

Financial Factbook 2019



Management's Discussion & Analysis

The financial section was translated into English based on some disclosed documents including the securities report of the Japanese version and is provided for information purpose only.

Overview of Fiscal 2019

During the reporting term (January 1 to December 31, 2019), there were growing concerns over a deterioration in the domestic economy, as evidenced by a downward revision of the outlook for corporate performance from October, mainly in the manufacturing industry, despite improvements in employment and income conditions. As for the global economy, the US economy progressed favorably, but uncertainty over the future further deepened mainly due to the continued stagnation of economies in East Asia, mainly in China, as a result of the prolonged US-China trade war.

In the overall surroundings of Toagosei Group (hereinafter “the Group”), the decline in demand for acrylic monomer products and functional adhesive materials became more pronounced in the second half, resulting in a decrease in net sales and downward pressure on income.

As a result, net sales in the reporting term decreased by 3.4% year on year on a consolidated basis to ¥144,955 million, while operating income decreased by 16.0% to ¥13,782 million, ordinary profit decreased by 12.5% to ¥15,230 million, and net income attributable to owners of parent decreased by 18.5% to ¥10,387 million.

Sales by Segment

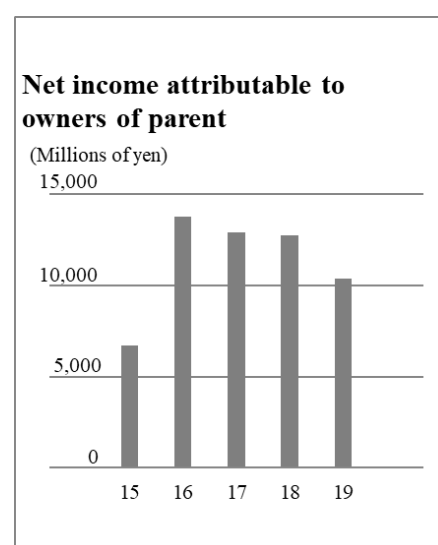
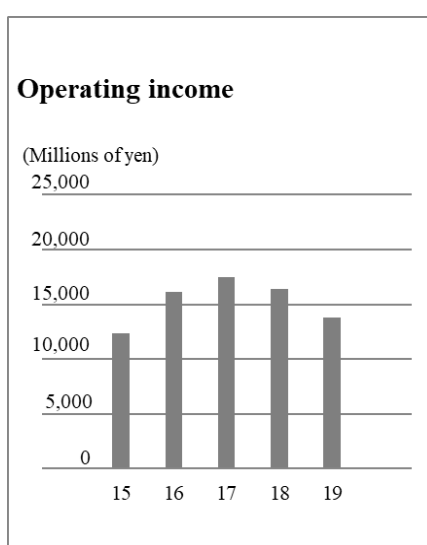
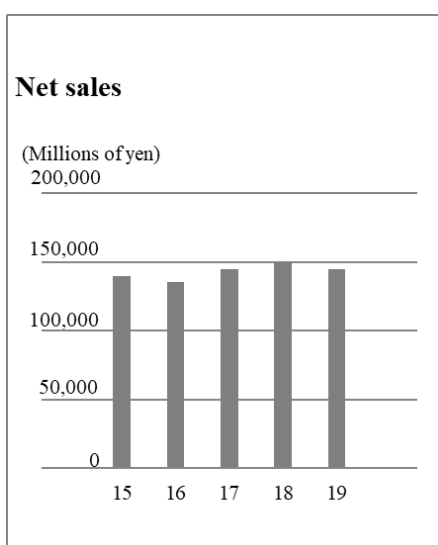
Commodity Chemicals

In Commodity Chemicals, sales of electrolytic products increased as the sales prices of caustic soda and sodium hypochlorite optimized last year took effect. Sales of acrylic monomer products decreased mainly due to the suspension of production of some products at a subsidiary in Singapore and the effect of a downturn in sales prices. Sales of industrial gas decreased due to a reduction in sales volume. As a result, sales in this segment decreased by 6.1% year on year to ¥65,667 million.

Although optimized sales prices of some electrolytic products resulted in increased income, segment income decreased by 18.2% to ¥5,442 million due to the pressure on income from deteriorating profits from acrylic monomer products and industrial gas.

Polymer & Oligomer

Sales of acrylic polymers increased thanks to the start of production and shipments at a subsidiary in Thailand and strong sales of products used for lithium-ion rechargeable batteries. Sales of acrylic oligomers decreased because of a slump in sales overseas. Sales of polymer flocculants decreased due to a decline in exports, despite robust domestic sales. As a result, sales in this segment decreased by 1.3% year on year to ¥29,112 million.



