tohoku Region, Development Bank of Japan

- Looking at fiscal 2019 capital spending by industrial sector on year-on-year basis, the plan for the manufacturing industry represents an increase in transportation equipment and electrical machinery because of an increase in investment into electric vehicles. Meanwhile, the plan for the non-manufacturing industry indicates a decrease in real estate and electricity.

Capital Spending Trend (FY 2019 Plan)

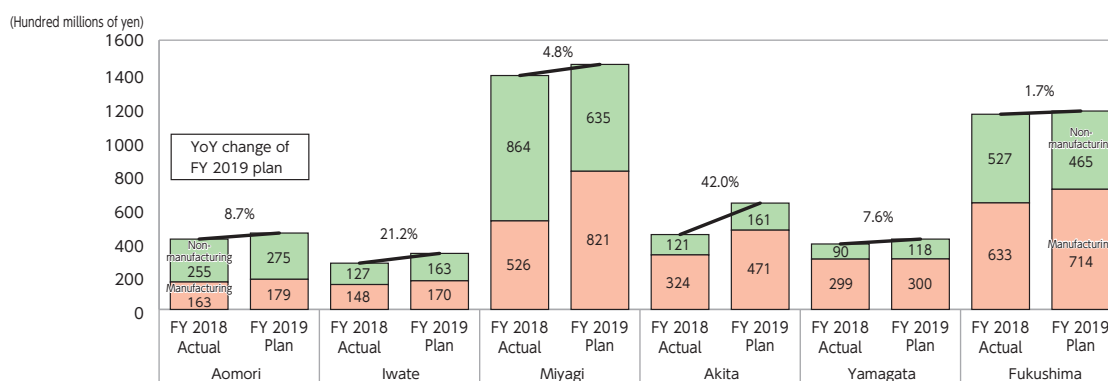


Breakdown of capital spending by industry sector in FY 2018 (%)

Source: Survey on Planned Capital Spending in the Tohoku Region, Development Bank of Japan

- Looking at fiscal 2019 capital spending by prefecture on year-on-year basis, the plan represents an increase of 8.7% for Aomori, an increase of 21.2% for Iwate, an increase of 4.8% for Miyagi, an increase of 42.0% for Akita, an increase of 7.6% for Yamagata, and an increase of 1.7% for Fukushima. Spending is projected to increase in all prefectures.

Changes in Capital Spending by Prefecture



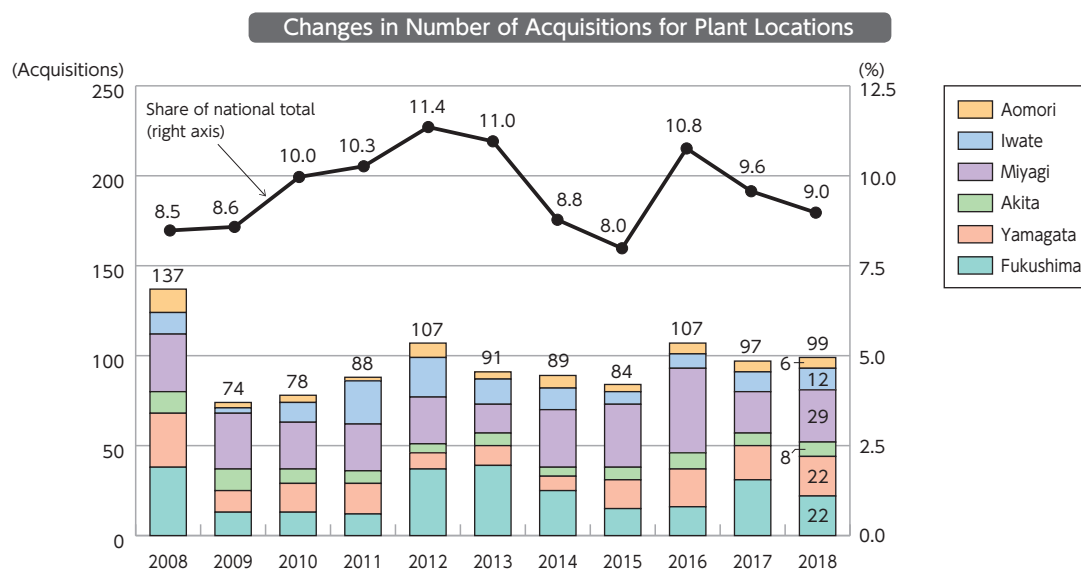
Source: Survey on Planned Capital Spending in the Tohoku Region, Development Bank of Japan

## (9) Acquisition of Plant Locations

## (9) Acquisition of Plant Locations

Acquisition of plant locations has increased for the first time in two years.

- In 2018, the number of acquisitions for plant locations (excluding electricity) in the Tohoku region was 99, an increase of two acquisitions (or 2.1%) from the previous year and the first increase in two years. The region's share of the national total went down by 0.6 percentage points to 9.0%.
- By prefecture, Miyagi had the largest number of acquisitions at 29 (23 in 2017), followed by Yamagata at 22 (19 in 2017), Fukushima at 22 (31 in 2017), Iwate at 12 (11 in 2017), Akita at eight (7 in 2017), and Aomori at six (six in 2017). The number of acquisitions for relocation in the coastal areas which had been affected by the Great East Japan Earthquake, was seven, a decrease of four acquisitions year-on-year (these relocations were accompanied along with the plans to close down all or part of the companies' existing plants).



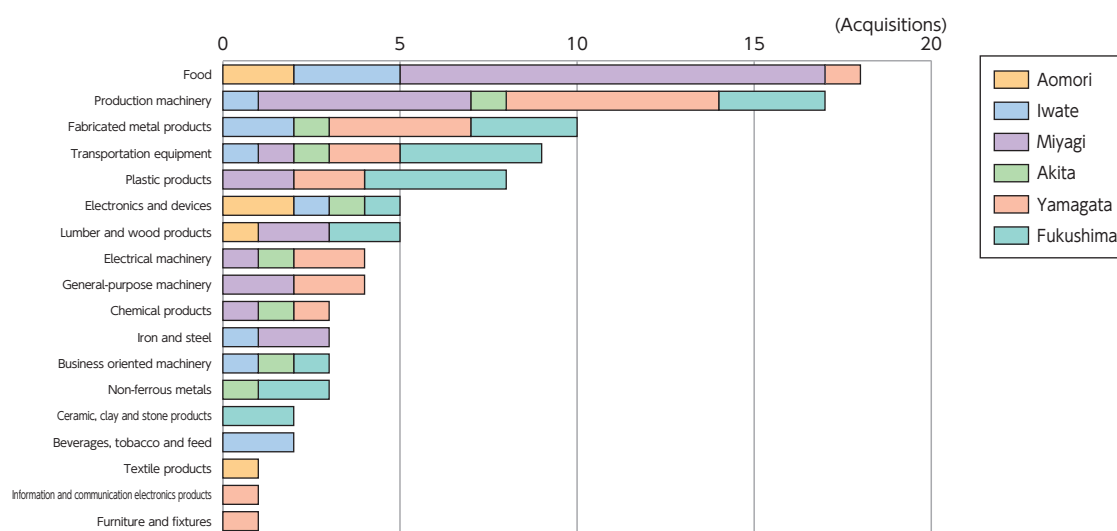
Note 1: The *Survey of Factory Location Trends* targets the acquisition (including leasing) of land with a size of 1,000 square meters or larger for use to build a factory, business office or research center for manufacturing, electricity (excluding hydraulic power plants, geo-thermal power plants and solar power plants,) gas and heat supply.

Note 2: Solar power plants were excluded from the 2015 survey for the electricity sector.

Source: *Survey of Factory Location Trends (Preliminary Report): Tohoku Version*, the Tohoku Bureau of Economy, Trade and Industry

- The top industrial sectors in terms of the number of acquisitions for plant locations were food (18), production machinery (17), fabricated metal products (10), and transportation equipment (9). By prefecture, the number of acquisitions for food was the highest in Miyagi (12), while that for production machinery was the highest in Miyagi and Yamagata (6 each) followed by Fukushima (3).

**Distribution of Plant Location Acquisitions by Industry Sector and Prefecture (2018)**



Note: Excludes electricity

Source: *Survey of Factory Location Trends (2018 Preliminary Report): Tohoku Version*, the Tohoku Bureau of Economy, Trade and Industry

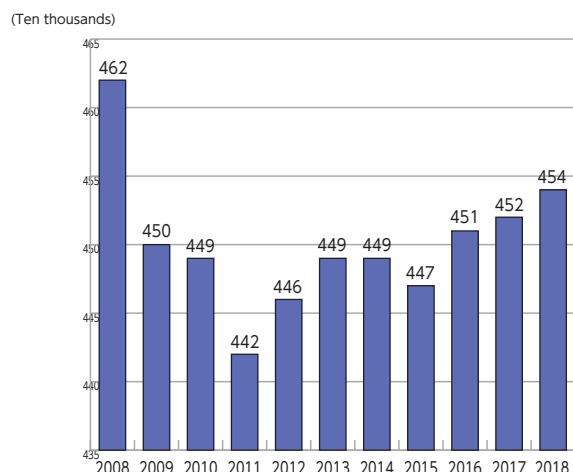


## (10) Labor Force Population

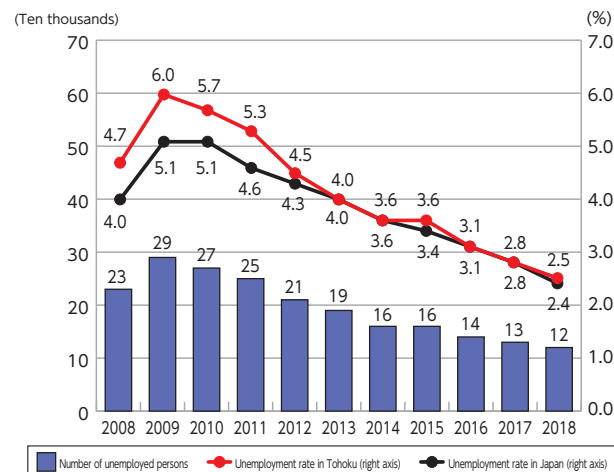
The number of employed persons is 4.54 million, and the number of unemployed persons is 120,000.

- In 2018, the number of employed persons in the Tohoku region was 4.54 million, which is above that for 2010, a year before the Great East Japan Earthquake. Meanwhile, the number of unemployed persons was 120,000, or 2.5%, which is below the previous year's level.

Number of Employed Persons



Changes in the Numbers of Unemployed Persons and the Unemployment Rate



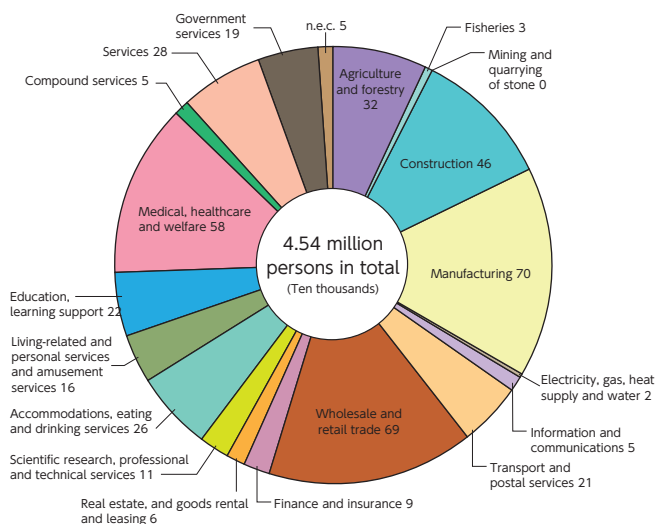
Note: The figure for 2011 is an estimate made as supplementary because of the impact of the Great East Japan Earthquake.

Source: Labor Force Survey, Ministry of Internal Affairs and Communications

Source: Labor Force Survey, Ministry of Internal Affairs and Communications

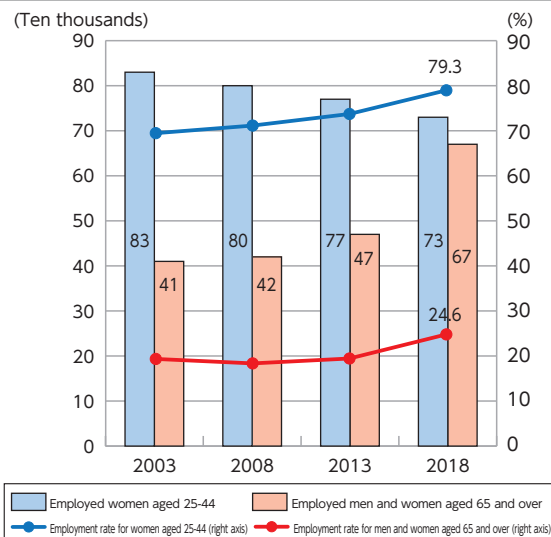
- By industrial sector, the largest number of employed persons was seen in manufacturing at 700,000 (15.4%), followed by wholesale and retail trade with 690,000 (15.2%), medical, healthcare and welfare with 580,000 (12.8%), construction with 460,000 (10.1%), and agriculture and forestry with 320,000 (7.0%). The number for manufacturing increased and the number for the wholesale and retail trade decreased with a change in the ranking of these two sectors.
- The number of employed women aged 25-44 years (child-caring age) was decreasing, while the number of employed persons (men and women) aged 65 and over was increasing. The employment rate for women aged 25-44 years and that for men and women aged 65 and over showed an upward trend.

Number of Employed Persons by Industrial Sector (2018)



Source: Labor Force Survey, Ministry of Internal Affairs and Communications

Number of Employed Persons and Employment Rate (Women Aged 25-44, and Men and Women Aged 65 and Over)



Source: Labor Force Survey, Ministry of Internal Affairs and Communications

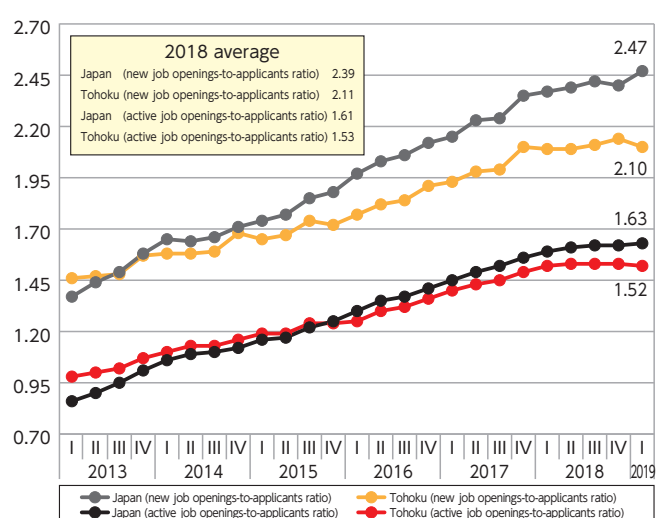
## (11) Employment

## (11) Employment

Both the new job openings-to-applicants ratio and active job openings-to-applicants ratio remain high.

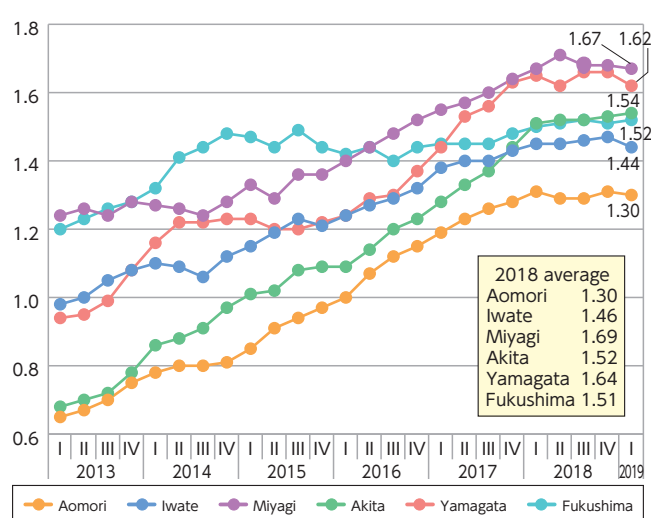
- In 2018, the annual average for active job openings-to-applicants ratio in the Tohoku region was 1.53, which was nearly as high as the national average of 1.61. In addition, the new job openings-to-applicants ratio in the Tohoku region was 2.11, which was almost as high as the national average of 2.39.
- The active job openings-to-applicants ratio in the first quarter of 2019 in the Tohoku region was 1.52 next to the highest-ever ratio of 1.53, along with continuation of a high level of the new job openings-to-applicants ratio of 2.10.