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Cash Flows

Cash and cash equivalents at end of the year stood at ¥43,113 million, a decrease of ¥1,876 million from the previous term-end.

Net cash provided by operating activities decreased by ¥1,226 million year on year to ¥18,615 million due to a decrease in income before income taxes.

Net cash used in investing activities increased by ¥3,945 million year on year to ¥15,855 million due to a rise in purchases of property, plant and equipment.

Net cash used in financing activities decreased by ¥326 million year on year to ¥4,582 million due to decreases in purchase of shares of a consolidated subsidiary and repayment of long-term debt, despite an increase in dividends paid.

Business Performance Prospects for Fiscal 2020

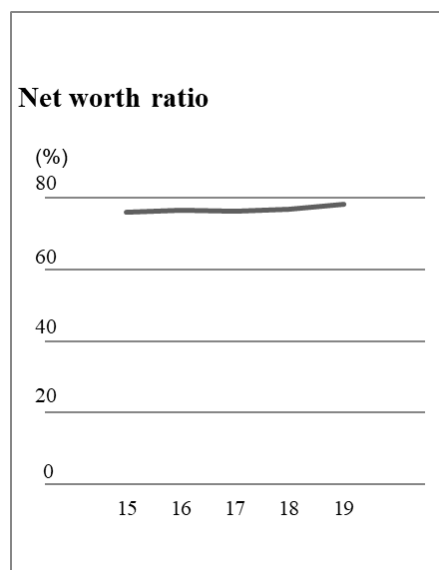
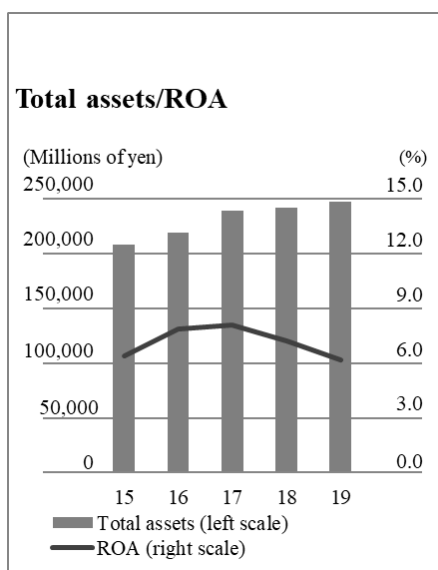
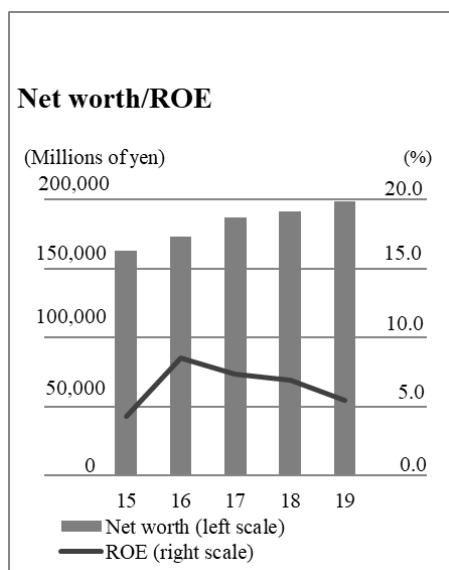
For the current term ending December 31, 2020, we forecast net sales of ¥141.0 billion, operating income of ¥13.0 billion, and net income attributable to owners of parent of ¥9.7 billion.

Economic Prospects for Fiscal 2020

The outlook for the global economy will remain unpredictable and uncertain due to the spread of the novel coronavirus (COVID-19) that first appeared in China becoming a concern not only throughout Asia but also on a global scale, and due also to U.S. trade policies and the post-Brexit effect. The chemical industry needs to make a more rapid response to climate change and environmental issues as well as to the impact that growing geopolitical risks in the Middle East and other areas will have on price fluctuations in crude oil and other resources.

Basic Policy on Shareholder Returns and Dividends for Fiscal 2019 and 2020

The Company partially revised the Toagosei Group Basic Policy on Corporate Governance on December 19, 2019, and makes it a basic shareholder return policy to continue paying a stable dividend targeting a consolidated payout ratio of 30% or more and improve



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the consolidated total payout ratio by implementing measures such as the acquisition of treasury stock. The Company will determine the dividend by comprehensively considering the strengthening of the management structure, enhancement of internal reserves, and the future outlook and progress of its businesses.