Changes in the Active Job Openings-to-Applicants Ratio in Tohoku and Japan



Source: *Employment Referrals for General Workers*, Ministry of Health, Labour and Welfare

Active Job Openings-to-Applicants Ratio by Prefecture

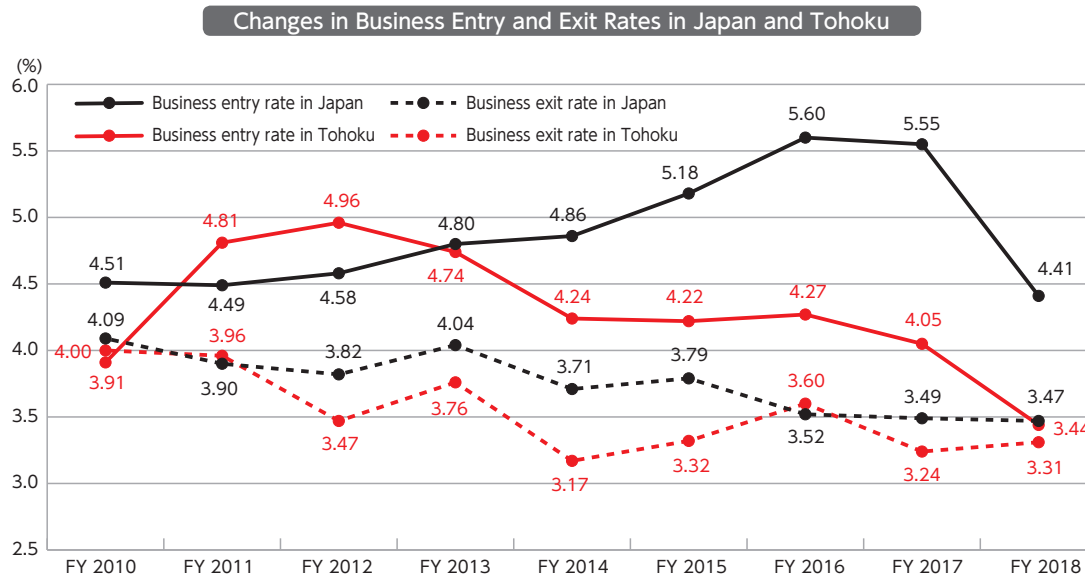


Source: *Employment Referrals for General Workers*, Ministry of Health, Labour and Welfare

## (12) Business Entry and Exit Rates

Continuous decrease of the business entry rate over the past two years, with slight increase of the business exit rate.

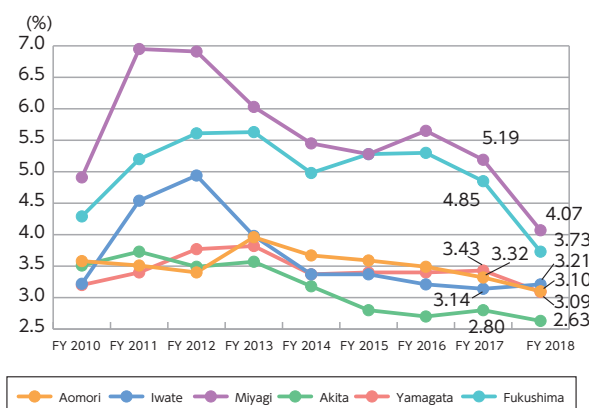
- According to employment insurance statistics in fiscal year 2018, the business entry rate in the Tohoku region was 3.44%, a decrease in two consecutive years, showing the lowest rate since after the Great East Japan Earthquake with a peak in fiscal 2012 where the uprising rate after the disaster shifted downward. For whole Japan, the business entry rate was 4.41%, a decrease in two consecutive years, which was also the lowest rate since after the Great East Japan Earthquake.
- In the Tohoku region, the business exit rate was 3.31%, the first increase in two years, while the exit rate in Japan was almost flat at 3.47%.



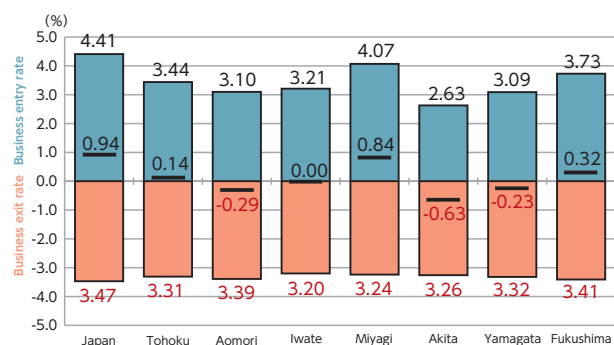
Note: The business entry and exit rates were calculated using the following formulas based on the data from the *Annual Reports on Employment Insurance Services*.  
 Business entry rate = Number of business establishments newly applying for employment insurance in the relevant business year / Number of business establishments covered by employment insurance as of the end of the previous business year x 100 (%)  
 Business exit rate = Number of business establishments that ceased to be covered by employment insurance in the relevant business year / Number of business establishments covered by employment insurance as of the end of the previous business year x 100 (%)  
 \*The business establishments covered by employment insurance refer to business establishments that have an insurance relation for employment insurance pursuant to the provisions of the Act on the Collection, etc., of Insurance Premiums of Labor Insurance. An existing business establishment does not become a business establishment covered by employment insurance until it hires an employee.  
 Source: *Monthly and Annual Reports on Employment Insurance Services*, Ministry of Health, Labour and Welfare

- When comparing the business entry rate of fiscal year 2018 to that of fiscal year 2017 by prefecture, a slight increase was seen in Iwate along with a decrease in the other prefectures. In terms of the difference between the business entry rate and the business exit rate, the business entry rate exceeded the business exit rate by 0.94 percentage points for Japan and by 0.14 percentage points for the Tohoku region. By prefecture, the business entry rate exceeded the business exit rate in Miyagi and Fukushima.

**Changes in Business Entry Rate in Tohoku by Prefecture**



**Business Entry and Exit Rates in FY 2018**



Note: Plotting (-) on each bar indicates the difference in rate between business entry and exit.

Source: *Monthly and Annual Reports on Employment Insurance Services*, Ministry of Health, Labour and Welfare

## (13) Internationalization

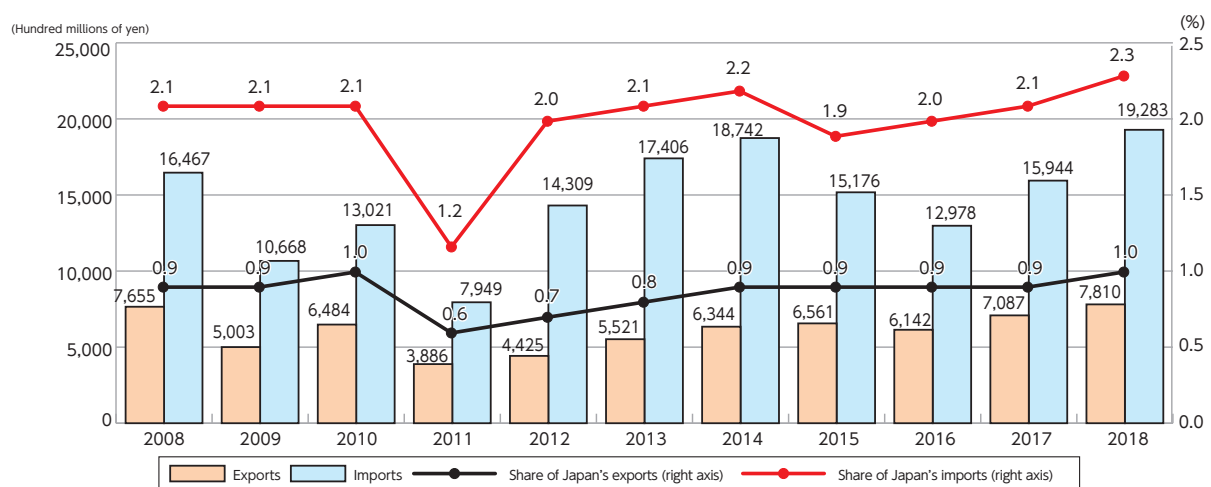
## (13) Internationalization

## ① Trade

Exports and imports increased for two consecutive years.

- In 2018, exports from the Tohoku region increased for two consecutive years, totaling 781.0 billion yen, an increase of 10.2% year-on-year. This was attributable to an increase in the export of pharmaceuticals and ships, despite the decrease in office equipment. Meanwhile, imports increased for two consecutive years for a total of 1,928.3 billion yen, an increase of 20.9% year-on-year. This was due to an increase in the import of crude and raw oil and coal. The Tohoku region accounted for 1.0% of Japan's exports (0.9% in 2017) and 2.3% of its imports (2.1% in 2017).

Changes in the Value of Exports and Imports Handled in the Tohoku Region

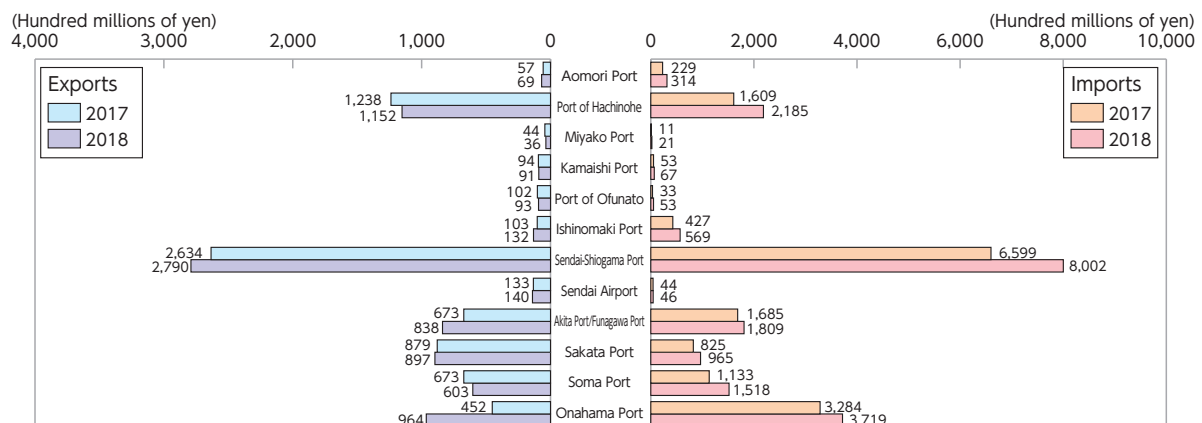


Note: The value of cargo that passed through export and import custom clearances at the custom offices in the six Tohoku prefectures.

Source: Overview of Trade in the Tohoku Region, Yokohama Customs, Ministry of Finance

- By port, Sendai-Shiogama Port handled the largest volume of goods in the Tohoku region based on the value of exports, followed by the Port of Hachinohe and Onahama Port. Based on the value of imports, Sendai-Shiogama Port ranked first, followed by Onahama Port and Port of Hachinohe. In comparison to the previous year, the value of exports increased in Onahama Port and Akita Port/Funagawa Port while the value of imports increased significantly in Sendai-Shiogama Port and the Port of Hachinohe.

2017/2018 Trade Value by Port in the Tohoku Region

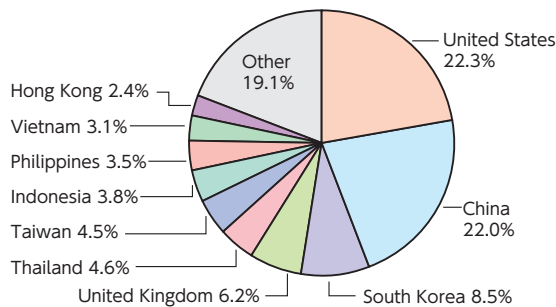


Note: Ports in Tohoku are shown on the Map of Transport Infrastructure on page 53 in the Japanese version.

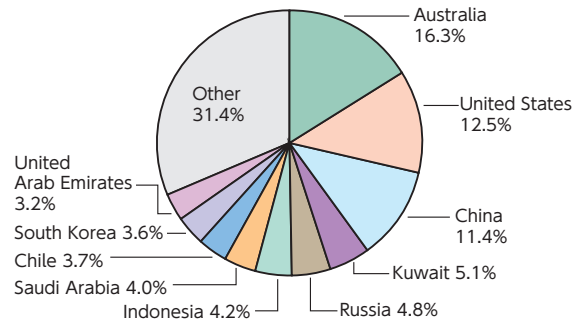
Source: List of the Value of Trade by Port in Japan, Kobe Customs, Ministry of Finance

- Major destinations of Tohoku's exports are the United States, China and South Korea, while the major sources of its imports are Australia, the United States and China.
- Major export items include motors, pharmaceuticals and rubber products, while major import items include crude and raw oil, coal and metallic ores and scrap.

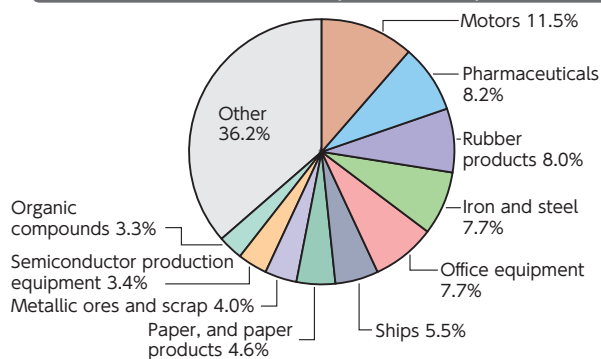
2018 Major Destinations of Exports (Countries/Regions)



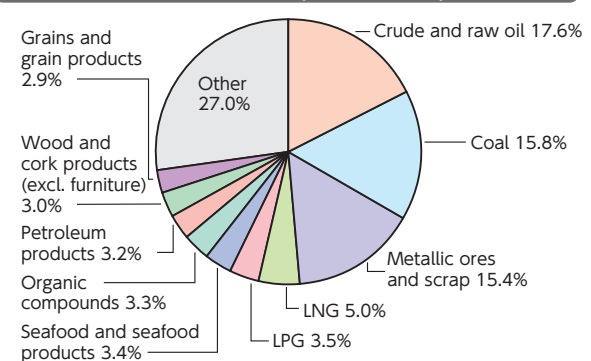
2018 Major Sources of Imports (Countries/Regions)



Breakdown of 2018 Export Values by Item



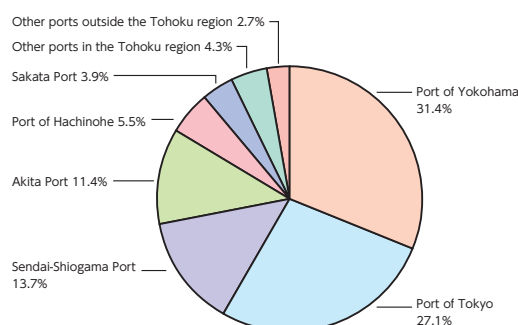
Breakdown of 2018 Import Values by Item



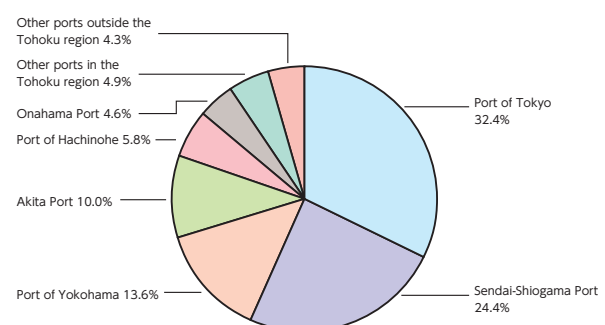
Source: Overview of Trade in the Tohoku Region, Yokohama Customs, Ministry of Finance

- Approximately 31.4% of marine export cargoes, comprised of products produced in the Tohoku region, were transported in international containers and loaded at the port of Yokohama, while 27.1% were loaded at the Port of Tokyo and 13.7% at Sendai-Shiogama Port. This implies that a large proportion of cargoes were loaded at ports located outside the Tohoku region. Meanwhile, 32.4% of marine import cargoes, comprised of goods to be consumed in the Tohoku region, were unloaded at the Port of Tokyo, 24.4% at Sendai-Shiogama Port and 13.6% at the Port of Yokohama.

Breakdown of Loaded Export Cargoes (tons) by Port (November 2018) (Place of production: Tohoku)



Breakdown of Unloaded Import Cargoes (tons) by Port (November 2018) (Place of consumption: Tohoku)



Note: The survey is conducted once every five years to clarify the contemporary status of the international maritime container cargo flow for policy making.  
Source: FY 2018 Survey Results of Japan's Export and Import Container Cargo Movements, Ports and Harbors Bureau, Ministry of Land, Infrastructure, Transport and Tourism

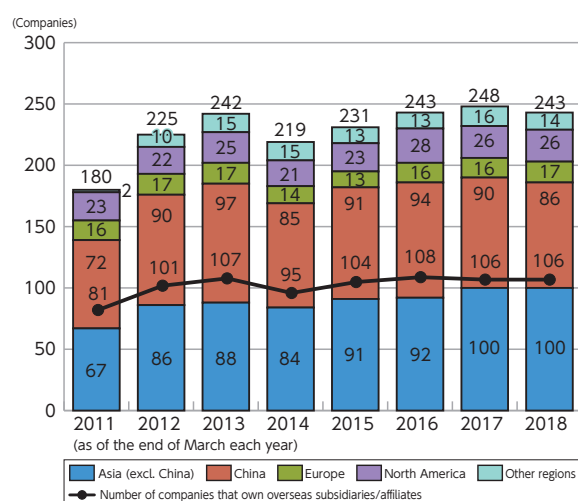
## (13) Internationalization

## ② Internationalization of Corporate Activities

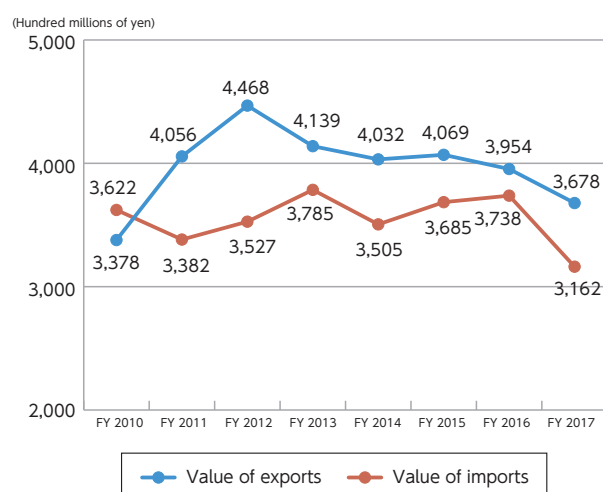
The number of foreign workers is increasing every year since 2012.

- According to the results of the survey for companies headquartered in the Tohoku region in fiscal 2017 (1,604 responding companies), 106 companies owned overseas subsidiaries and/or affiliates, amounting to 243. Specifically, out of these 243 overseas companies, the largest number was in Asian countries excluding China (100 companies, or 41.2% of the total), followed by China (86 companies, or 35.4%), and North America (26 companies, or 10.7%).
- With respect to overseas transactions by companies headquartered in the Tohoku region (fiscal year 2017), the value of exports of goods was 367.8 billion yen (164 responding companies). Meanwhile, the value of imports of goods was 316.2 billion yen (169 responding companies).

Changes in the Number of Overseas Subsidiaries/Affiliates Owned by Companies Headquartered in the Tohoku Region



Changes in Values of Exports and Imports of Goods by Companies Headquartered in the Tohoku Region



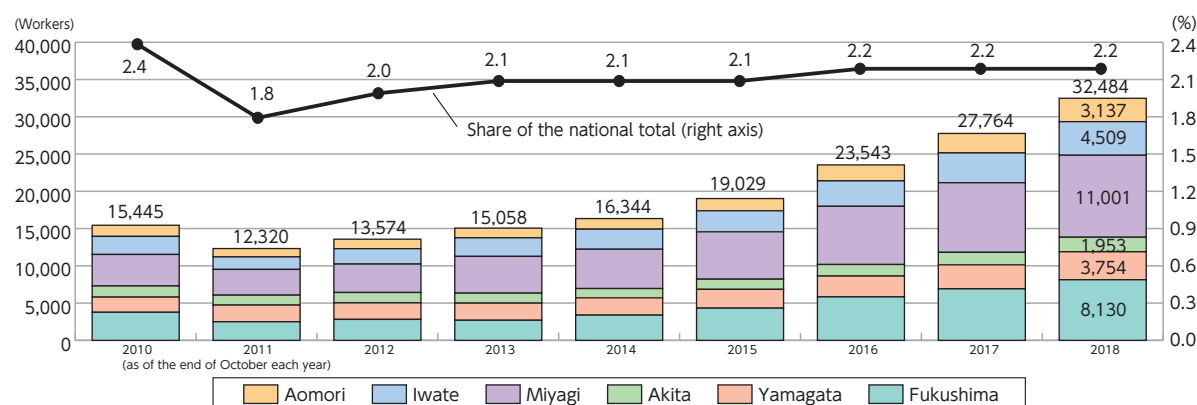
Note 1: The *Basic Survey of Japanese Business Structure and Activities* targets companies that own a business establishment engaging in mining, manufacturing, electricity and gas, wholesale, retail, and services with 50 or more employees and a capital or equity investment, amounting to 30 million yen or more.

Note 2: Basically, overseas subsidiaries shall hold more than 50% of voting rights, and overseas affiliates between 20-50%.

Source: *Basic Survey of Japanese Business Structure and Activities*, Ministry of Economy, Trade and Industry

- The number of foreign residents in the Tohoku region was 32,484 as of the end of October 2018, with a 17.0% increase year-on-year. By prefecture, Miyagi had the largest number of foreign residents with 11,001, followed by Fukushima with 8,130.

Changes in the Number of Foreign Workers



Note: The above figures are obtained by totaling the numbers reported in the notifications submitted by employers who are required to notify the status of their employed foreign workers (excluding those who are special permanent residents, and those who hold diplomatic/official status) as of the end of October every year.

Source: *Table of Notification Status of Foreign Workers' Employment Status*, Ministry of Health, Labour and Health



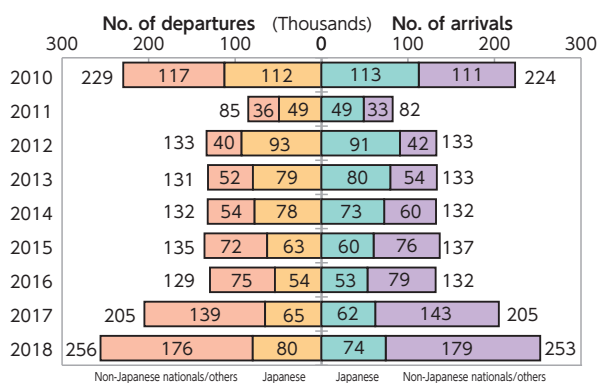
### ③ International Arrivals/Departures and Foreign Residents

Among the international arrivals and departures through ports and airports in the Tohoku region, the number of non-Japanese nationals is increasing considerably.

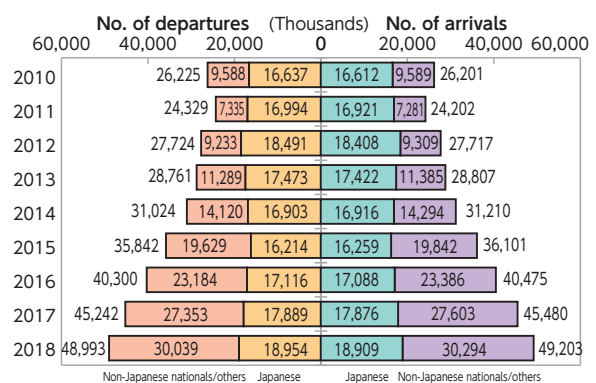
- The total number of international arrivals and departures in 2018 through ports and airports in the Tohoku region was 508,455, a 24% rise from 409,947 in 2017. Among them, the number of non-Japanese arrivals and departures is continuously increasing, and the total of international arrivals and departures exceeded that in 2010 for the first time since after the Great East Japan Earthquake. The number of arrivals and departures increased considerably through Sendai Airport (an increase of 14.0% year-on-year), Hanamaki Airport (an increase of 213.9% year-on-year), and Fukushima Airport (an increase of 613.0% year-on-year).

The number of international arrivals and departures through ports and airports in the Tohoku region was 0.5% of the national total, which was the same as the previous year.

Changes in International Arrivals and Departures through Ports and Airports in Tohoku



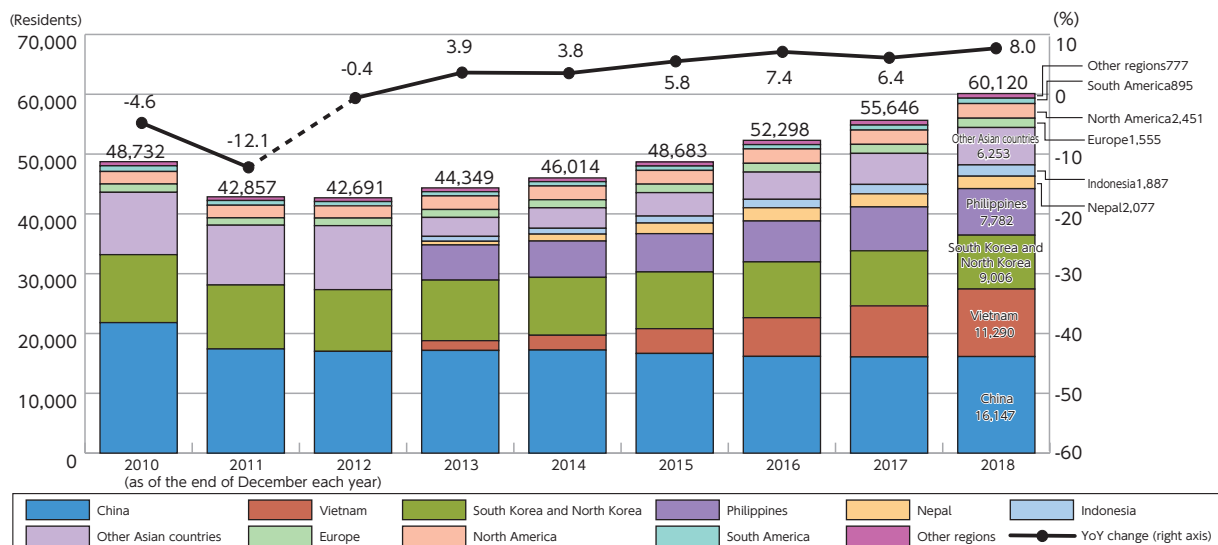
Changes in the Number of International Arrivals and Departures in Japan



Source: Annual Report on Overseas Arrivals and Departures Statistics, Ministry of Justice

- There were 60,120 foreign residents in the Tohoku region as of the end of December 2018, an 8.0% rise year-on-year. By nationality, there were 16,147 residents from China, representing 26.9% of the total, followed by those from Vietnam (11,290, or 18.8% year-on-year), those from South Korea and North Korea (9,006, or 15.0% year-on-year) and those from Philippines (7,782, or 12.9% year-on-year). Recently, the number of foreign residents from Vietnam has been rapidly increasing and exceeded that of South Korea and North Korea while taking the second position.

Changes in the Number of Foreign Residents  
(Number of people who used to be registered under the now-obsolete alien registration system)



Note 1: "Other Asian countries" for 2010, 2011 and 2012 represent Asia countries excluding China, South Korea and North Korea.

Note 2: Following the revisions to immigration Control and Refugee Recognition Act and the introduction of a new management system for foreign residents in Japan in July 2012, the Alien Registration Act was abolished. Accordingly, the above statistics cover "medium- to long-term residents" and "special permanent residents" who are managed under the new foreign resident management system (hereinafter, collectively referred to as "foreign residents"). As a result of these changes to the system, the figures for foreign residents under the new system and registered aliens under the old system do not match. It is therefore impossible to simply compare the number of foreign residents and the number of people who used to be registered under the alien registration system.

Source: Statistics on Foreign Resident in Japan (formerly Statistics on Registered Aliens), Ministry of Justice

## (14) Tourism

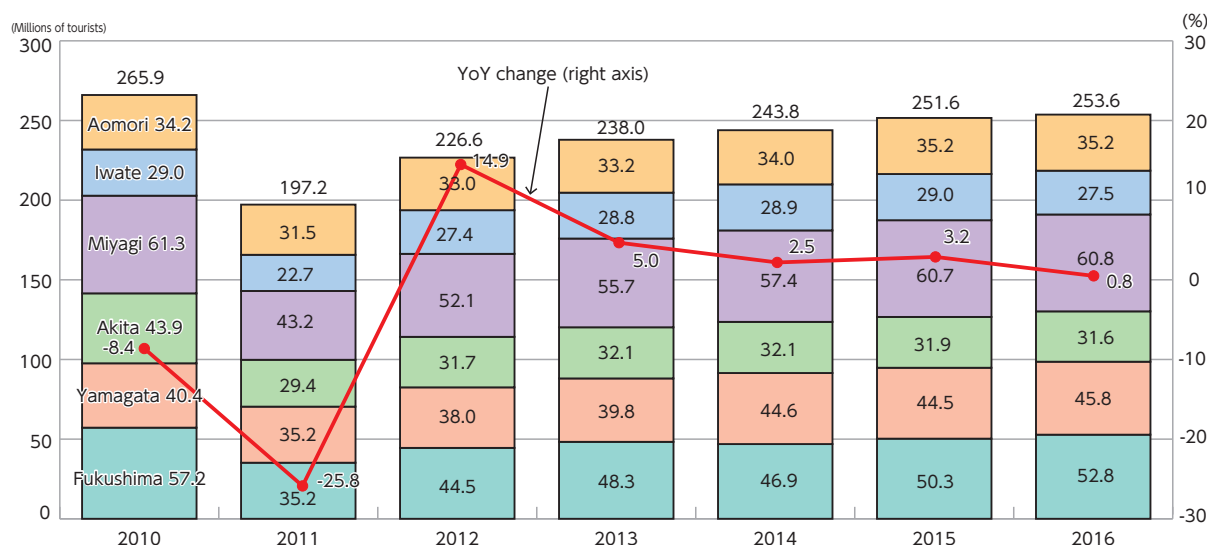
## (14) Tourism

## ① Domestic Tourism

The number of tourists to the Tohoku region has been increasing over the past five years.

- The number of tourists to the Tohoku region decreased considerably in 2011 after the Great East Japan Earthquake, but recovered to 253.6 million in 2016.

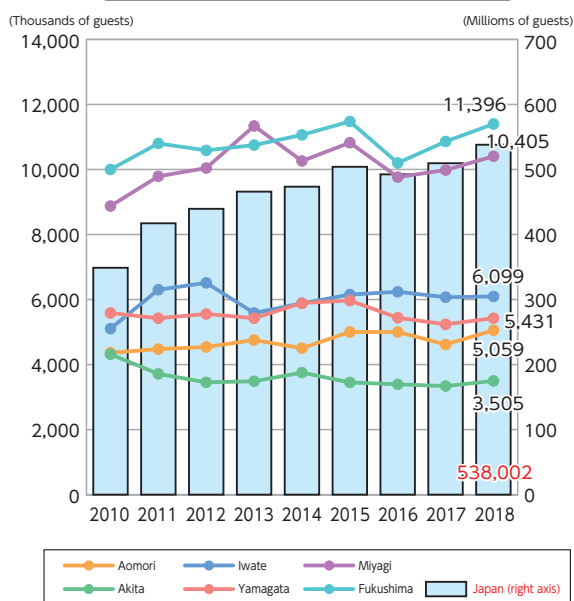
Changes in the Number of Tourists to the Tohoku Region



Note: The figures for 2010 are shown for reference purpose only because the survey criteria for 2010 and before were different in some prefectures from others.  
Source: Graphic Illustration of Transport in Tohoku/Statistics on Tourism in Each Prefecture, Tohoku District Transport Bureau

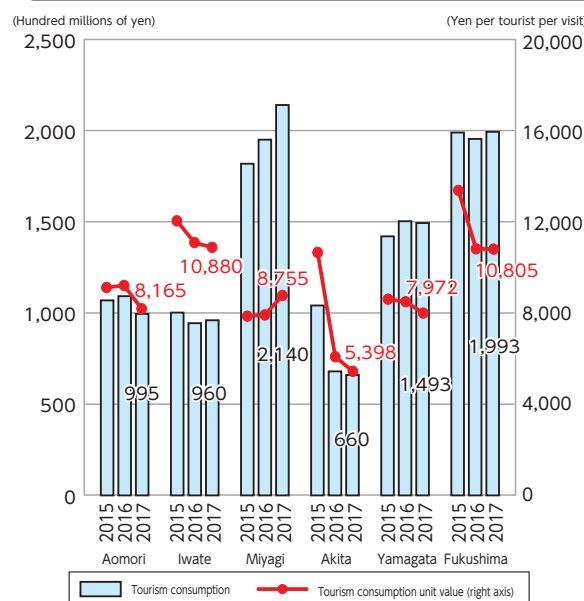
- In 2018, the total number of overnight guests increased in the six Tohoku prefectures.
- Compared to the previous year, overall tourism consumption and the tourism consumption unit value increased in 2017 in Miyagi while they decreased in Aomori, Akita and Yamagata. In Iwate and Fukushima, tourism consumption increased.