In the Medium-Term Management Plan "Stage up for the Future" from 2020 to 2022, the Company aims to improve the consolidated total payout ratio and EPS by purchasing treasury stock (around ¥10.0 billion over three years).

For the current term ending December 31, 2020, we are planning a term-end dividend of ¥15 per share consisting of an ordinary dividend of ¥14 and a commemorative dividend of ¥1 for the 75th anniversary of the Company's foundation. During the fiscal year under review, the Company paid an interim dividend of ¥15 per share consisting of an ordinary dividend of ¥14 and a commemorative dividend of ¥1 for the 75th anniversary of the Company's foundation, amounting to an annual dividend of ¥30 per share (payout ratio of 38.0%).

For the next fiscal year, the Company plans an annual dividend of ¥30 per share (payout ratio of 40.4%; an interim dividend of ¥15 and a term-end dividend of ¥15). Based on the above basic policy, on January 30, 2020, the Company announced the Determination of Matters Regarding Treasury Stock Acquisition (Treasury stock acquisition based on regulations of the Articles of Incorporation pursuant to provisions of Article 165, Paragraph 2 of the Companies Act) and shall acquire its treasury stock with the aim of strengthening shareholder return, improving capital efficiency,

raising corporate value, and implementing flexible capital policies.

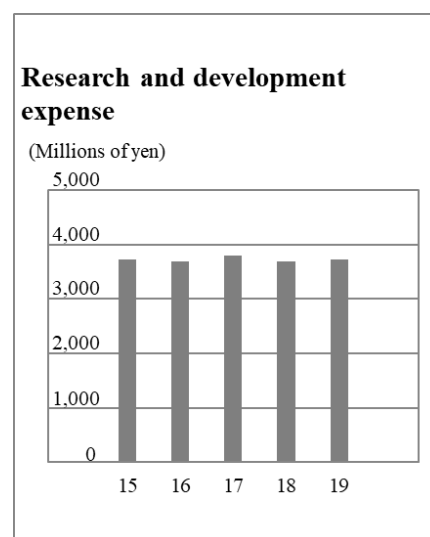
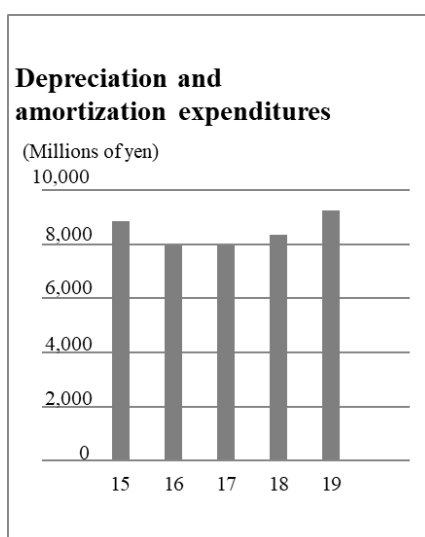
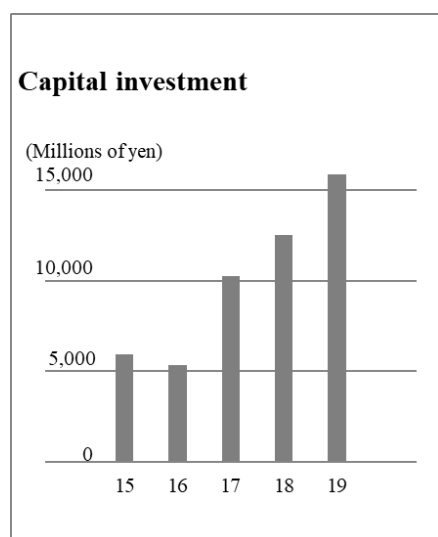
Business Risks

(1) Cost competition

The Group manufactures and sells many products that are difficult to differentiate from those of other companies in terms of their function and performance. Given the present trend of intensifying price competition, there is a possibility that the Group, despite its efforts to strengthen marketing activities and reduce costs, may not be able to maintain its competitive edge over rival companies that are able to sell products with the same qualities at lower prices. This could adversely affect the business performance and financial position of the Group.

(2) Changes in the price of crude oil and naphtha

The purchase prices of the major raw materials of products manufactured and sold by the Group are affected by changes in crude oil and naphtha prices. Therefore, if the Group is unable to sufficiently raise its product prices, and/or if the Group is unable to rationalize its operations sufficiently to offset the rising prices of crude oil and naphtha, there is a possibility that the Group's business performance and financial position will be adversely affected.



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(3) Product liability

In spite of our efforts to ensure a high level of product quality, there is a possibility that a customer or other party may experience financial losses or other forms of damage as a result of an unexpected defect in products manufactured and sold by the Group.