Changes in the Total Number of Overnight Guests in Each Prefecture



Note: For the period from January to March 2010, the number of guests represents the number of those staying overnight at accommodation facilities with staff of 10 or more employees.  
Source: Statistics on Overnight Trips, Japan Tourism Agency

Changes in Tourism Consumption in Each Prefecture (Japanese, tourism)



Note 1: Tourism consumption refers to the total value of consumption by tourists visiting the relevant prefecture(s).  
Note 2: The tourism consumption unit value refers to tourism consumption per tourist visiting the relevant prefecture(s) during one visit.

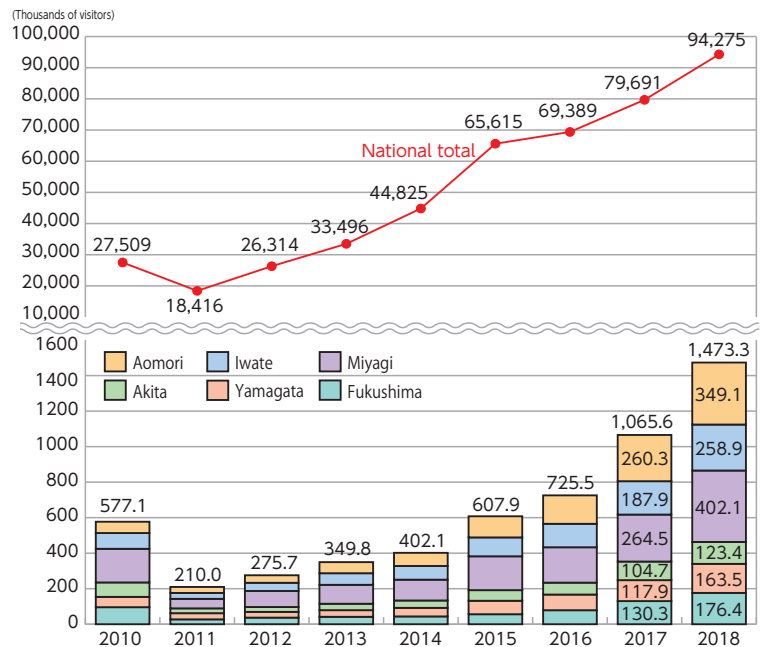
Source: Statistics on Inbound Tourists, Japan Tourism Agency

## ② International Inbound Tourism

The total number of international inbound overnight visitors in the Tohoku region is rising, exceeding that of the national rise.

- In 2018, the total number of inbound overnight visitors in the Tohoku region was 1,473,000. It was an increase of 38.3% year-on-year, exceeding that of the national rise of 18.3%.
- By nationality, the number of inbound overnight visitors from Taiwan increased rapidly after the Great East Japan Earthquake, reaching about 540,000, an increase of 37.7% year-on-year, followed by China with about 200,000, a large increase of 23.4% year-on-year.
- The comparison of Tohoku and Hokkaido regarding the tourism consumption by inbound visitors in 2017 shows an upward trend in Tohoku with 35.857 billion yen, about one-tenth that of Hokkaido which has succeeded in attracting inbound visitors to the area. The unit value of tourism consumption in Tohoku was 42,795 yen, which was a large increase of 25.2% year-on-year, accounting for 30% that in Hokkaido.

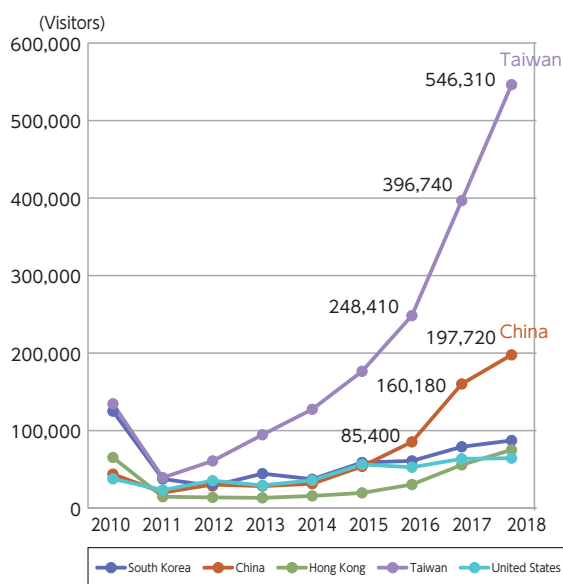
Changes in the Total Number of Inbound Overnight Visitors for Each Prefecture



Note: For the period from January to March 2010, the number of visitors represents the number of those staying overnight at accommodations with staff of 10 or more employees.

Source: Statistics on Overnight Trips, Japan Tourism Agency

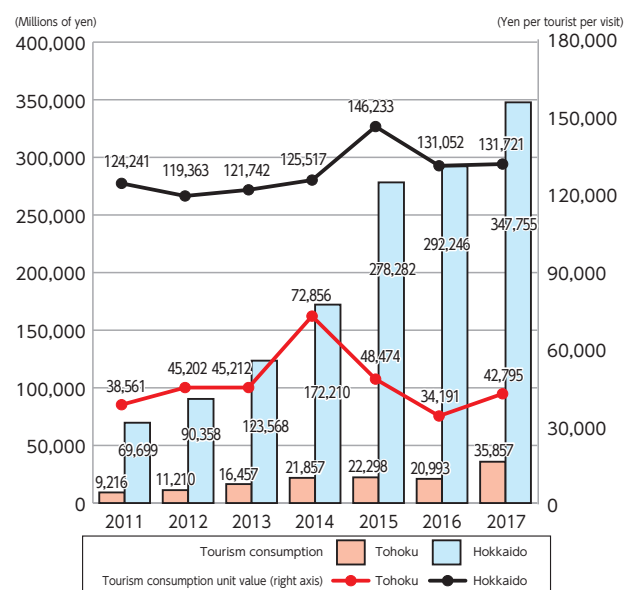
Changes in the Total Number of Inbound Overnight Visitors by Nationality



Note: The number of visitors represents the number of those staying overnight at accommodation facilities with staff of 10 or more employees.

Source: Statistics on Overnight Trips, Japan Tourism Agency

Changes in Tourism Consumption by Inbound Visitors



Note 1: Tourism consumption refers to the total spent by inbound visitors to the relevant prefecture(s).

Note 2: The tourism consumption unit value refers to tourism consumption per tourist visiting the relevant prefecture(s) during one visit.

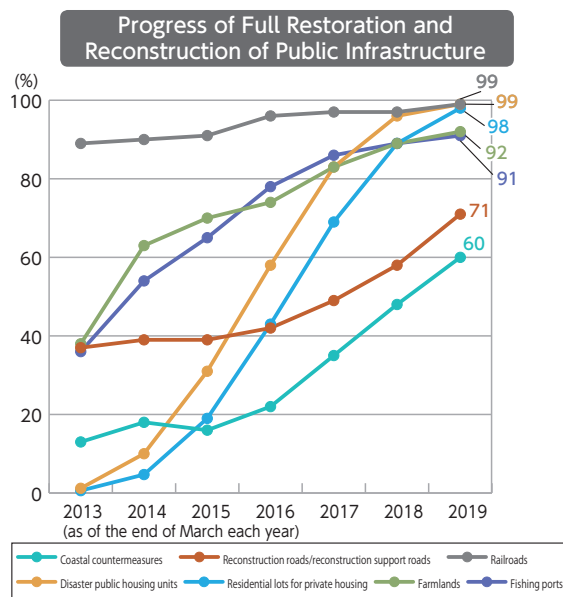
Source: Statistics on Inbound Tourists, Japan Tourism Agency

## (15) Reconstruction Related Trends

## (15) Reconstruction Related Trends

Community building is progressing steadily with the number of evacuees decreasing while the challenges of restoration are diversified and complicated.

- As of the end of fiscal year 2019, the progress of the restoration and reconstruction of public infrastructure is 99% complete for disaster public housing units, and 98% complete for residential lots for private housing. In addition, transportation infrastructure including reconstruction roads/reconstruction support roads and railroads is steadily being promoted, along with improvements to coastal countermeasures, farmlands and fishing ports.
- The number of evacuees was more than 340 thousand in March 2012, but due to the progress of community building, it decreased to about 50 thousand as of July 2019.

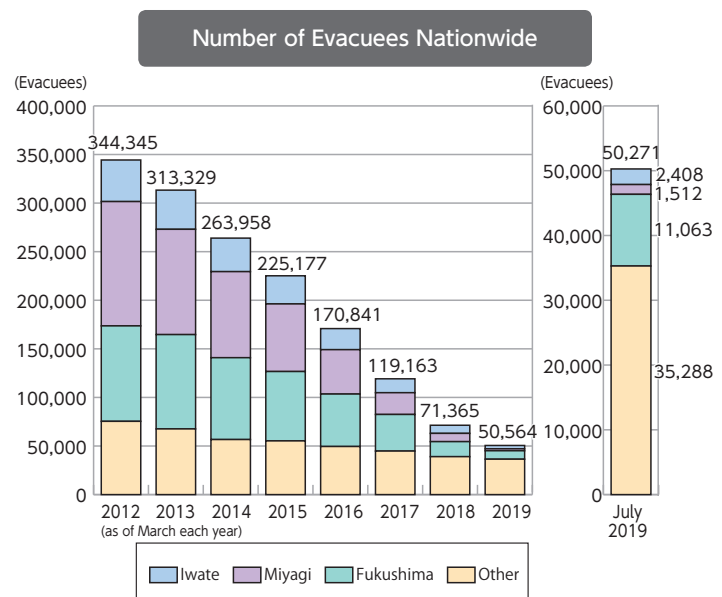


Note 1: The figures for coastal countermeasures, reconstruction roads/reconstruction support roads, railroads, disaster public housing units, residential lots for private housing represent the ratios of the actual constructions completed to the number of the constructions planned (total length, units or lots).

Note 2: The figure for farmlands represents the ratio of the area where farming resumption is available to the area of the farmlands affected by the tsunami.

Note 3: The figure for fishing ports represents the number of fishing ports with their functions all recovered to the number of the fishing ports that were affected by the tsunami.

Source: Progress of Full Restoration and Reconstruction of Public Infrastructure, Reconstruction Agency



Source: Number of Evacuees Throughout the Nation, Reconstruction Agency

- The survey conducted in 12 municipalities along the coasts in Iwate Prefecture in 2016 indicates that the number of business establishments was 12,226 (20.5% of the whole prefecture), an increase of 10.3% compared to the 2012 survey, while the number of employees was 90,396 (17.3%), an increase of 15.3%. Compared to the 2009 survey, however, the 2016 survey indicates a decrease of business establishments by 16.9% and the decrease of employees by 6.6%. Also, the 2016 survey conducted in 14 municipalities along the coasts of Miyagi Prefecture indicates that the number of business establishments was 24,136 (23.7% of the whole prefecture), an increase of 8.4% compared to the 2012 survey, while the number of employees was 214,880 (21.3%), an increase of 12.5%. Compared to the 2009 survey, however, the 2016 survey indicates a decrease of business establishments by 20.7% and a decrease of employees by 11.7%.

## Changes in the Number of Establishments and Employees in Affected Areas

	Number of business establishments						Number of employees					
	2009	2012	2016	Compared to 2009 (%)	Compared to 2012 (%)	Compared to the whole prefecture (%)	2009	2012	2016	Compared to 2009 (%)	Compared to 2012 (%)	Compared to the whole prefecture (%)
Iwate	64,293	59,537	59,451	-7.5	-0.1	-	546,239	509,979	525,264	-3.8	3.0	-
12 municipalities	14,716	11,089	12,226	-16.9	10.3	20.5	96,767	78,410	90,396	-6.6	15.3	17.3
Miyagi	106,937	98,190	102,026	-4.6	3.9	-	1,032,237	955,780	1,006,886	-2.5	5.3	-
14 municipalities	30,449	22,263	24,136	-20.7	8.4	23.7	243,351	191,077	214,880	-11.7	12.5	21.3
Fukushima	98,596	89,518	88,128	-10.6	-1.6	-	872,919	782,816	806,130	-7.7	3.0	-

Note 1: 12 municipalities in Iwate Prefecture: Miyako City, Ofunato City, Kuji City, Rikuzentakata City, Kamaishi City, Otsuchi Town, Yamada Town, Iwaizumi Town, Tanohata Village, Fudai Village, Noda Village, and Hirono Town

Note 2: 14 municipalities in Miyagi Prefecture: Ishinomaki City, Shiogama City, Kesennuma City, Natori City, Tagajo City, Iwanuma City, Higashimatsushima City, Watari Town, Yamamoto Town, Matsushima Town, Shichigahama Town, Rifu Town, Onagawa Town, and Minamisanriku Town

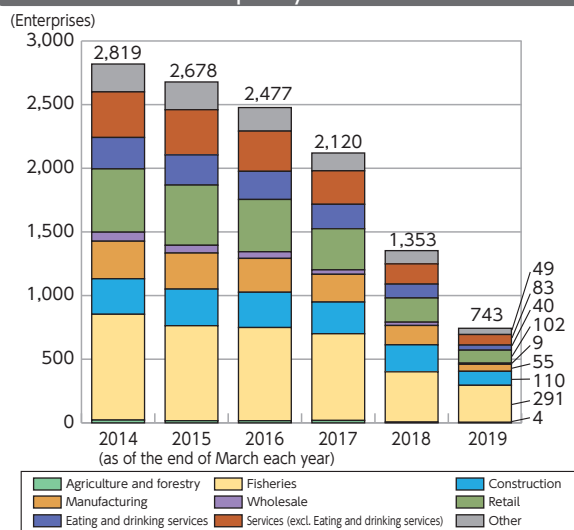
Note 3: In the 2012 and 2016 surveys for Fukushima Prefecture, all or parts of the areas are excluded from the survey in Tamura City, Minamisoma City, Kawamata Town, Naraha Town, Tomioka Town, Kawauchi Village, Okuma Town, Futaba Town, Namie Town, Katsurao Village, and Iitate Village.

Source: Economic Census Basic Survey for 2009 and Economic Census Activity Survey for 2012 and 2016

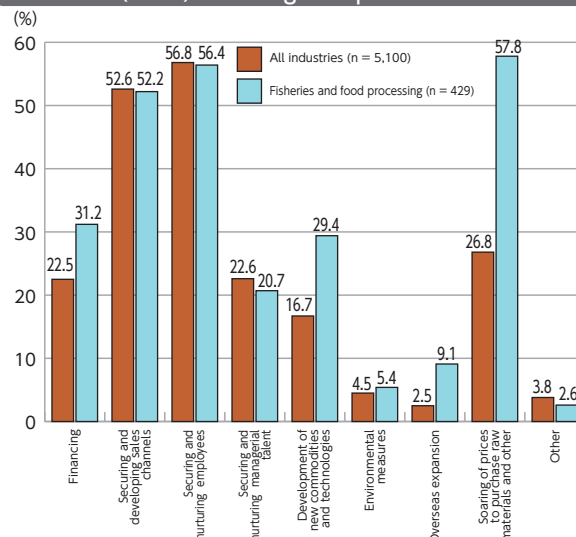
## (15) Reconstruction Related Trends

- As of the end of March 2019, 743 enterprises were tenanted the temporary facilities built by the Organization for Small & Medium Enterprises and Regional Innovation, Japan to restore economy and industry in the areas affected by the Great East Japan Earthquake. The number of these tenants is decreasing year by year because of relocating from temporary facilities to permanent facilities as business bases.
- Looking at the responses of the questionnaire conducted by the authority to reveal management issues faced by affected business operators, “securing and nurturing employees” and “securing and developing sales channels” were major responses from many of them. “Rising prices of raw materials” and “development of new commodities and technologies” were significant issues for the fisheries and food processing industries as compared to the other industries.