As not all losses incurred will be covered by product liability insurance, this factor may adversely affect the business performance and financial position of the Group.

(4) Impact of natural disasters

The production plants of the Group are located mostly in the Tokai Region of Japan, which is said to be particularly at risk of the occurrence of a major earthquake. If such an earthquake were to occur, substantial losses, including the suspension of operations, could result, and this would adversely affect the business performance and financial position of the Group.

(5) Major litigation

In the event of a major lawsuit being brought against the Group in the future, there is a possibility that this will adversely affect the Group's business performance and financial position.

(6) Deferred tax assets

The deferred tax assets of the Group are based on an amount that is recorded after judging the potential for collection based on forecasts of future taxable income. If such forecasts deviate significantly from actual results, there is a possibility that this will adversely affect the business performance and financial position of the Group.

(7) Changes in foreign currency exchange rates

For the reporting period, overseas sales of the Group accounted for 15.6% of total sales. The Group includes nine overseas consolidated subsidiaries and one overseas affiliated company subject to the equity method. There is therefore a possibility of a change in exchange rates adversely affecting the business performance and financial position of the Group.

(8) Changes in interest rates

The Group has been raising funds for its business operations and there is a possibility that a change in interest rates will influence the business performance and financial position of the Group.

(9) Application of accounting for the impairment of fixed assets

In line with accounting law in Japan, the Group has applied impairment accounting for fixed assets. As a result, in the event of a significant future decline in market prices of land, and/or a deterioration in the Group's operating environment, there is a possibility of the posting of a substantial impairment loss, which would adversely affect the Group's business performance and financial position.

The Group is fully aware of the risks outlined above, and has measures in place to minimize their impact on operating results and financial position, at the Group and Group company level.

Estimates or projections included in this report are based on facts known to the Company's management as of the time of writing, and actual results may therefore differ substantially from such statements.
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1. [Consolidated Financial Statements and Others]

(1) [Consolidated Financial Statements]

i) [Consolidated Balance Sheets]

December 31,	(Millions of yen)	
	2018	2019
Assets		
Current assets		
Cash and deposits	32,676	32,989
Notes and accounts receivable	*5 45,154	*5 42,534
Securities	46,000	44,000
Inventories	*1 16,541	*1 18,161
Other current assets	1,531	1,311
Allowance for doubtful receivables	(39)	(36)
Total current assets	141,866	138,959
Fixed assets		
Property, plant and equipment		
Buildings and structures, net	20,740	22,493
Machinery, equipment and other, net	23,624	25,857
Tools, furniture and fixtures, net	1,940	2,239
Land	17,240	17,632
Leased assets, net	135	128
Construction in progress	3,401	6,024
Total property, plant and equipment	*3, *4 67,083	*3, *4 74,376
Intangible fixed assets	640	727
Investments and other assets		
Investment securities	*2 27,792	*2 28,711
Net defined benefit asset	1,514	2,045
Deferred tax assets	81	73
Other assets	2,199	2,333
Allowance for doubtful receivables	(14)	(14)
Total investments and other assets	31,573	33,148
Total fixed assets	99,297	108,252
Total assets	241,164	247,211

See accompanying notes to consolidated financial statements.

	(Millions of yen)			
December 31,	2018		2019	
Liabilities				
Current liabilities				
Notes and accounts payable	*5	16,472	*5	14,413
Short-term bank loans		2,503		2,503
Lease obligations		51		185
Accrued income taxes		2,864		2,030
Accrued bonuses for employees		19		16
Other current liabilities	*5	12,935	*5	13,763
Total current liabilities		34,847		32,911
Long-term liabilities				
Long-term debt		9,189		9,031
Lease obligations		94		251
Deferred tax liabilities		2,341		3,005
Net defined benefit liability		153		161
Other long-term liabilities		3,242		3,271
Total long-term liabilities		15,020		15,721
Total liabilities		49,867		48,632
Net Assets				
Shareholders' equity				
Common stock		20,886		20,886
Capital surplus		16,499		16,411
Retained earnings		139,682		146,252
Treasury stock		(296)		(302)
Total shareholders' equity		176,771		183,247
Accumulated other comprehensive income				
Unrealized holding gain on available-for-sale securities		8,307		8,974
Translation adjustments		1,617		1,581
Remeasurements of defined benefit plans		(277)		(40)
Total accumulated other comprehensive income		9,647		10,516
Non-controlling interests		4,876		4,815
Total net assets		191,296		198,579
Total liabilities and net assets		241,164		247,211