Changes in the Number of Enterprises Tenanted Temporary Facilities



Management Issues of Small and Medium Enterprises (SMEs) Receiving Group Subsidies

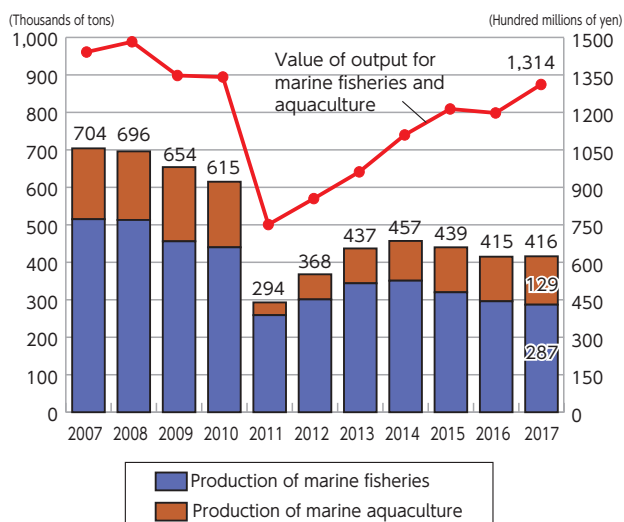


Source: Organization for Small & Medium Enterprises and Regional Innovation, Japan website

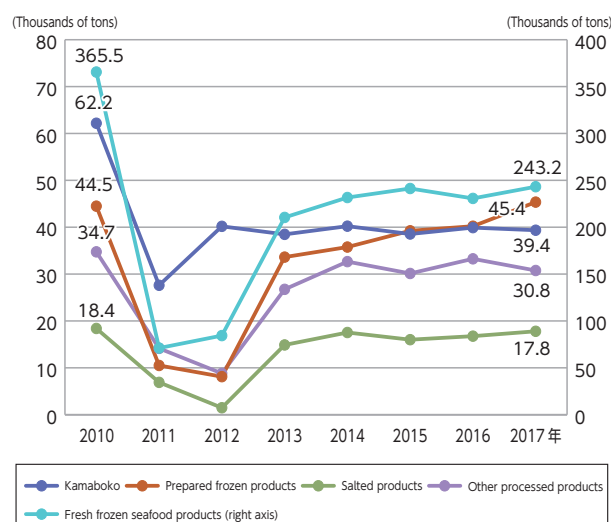
Source: Questionnaire Survey of Small and Medium Enterprises (SMEs) Receiving Group Subsidies (conducted in June 2018), Tohoku Bureau of Economy, Trade and Industry.

- The production of marine fisheries in 2017 from three affected prefectures (Iwate, Miyagi and Fukushima) was 287 thousand tons, and the production of marine aquaculture from two affected prefectures (Iwate and Miyagi) was 129 thousand tons. Though the production has not yet been recovered, the value of output was steadily reaching its level before the disaster. This implies that the prices of raw materials were soaring.
- The production of major processed seafood products in three affected prefectures in 2017 is broken down into fresh frozen seafood products (243 thousand tons), prepared frozen products (45 thousand tons), kamaboko or steamed fish-paste products (39 thousand tons) and salted products (18 thousand tons). The production of prepared frozen products exceeds that of 2010.

Changes in the Production and the Value of Output for Marine Fisheries and Aquaculture in Three Affected Prefectures



Changes in the Production of Processed Seafood Products in Three Affected Prefectures



Note 1: The production and the value of output for marine fisheries are the totals of those of three prefectures of Iwate, Miyagi and Fukushima.

Note 2: The production and the value of output for marine aquaculture are the totals of those of two prefectures of Iwate and Miyagi.

Source: Annual Statistics on Fishery and Aquaculture Production and Fishery Value of Output, Ministry of Agriculture, Forestry and Fisheries

Note 1: The production of kamaboko from 2010 to 2015, and 2017 excludes that of Iwate Prefecture to conceal the individual data of its surveyed manufacture(s).

Note 2: The production of salted products in 2010, 2011 and 2013 excludes that of Fukushima Prefecture to conceal the individual data of its surveyed manufacture(s).

Source: Pocket Book on Tohoku's Agriculture, Forestry and Fisheries Statistics, Tohoku Regional Agricultural Administration Office

## (1) Manufacturing

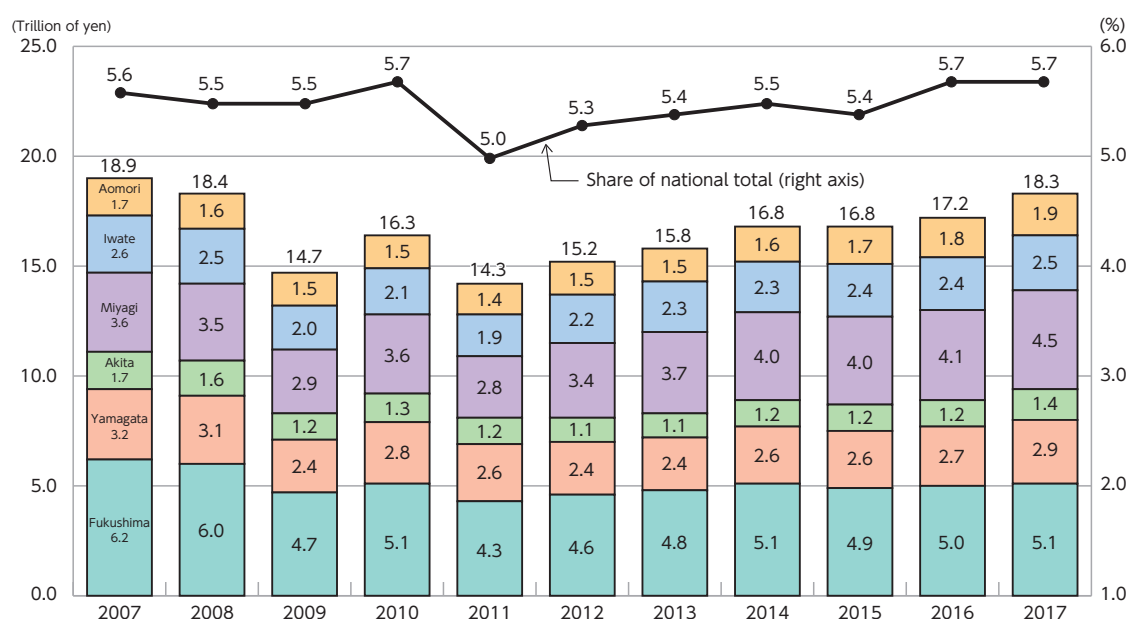
## (1) Manufacturing

## ① Overview

The value of manufactured goods shipped rises 6.6% year-on-year to 18,301.9 billion yen.

- The value of manufactured goods shipped in the Tohoku region in 2017 increased 6.6% year-on-year to 18,301.9 billion yen for the sixth consecutive year of growth. Its share of the national total was 5.7%, which was equivalent to the previous year.

Changes in the Value of Manufactured Goods Shipped



Source: Economic Census for Business Activity (establishments with four or more employees) and Census of Manufacture (establishments with four or more employees)

- Looking at the manufacturing industry by prefecture, the number of establishments increased in Iwate and Miyagi, the number of employees increased in five prefectures except for Aomori. The value of manufactured goods shipped rose in every prefecture, and the value added increased except for Aomori. Meanwhile, the value of manufactured goods shipped was the highest ever for Aomori and Miyagi.

Manufacturing Industry Data by Prefecture

	No. of establishments			No. of employees			Value of manufactured goods shipped (Millions of yen)			Value added (gross value added for establishments with 29 or fewer employees) (Millions of yen)		
	2017	2018	YoY change	2017	2018	YoY change	2016	2017	YoY change	2016	2017	YoY change
Aomori	1,386	1,368	-1.3	57,283	56,739	-0.9	1,807,044	1,912,133	5.8	652,564	639,704	-2.0
Iwate	2,081	2,087	0.3	85,282	86,662	1.6	2,371,678	2,525,650	6.5	671,065	757,934	12.9
Miyagi	2,618	2,629	0.4	114,587	117,177	2.3	4,112,832	4,469,649	8.7	1,274,536	1,427,060	12.0
Akita	1,800	1,758	-2.3	61,695	63,009	2.1	1,235,285	1,375,450	11.3	476,111	577,219	21.2
Yamagata	2,496	2,482	-0.6	98,974	101,074	2.1	2,663,410	2,898,660	8.8	929,781	1,121,216	20.6
Fukushima	3,620	3,559	-1.7	154,979	158,584	2.3	4,977,861	5,120,375	2.9	1,639,758	1,741,294	6.2
Tohoku	14,001	13,883	-0.8	572,800	583,245	1.8	17,168,110	18,301,917	6.6	5,643,815	6,264,427	11.0
Japan	191,339	188,249	-1.6	7,571,369	7,697,321	1.7	302,185,204	319,166,725	5.6	97,341,636	103,534,592	6.4

Note: The numbers of establishments and employees are as of June 1 each year.

Source: Census of Manufacture (establishments with four or more employees)

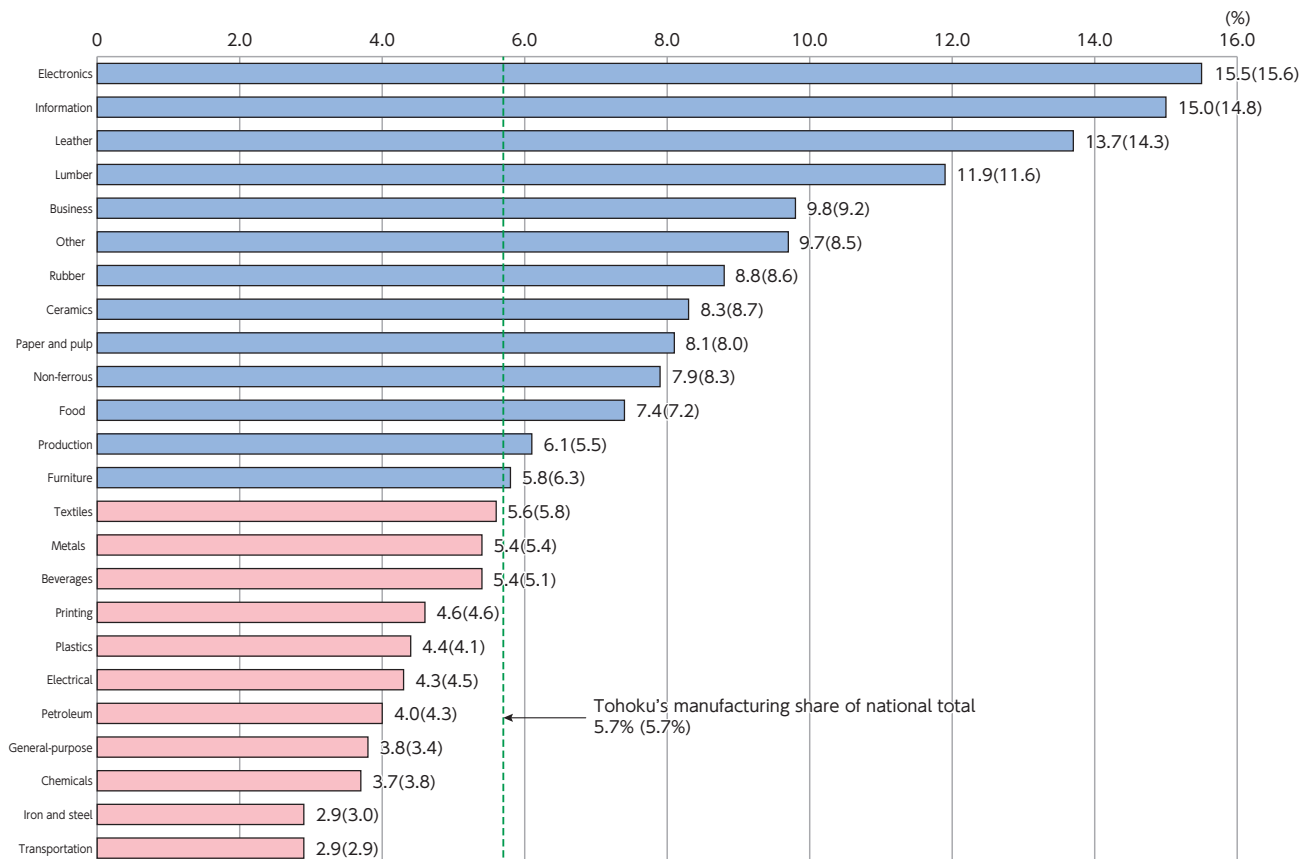


## ② National Share by Industry Sector

Tohoku has a high national share for electronic parts, devices and electronic circuits as well as information and communication electronics equipment.

- Tohoku's share of the value of manufactured goods shipped in Japan in 2017 was large for electronic parts, devices and electronic circuits (15.5%) and information and communication electronics equipment (15.0%), while it was small for transportation equipment (2.9%) and iron and steel (2.9%).

Tohoku's Share of the Value of Manufactured Goods Shipped in Japan (2017)



Note: The figures for manufacture of leather tanning, leather products and fur skins; and information and communication electronics equipment are the totals of the five prefectures except for Aomori to conceal the individual data of its surveyed manufacture(s).  
The figures in the brackets represent the share of the national total in 2016.

Source: *Census of Manufacture (four or more employees)*

<Reference> Abbreviations for industry sectors in the above graph refer to the following:

Middle division of industrial classification	Abbreviation	Middle division of industrial classification	Abbreviation	Middle division of industrial classification	Abbreviation
Manufacture of food	Food	Manufacture of petroleum and coal products	Petroleum	Manufacture of general-purpose machinery	General-purpose
Manufacture of beverages, tobacco and feed	Beverages	Manufacture of plastic products	Plastics	Manufacture of production machinery	Production
Manufacture of textile products	Textiles	Manufacture of rubber products	Rubber	Manufacture of business-oriented machinery	Business
Manufacture of lumber and wood products (except furniture)	Lumber	Manufacture of leather tanning, leather products and fur skins	Leather	Manufacture of electronic parts, devices and electronic circuits	Electronics
Manufacture of furniture and fixtures	Furniture	Manufacture of ceramic, stone and clay products	Ceramics	Manufacture of electrical machinery, equipment and supplies	Electrical
Manufacture of pulp, paper and paper products	Paper and pulp	Manufacture of iron and steel	Iron and steel	Manufacture of information and communication electronics equipment	Information
Printing and allied industries	Printing	Manufacture of non-ferrous metals and products	Non-ferrous	Manufacture of transportation equipment	Transportation
Manufacture of chemical and allied products	Chemicals	Manufacture of metal products	Metals	Other manufacturing	Other

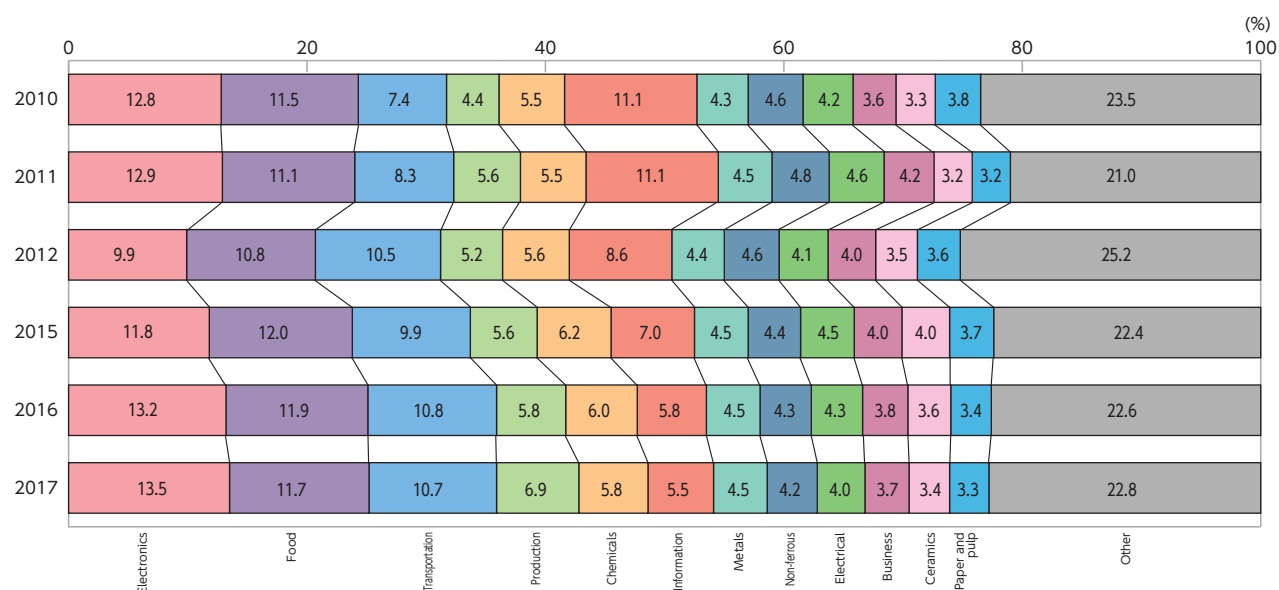
## (1) Manufacturing

## ③ Shares of Industry Sectors by Year and Prefecture

The industry sectors of electronic parts, devices and electronic circuits; food; and transportation equipment are ranking high in the value of manufactured goods shipped in the Tohoku region.

- In 2017, out of the 24 manufacturing industry sectors in the Tohoku region, six sectors (electronic parts, devices and electronic circuits; food; transportation equipment; production machinery; chemical and allied products; and information and communication electronics equipment) accounted for about 50% of the value of manufactured goods shipped in the Tohoku region. The share of production machinery was increasing.

Yearly Changes in the Share of Industry Sectors by Value of Manufactured Goods Shipped in the Tohoku Region

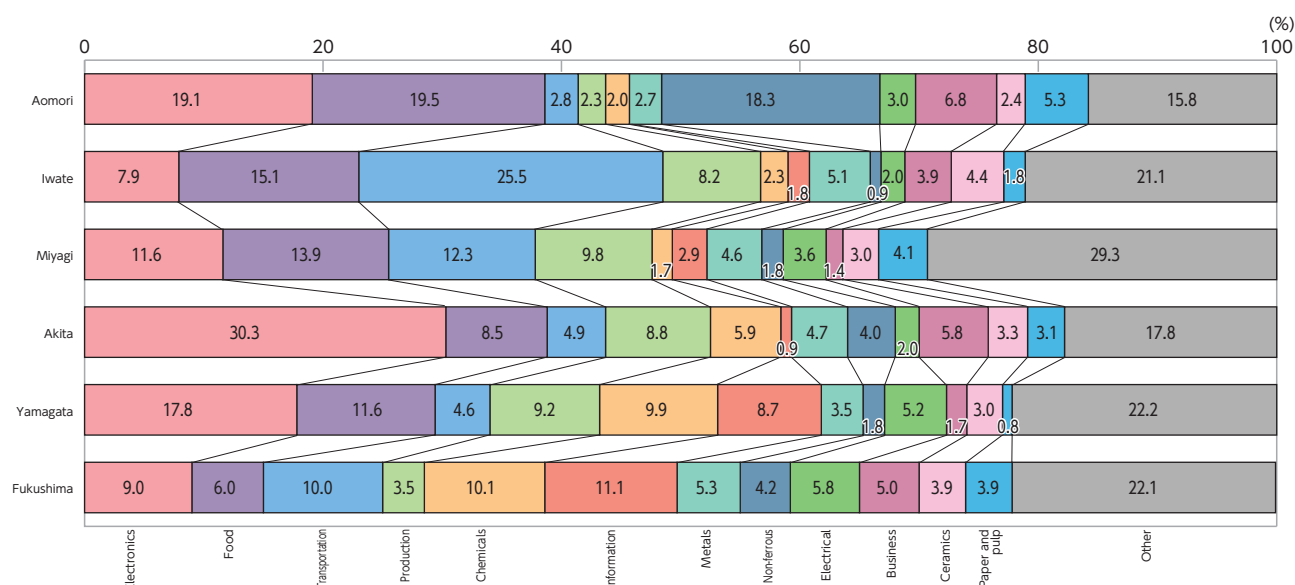


Note: The figures for manufacture of information and communication electronics equipment for 2016 and 2017 are totals except for Aomori to conceal the individual data of its surveyed manufacture(s).

Source: *Economic Census for Business Activity (establishments with four or more employees)* and *Census of Manufacture (establishments with four or more employees)*

- The industry sectors with the largest share in each prefecture were as follows: food in Aomori, transportation equipment in Iwate, food in Miyagi, electronic parts, devices and electronic circuits in Akita and Yamagata, and information and communication electronics equipment in Fukushima.

Shares of Industry Sectors by Value of Manufactured Goods Shipped in Each of the Six Tohoku Prefectures (2017)



Note: The following industry sectors make up only a small percentage in the Tohoku region compared to other sectors and are therefore classified as "Other": They include beverages, tobacco and feed; textile products; lumber and wood products; furniture and fixtures; printing and allied industries; petroleum and coal products; plastic products; rubber products; leather tanning, leather products and fur skins; iron and steel; general-purpose machinery; and other manufacturing.

For Aomori, the industry sector of information and communication electronics equipment" was included and totaled in the group of "Other" to conceal the individual data of its surveyed manufacturer(s).

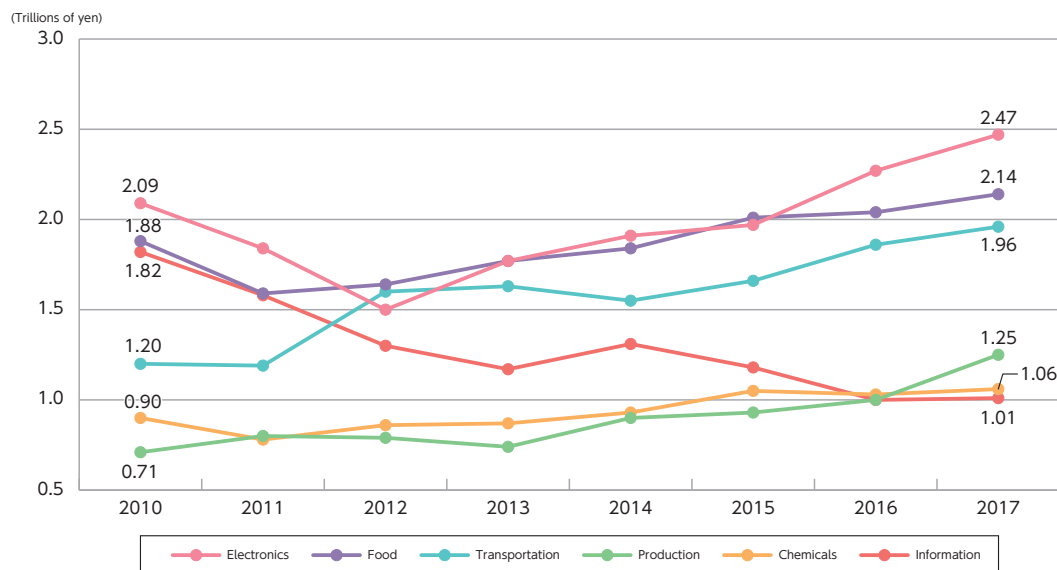
Source: *Census of Manufacture (establishments with four or more employees)*

#### ④ Value of Manufactured Goods Shipped from Major Industry Sectors and Value-added Productivity by Region

The value of manufactured goods shipped exceeds that in 2010 for five out of the top six industry sectors in terms of the shipment value.

- In 2017, the value of manufactured goods shipped in the Tohoku region exceeded that in 2010 for five out of the top six industry sectors. Transportation equipment showed an upward trend with the highest value ever.

Changes in the Value of Shipments in Major Industry Sectors

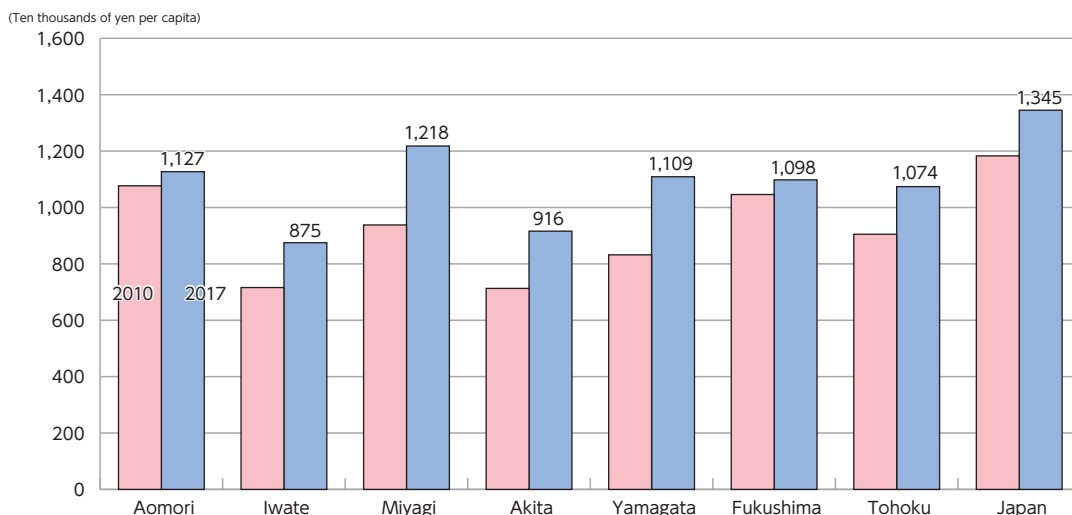


Note: The figures for the industry sector of information and communication electronics equipment in 2016 and 2017 are totals of five prefectures except for Aomori to conceal the individual data of its surveyed manufacturer(s).

Source: *Economic Census for Business Activity (establishments with four or more employees)* and *Census of Manufacture (establishments with four or more employees)*

- In 2017, value-added productivity in the Tohoku region was 10,740,000 yen per capita, while that in Japan was 13,450,000 yen per capita. Compared to Japan (= 100), Tohoku's productivity corresponds to the level of 79.9, exceeding the level of 76.5 in 2010 before the year of the Great East Japan Earthquake (cf. 68.8 in 2011).

Value-added Productivity by Region (Manufacturing Industry Total)



Note: Value-added productivity is the value-added amount per employee (Ten thousands of yen per capita). The number of employees as of June 1, 2018 was used to calculate the value-added productivity of 2017.

Source: *Census of Manufacture (establishments with four or more employees)*

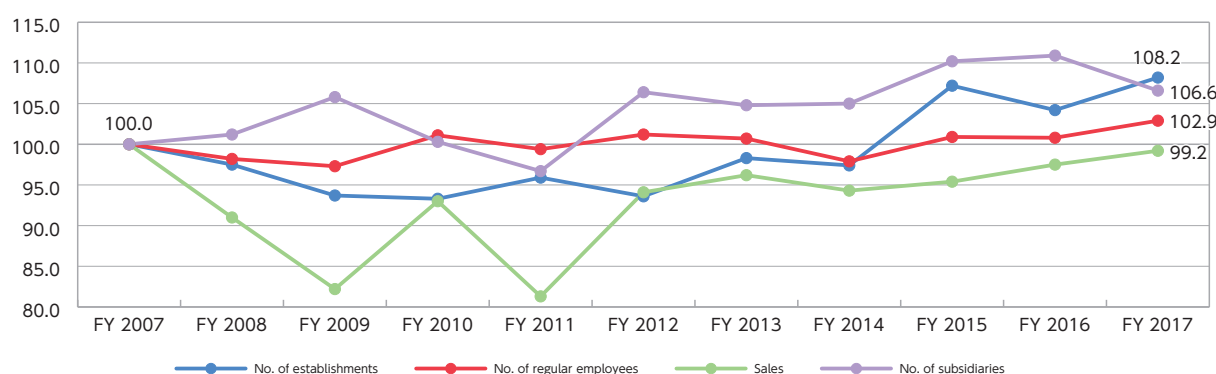
## (1) Manufacturing

## ⑤ Manufacturing Companies Headquartered in the Tohoku Region

Profit margins and shareholders' equity ratio are rising.

- Number of establishments and regular employees per company  
In fiscal year 2017, manufacturing companies headquartered in the Tohoku region (768 companies) had, on average, 3,587 establishments, including plants/factories and sales offices (a 3.8% increase year-on-year); 243.5 regular employees (a 2.0% increase year-on-year); 8,301 billion yen in sales (a 1.7% increase year-on-year); and 0.710 subsidiaries (a 3.9% decrease year-on-year) per company.

Changes in the Number of Establishments, Number of Regular Employees, Sales, and Number of Subsidiaries per Manufacturing Company (Index is based on the value for FY 2007 as 100)



Number of Establishments and Other Indicators per Manufacturing Company

	No. of establishments		No. of regular employees		Sales (Hundred millions of yen)		No. of subsidiaries	
	Tohoku	Japan	Tohoku	Japan	Tohoku	Japan	Tohoku	Japan
FY 2015	3,556	5,886	238.9	409.6	79.86	219.7	0.734	4.044
FY 2016	3,455	5,867	238.7	409.1	81.59	210.8	0.738	4.032
FY 2017	3,587	5,978	243.5	417.7	83.01	225.2	0.710	4.128
Fiscal YoY change (%)	3.8	1.9	2.0	2.1	1.7	6.8	-3.9	2.4

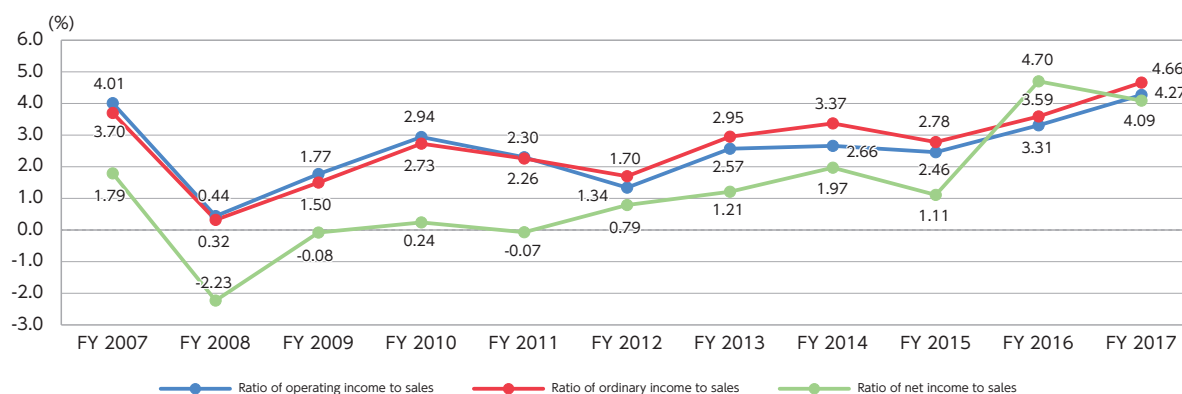
Note: The Basic Survey of Japanese Business Structure and Activities targets companies with 50 or more employees and a capital amount or equity investment amount of 30 million yen or more.

Source: Basic Survey of Japanese Business Structure and Activities, Ministry of Economy, Trade and Industry

- Ratio of operating income to sales

The ratio of operating income to sales for manufacturing companies headquartered in the Tohoku region was 4.27% (a 0.96 percentage point increase year-on-year), while the ratio of ordinary income to sales was 4.66% (a 1.07 percentage point increase year-on-year) and the ratio of net income to sales was 4.09% (a 0.61 percentage point decrease year-on-year).

Changes in Ratios of Operating Income, Ordinary Income and Net Income to Sales in Manufacturing Companies

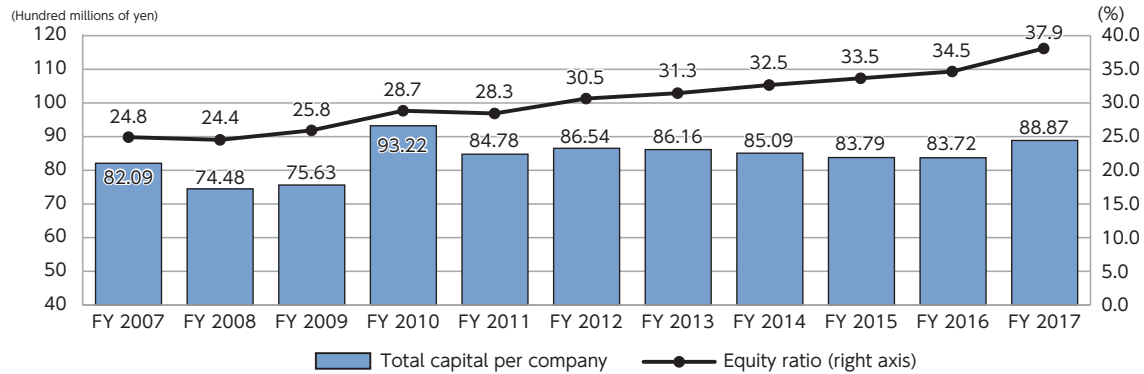


Source: Basic Survey of Japanese Business Structure and Activities, Ministry of Economy, Trade and Industry

### ● Shareholders' equity ratio

Manufacturing companies headquartered in the Tohoku region in fiscal year 2017 had total capital (total assets) per company of 8.887 billion yen (a 6.1% increase year-on-year), net assets per company of 3.368 billion yen (a 16.6% increase year-on-year), and equity ratio of 37.9% (a 3.4 percentage point increase year-on-year).

Changes in Total Capital (Total Assets) per Company and Equity Ratio in Manufacturing Industry



Average Ratio of Operating Income to Sales and Other Indicators per Company in the Manufacturing Industry

	Ratio of operating income to sales (%)		Ratio of ordinary income to sales (%)		Ratio of net income to sales (%)		Total capital (Hundred millions of yen)		Net assets (Hundred millions of yen)		Equity ratio (%)	
	Tohoku	Japan	Tohoku	Japan	Tohoku	Japan	Tohoku	Japan	Tohoku	Japan	Tohoku	Japan
FY 2015	2.46	4.60	2.78	6.55	1.11	4.07	83.79	255.2	28.04	125.7	33.5	49.3
FY 2016	3.31	4.74	3.59	6.94	4.70	4.66	83.72	260.9	28.88	130.2	34.5	49.9
FY 2017	4.27	5.46	4.66	7.73	4.09	5.79	88.87	275.8	33.68	140.3	37.9	50.9
Fiscal YoY change	0.97	0.72	1.06	0.79	-0.62	1.13	6.1	5.7	16.6	7.8	3.4	1.0

Note 1: Fiscal YoY change for total capital and net assets represents the change from the previous fiscal year (%).

Note 2: Equity ratio = Net assets (Equity)/Total capital. Generally, the higher the ratio, the smaller the liabilities of a company.

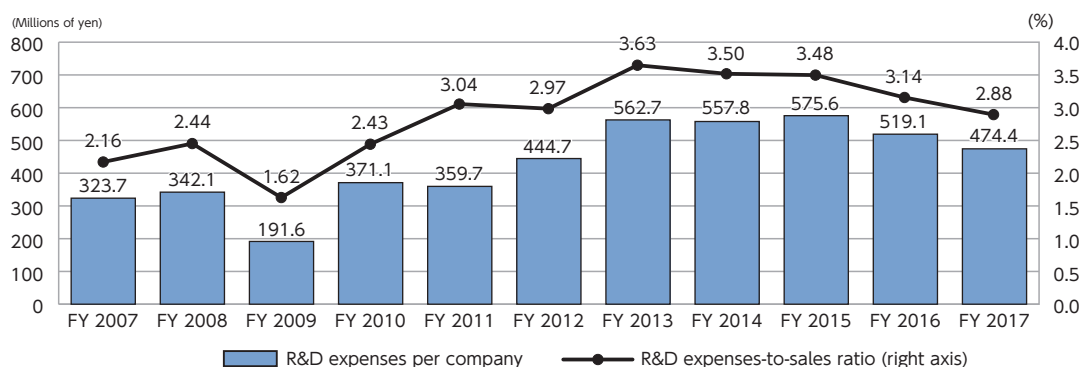
Source: Basic Survey of Japanese Business Structure and Activities, Ministry of Economy, Trade and Industry

### ● Research and Development (R&D)

Of the 768 manufacturing companies headquartered in the Tohoku region, 195 companies reported their R&D expenses, representing 25.4% of the total (cf. 48.6% for Japan).

R&D expenses-to-sales ratio was 2.88% (a 0.26 percentage point decrease year-on-year). R&D expenses per company were 474.4 million yen (an 8.6% decrease year-on-year).

Changes in the R&D Expenses-to-Sales Ratio and the R&D Expenses per Company in the Manufacturing Industry



R&D Expenses in Manufacturing Companies

	No. of companies that reported to the Basic Survey of Japanese Business Structure and Activities		No. of companies that reported their R&D expenses				Ratio of R&D expenses to sales (%)		R&D expenses per company (millions of yen)	
	Tohoku	Japan	Tohoku		Japan		Tohoku	Japan	Tohoku	Japan
			No. of companies	Response ratio (%)	No. of companies	Response ratio (%)				
FY 2015	801	12,891	208	26.0	6,230	48.3	3.48	4.90	575.6	1,891.7
FY 2016	802	12,870	204	25.4	6,161	47.9	3.14	5.04	519.1	1,856.7
FY 2017	768	12,705	195	25.4	6,174	48.6	2.88	5.02	474.4	1,971.2
Fiscal YoY change	-34	-165	-9	-0.0	13	0.7	-0.26	-0.02	-8.6	6.2

Note: Fiscal YoY change in R&D expenses per company represents the change from the previous fiscal year (%).

Source: Basic Survey of Japanese Business Structure and Activities, Ministry of Economy, Trade and Industry

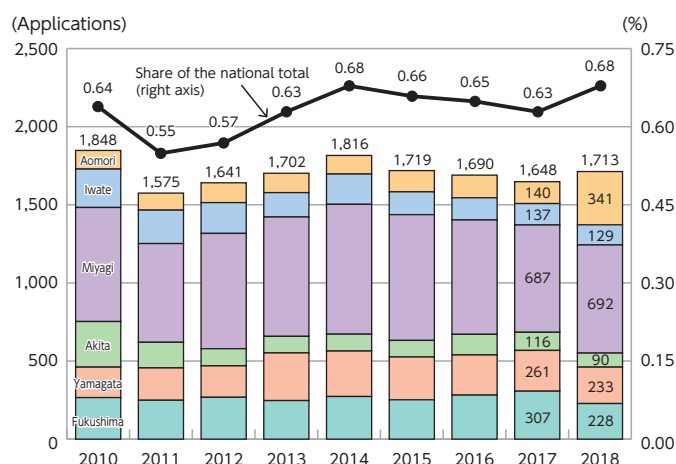
## (1) Manufacturing

## ⑥ Industrial Property Rights

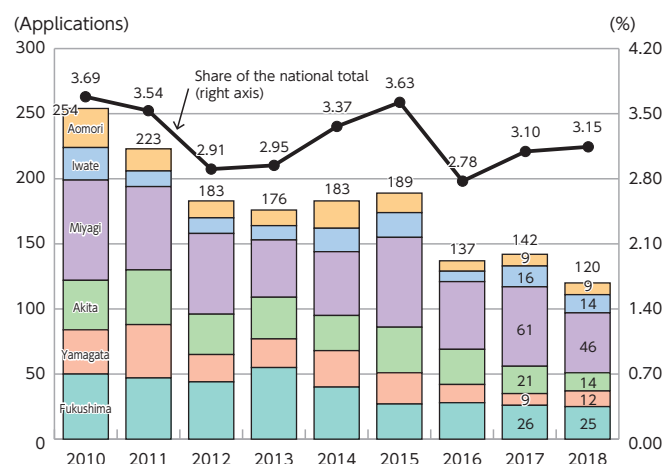
The number of applications for industrial property rights is increasing for patents and designs while it is decreasing for utility models and trademarks.

- The number of applications for industrial property rights made in 2018 in the Tohoku region was 1,713 for patents, 120 for utility models, 389 for designs, and 2,514 for trademarks, with a year-on-year increase in patent and design applications, and a year-on-year decrease in utility model and trademark applications.
- Tohoku's share of the national total increased for patents and designs while it decreased for utility models and trademarks when comparing the shares in 2011 and in 2018. In 2011, the number of applications fell off due to the 2011 Great East Japan Earthquake.
- When compared with the number of applications on year-on-year basis by prefecture, patent applications increased in Aomori and Miyagi. Utility model applications increased in Yamagata, design applications increased in Aomori, Miyagi, Akita, and Fukushima, and trademark applications increased in Iwate, Miyagi, Yamagata, and Fukushima.

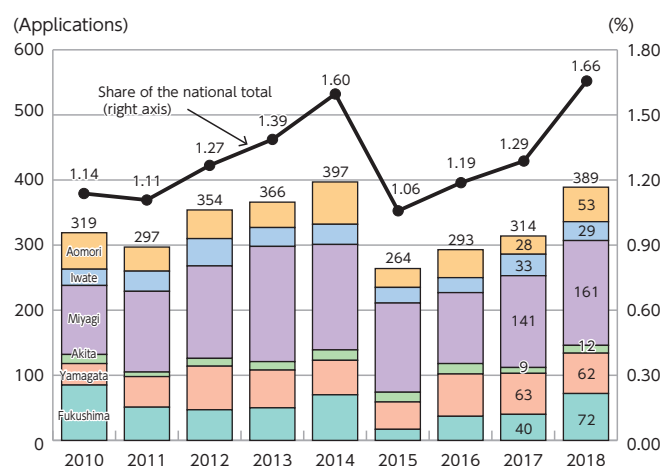
Changes in the Number of Patent Applications



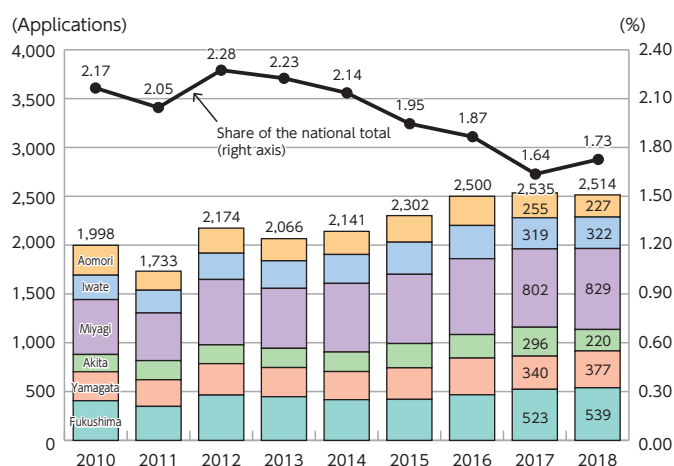
Changes in the Number of Utility Model Applications



Changes in the Number of Design Applications



Changes in the Number of Trademark Applications



Source: Japan Patent Office Annual Report, Japan Patent Office



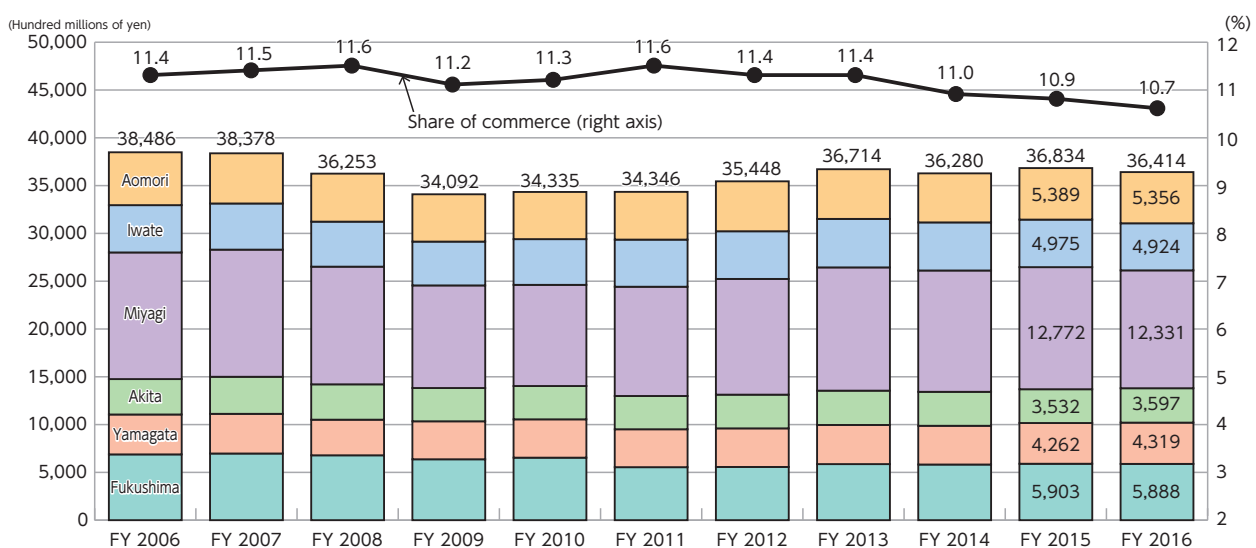
## (2) Commerce

### ① Overview

For both wholesale and retail trades, the number of establishments and employees decreases, though showing an increase in annual sales.

- The GRDP for commerce in the Tohoku region declined 1.1% year-on-year to 3,641.4 billion yen in fiscal year 2016.
- The share of commerce in all-industry GRDP (nominal) decreased 0.2 percentage points year-on-year to 10.7%, showing a continuous decrease since fiscal year 2014.
- By prefecture, the share of commerce in GRDP for Akita and Yamagata was increasing year-on-year, while that for Aomori, Iwate, Miyagi and Fukushima was decreasing year-on-year.

Changes in Nominal GRDP for Commerce (Wholesale and Retail Trade)



Source: Annual Report on Prefectural Accounts

- In 2016, the total number of wholesale and retail establishments in the Tohoku region was 107,899 (down 2.8% from the 2014 survey; that of Japan also declined 3.7% during the same period), while the number of employees declined to 765,337 (down 1.4% from the 2014 survey; down 0.2% for Japan). Total annual sales of goods stood at 28,916.2 billion yen (up 17.9% from the 2014 survey; up 21.5% for Japan).
- For both wholesale and retail trades, the number of establishments and employees decreased with an increase in annual sales.

Changes in the Number of Establishments, Number of Employees, and Annual Sales of Goods

		No. of establishments				No. of employees				Annual sales of goods (*Sales during the calendar year immediately preceding the year of the survey)			
		Share of national total (%)	Changes from the previous census (%)		Share of national total (%)	Changes from the previous census (%)		Share of national total (%)	Changes from the previous census (%)	Share of national total (%)	Changes from the previous census (%)		
			Tohoku	Japan		Tohoku	Japan				Tohoku	Japan	
Commerce total	2014	111,008	7.9	—	—	776,029	6.7	—	—	24,528,243	5.1	—	—
	2016	107,899	8.0	-2.8	-3.7	765,337	6.6	-1.4	-0.2	28,916,184	5.0	17.9	21.5
Wholesale	2014	27,511	7.2	—	—	220,524	5.6	—	—	15,545,466	4.4	—	—
	2016	26,654	7.3	-3.1	-4.6	217,845	5.5	-1.2	0.2	18,596,674	4.3	19.6	22.4
Retail	2014	83,497	8.1	—	—	555,505	7.2	—	—	8,982,777	7.4	—	—
	2016	81,245	8.2	-2.7	-3.4	547,492	7.2	-1.4	-0.4	10,319,509	7.1	14.9	18.8

Note 1: The number of establishments and the number of employees were as of July 1, 2014 and as of June 1, 2016, respectively.

Note 2: Changes from the previous census in the number of establishments, number of employees, and annual sales of goods are based on comparison between 2014 and 2016.

Note 3: Total annual sales refer to the sales of goods during the calendar year immediately preceding the year of the survey.

Note 4: The establishments include those that engaged in administrative or ancillary economic activity, those that could not be categorized by minor group, those that had no sales for wholesale goods (except for commission fees), and those that had no sales for retail goods and no commission fees.

Source: 2018 Economic Census for Business Activity, Aggregation by Industry Group (Wholesale and Retail Trades) Table 1

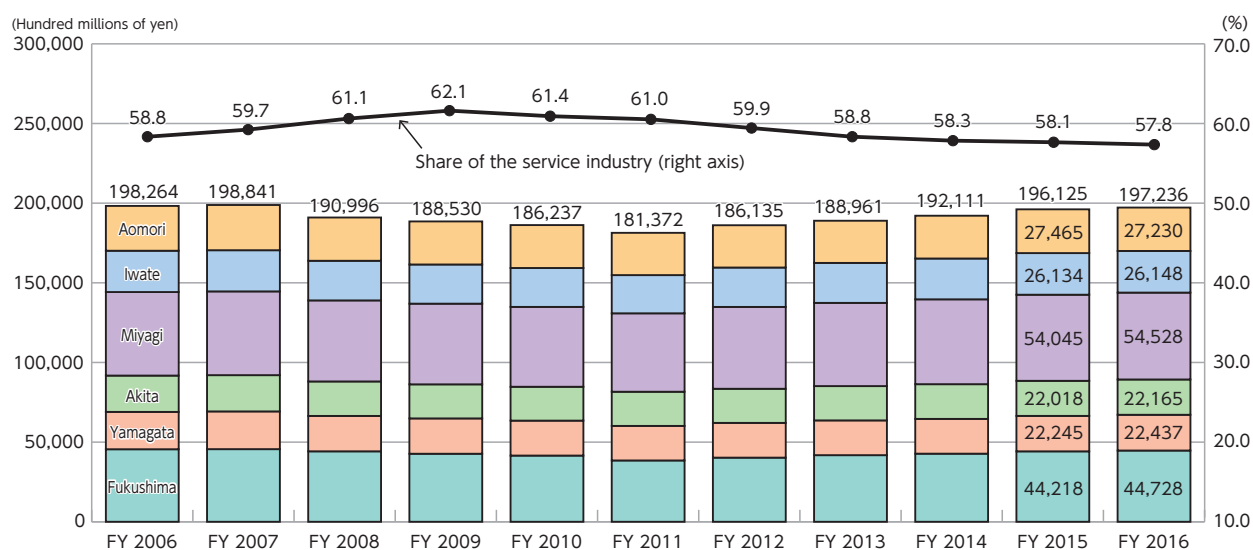
## (3) Service industry

## (3) Service industry

The GRDP in the service industry in the Tohoku region remains flat.

- The GRDP in the service industry in Tohoku rose 0.6% year-on-year to 19,723.6 billion yen in fiscal year 2016.
- The share of the service industry in all-industry GRDP (nominal) decreased 0.3 percentage points year-on-year to 57.8%, showing a continuous decrease since fiscal year 2010.

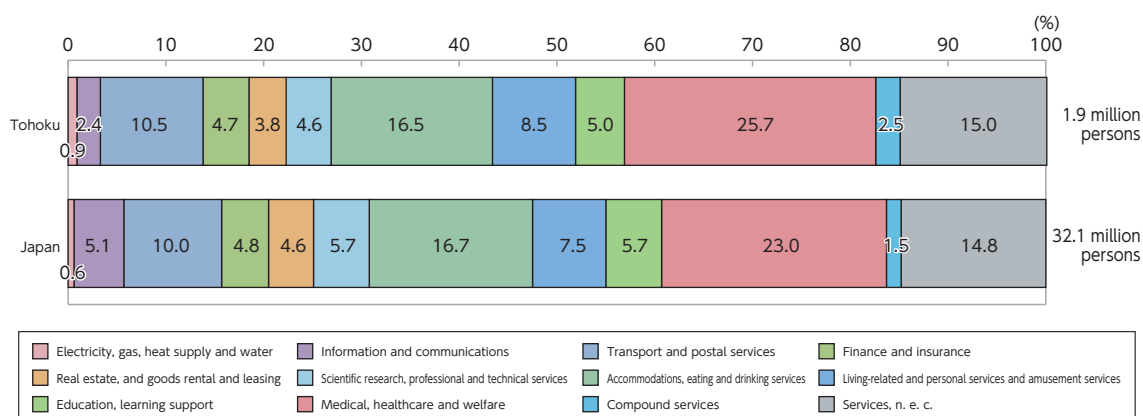
Changes in Nominal GRDP for the Service Industry



Note: The service industries in the above graph include electricity, gas and water supply, and waste management service; transport and postal services; accommodation and food service activities; information and communications; finance and insurance; real estate; professional, scientific and technical activities; business support service activities; public administration; education; human health and social work activities; and other service activities.  
Source: Annual Report on Prefectural Accounts

- The number of employees engaged in the service industry in the Tohoku region was 1.9 million (as of June 1, 2016). By industry (major group category), 25.7% worked in “medical, healthcare and welfare,” followed by “accommodations, eating and drinking services” at 16.5%, and “services, n. e. c.” at 15.0%.
- Compared to Japan, the Tohoku region has a large share of employees in “medical, healthcare and welfare” and a small share in “information and communications.”

Breakdown of Employees Engaged in Service Industries by Major Group Category



Note: The service industries in the above graph refer to the major group categories of industries in the Japan Standard Industry Classification (revised in October 2013), from “Division F - Electricity, gas, heat supply and water” to “R - Services, n. e. c.” The graph excludes employees engaged in “I - Wholesale and retail trade.”

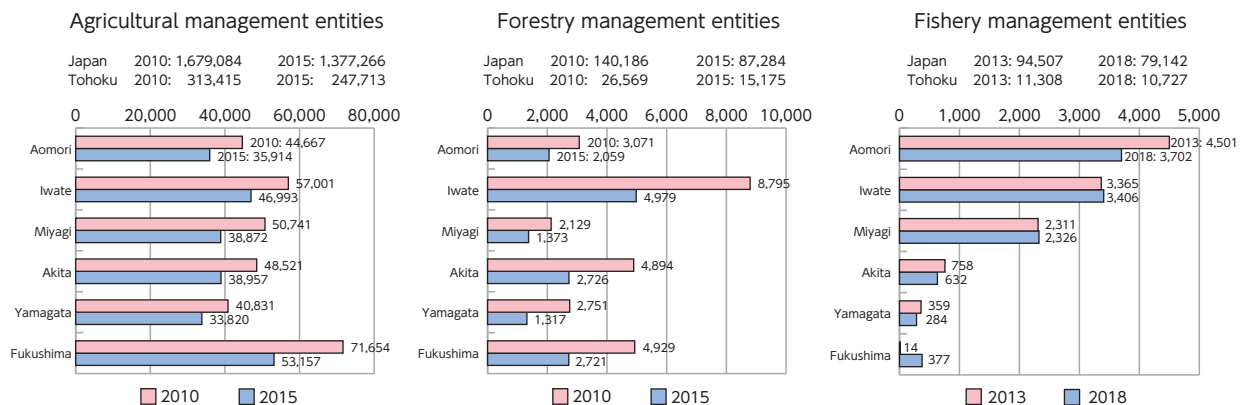
Source: 2016 Economic Census for Business Activity, Statistics Bureau, Ministry of Internal Affairs and Communication

## (4) Agriculture, Forestry, and Fisheries

The value of output for agriculture and marine fisheries rises, while that for forestry declines.

- The number of agricultural management entities in the Tohoku region in 2015 was 247,713, a decrease of 21.0% from the 2010 survey (cf. a decrease of 18.0% for Japan), and that of forestry management entities in 2015 was 15,175, a decrease of 42.9% from the 2010 survey (cf. a decrease of 37.7% for Japan), while the number of fishery management entities in the Tohoku region in 2018 was 10,727, a decrease of 5.1% from the 2013 survey (cf. a decrease of 16.3% for Japan).

Agricultural, Forestry and Fishery Management Entities

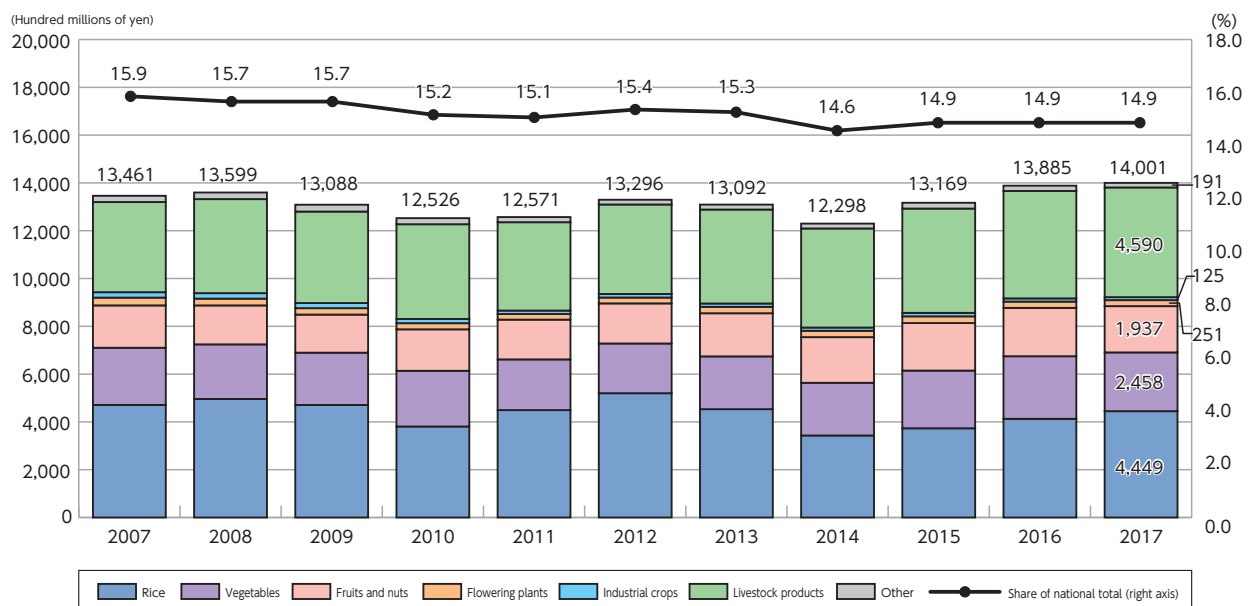


Source: Census of Agriculture and Forestry (as of February 1 each year) and Census of Fisheries (as of November 1 each year)

\*The results of the Census of Fisheries in 2018 are approximate (approximate values).

- In 2017, the value of output for agriculture in the Tohoku region was 1,400.1 billion yen or 14.9% of the national total at 9,378.7 billion yen. Its share of the national total remained flat. Livestock products had the largest share in the value of agricultural output in the Tohoku region at 32.8% with 459.0 billion yen, followed by rice (31.8%, 444.9 billion yen.)

Changes in the Agricultural Output and Share of the National Total



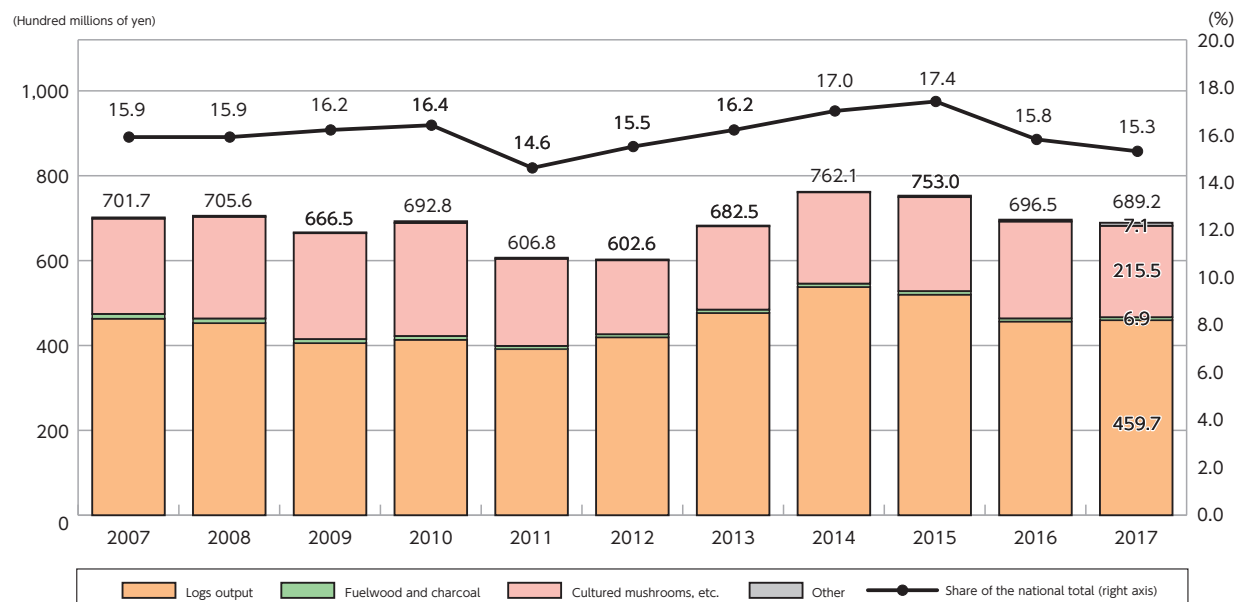
Source: Pocket Book on Tohoku's Agriculture, Forestry and Fisheries Statistics, Tohoku Regional Agricultural Administration Office

### 3. Industrial Structure of the Tohoku Region

#### (4) Agriculture, Forestry, and Fisheries

- In 2017, the value of forestry output in the Tohoku region was 68.92 billion yen or 15.3% of the national total of 451.82 billion yen. Its share of the national total decreased 0.5 percentage points year-on-year. Specifically, the value of logs output was 45.97 billion yen or 66.7% of the forestry output in the Tohoku region, followed by cultured mushrooms, etc. (21.55 billion yen, 31.3%).

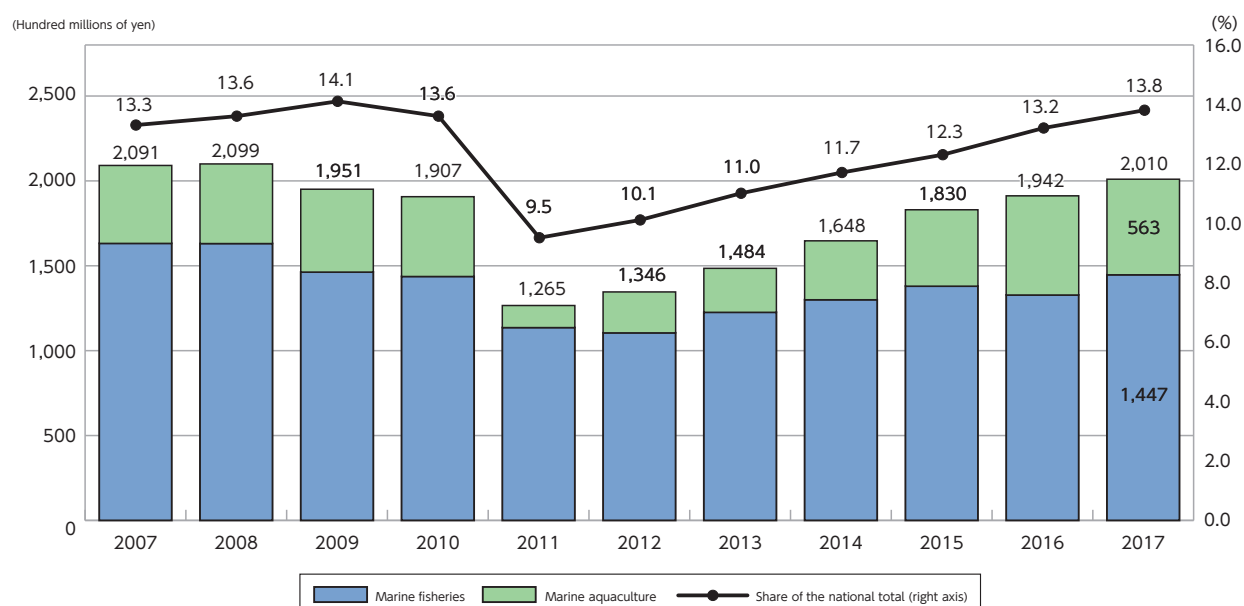
Changes in the Forestry Output and Share of the National Total



Source: Forestry Output, Ministry of Agriculture, Forestry and Fisheries

- In 2017, the value of output for marine fisheries and marine aquaculture in the Tohoku region was 201.0 billion yen or 13.8% of the national total of 1,460.6 billion yen. Its share of the national total increased 0.6 percentage points year-on-year. Specifically, the value of output for marine fisheries was 144.7 billion yen, followed by marine aquaculture with 56.3 billion yen.

Changes in the Value of Output for Marine Fisheries and Marine Aquaculture and Share of the National Total



Note: The figures for 2007 and 2010 are the totals except for Akita and Yamagata to conceal the individual data of their surveyed marine aquaculture producer(s).  
 The figures for 2008 and 2009 are the totals except for Akita, Yamagata and Fukushima to conceal the individual data of their surveyed marine aquaculture producer(s).  
 The figures for 2011, 2012 and 2013 are the totals except for Yamagata and Fukushima to conceal the individual data of their surveyed marine aquaculture producer(s).  
 The figures for 2014 and 2015 are the totals except for Yamagata to conceal the individual data of its surveyed marine aquaculture producer(s).  
 The figures for 2016 are the totals except for Yamagata to conceal the individual data of its surveyed marine fishery and marine aquaculture producer(s).

Source: Fishery Output, Ministry of Agriculture, Forestry and Fisheries

**2019**  
**ECONOMIC OVERVIEW**  
**OF TOHOKU REGION**