See accompanying notes to consolidated financial statements.

ii) [Consolidated Statements of Income and Consolidated Statements of Comprehensive Income]
[Consolidated Statements of Income]

Years ended December 31,	(Millions of yen)			
	2018		2019	
Net sales		150,066		144,955
Cost of sales	*1	107,879	*1	104,240
Gross profit		42,187		40,714
Selling, general and administrative expenses				
Selling expenses	*2	15,605	*2	16,223
General and administrative expenses	*3, *4	10,173	*3, *4	10,708
Total selling, general and administrative expenses		25,779		26,931
Operating income		16,408		13,782
Non-operating income				
Interest income		96		109
Dividend income		772		971
Equity in earnings of affiliates		165		164
Rent income on non-current assets		237		260
Foreign currency exchange gains		—		207
Other		215		244
Total non-operating income		1,486		1,957
Non-operating expenses				
Interest expenses		90		95
Environment readiness fee		135		268
Inactive facilities expenses		62		43
Foreign currency exchange losses		100		—
Other		103		101
Total non-operating expenses		491		510
Ordinary profit		17,403		15,230
Extraordinary gains				
Gain on sales of non-current assets	*5	5	*5	7
Gain on sales of investment securities		3		553
Subsidy income		325		9
Total extraordinary gains		334		570
Extraordinary losses				
Loss on disposal of non-current assets	*6	240	*6	100
Impairment loss on property, plant and equipment		—	*7	410
Loss on sales of shares of subsidiaries and affiliates		5		—
Total extraordinary losses		245		510
Income before income taxes		17,491		15,290
Income taxes -- Current		5,088		4,532
Income taxes -- Deferred		(555)		102
Total income taxes		4,532		4,634
Net income		12,959		10,655
Net income attributable to non-controlling interests		210		268
Net income attributable to owners of parent		12,748		10,387

See accompanying notes to consolidated financial statements.

[Consolidated Statements of Comprehensive Income]

Years ended December 31,	(Millions of yen)	
	2018	2019
Net income	12,959	10,655
Other comprehensive income		
Unrealized holding gain on available-for-sale securities	(4,770)	673
Translation adjustments	(309)	(43)
Remeasurements of defined benefit plans, net of tax	(350)	237
Total other comprehensive income	*1 (5,430)	*1 867
Comprehensive income	7,528	11,522
Comprehensive income attributable to:		
Owners of the parent	7,355	11,255
Non-controlling interests	173	267

See accompanying notes to consolidated financial statements.

iii) [Consolidated Statements of Changes in Net Assets]

(Millions of yen)

Year ended December 31, 2018	Shareholders' equity				Total shareholders' equity	
	Common stock	Capital surplus	Retained earnings	Treasury stock		
Balance at beginning of the year	20,886	16,498	130,488	(289)	167,584	
Changes during the year:						
Cash dividends			(3,554)		(3,554)	
Net income attributable to owners of parent			12,748		12,748	
Purchase of treasury stock				(7)	(7)	
Gain on sales of treasury stock		0		0	0	
Change in ownership interest of parent due to transactions with non-controlling interests					—	
Net changes in items other than shareholders' equity						
Total changes during the year	—	0	9,194	(6)	9,187	
Balance at end of the year	20,886	16,499	139,682	(296)	176,771	
	Accumulated other comprehensive income					
Year ended December 31, 2018	Unrealized holding gain on available-for- sale securities	Translation adjustments	Remeasurements of defined benefit plans	Total accumulated other comprehensive income	Non-controlling interests	Total net assets
Balance at beginning of the year	13,082	1,884	73	15,040	4,862	187,487
Changes during the year:						
Cash dividends						(3,554)
Net income attributable to owners of parent						12,748
Purchase of treasury stock						(7)
Gain on sales of treasury stock						0
Change in ownership interest of parent due to transactions with non-controlling interests						—
Net changes in items other than shareholders' equity	(4,775)	(267)	(350)	(5,393)	13	(5,379)
Total changes during the year	(4,775)	(267)	(350)	(5,393)	13	3,808
Balance at end of the year	8,307	1,617	(277)	9,647	4,876	191,296

See accompanying notes to consolidated financial statements.

(Millions of yen)

Year ended December 31, 2019	Shareholders' equity				Total shareholders' equity	
	Common stock	Capital surplus	Retained earnings	Treasury stock		
Balance at beginning of the year	20,886	16,499	139,682	(296)	176,771	
Changes during the year:						
Cash dividends			(3,817)		(3,817)	
Net income attributable to owners of parent			10,387		10,387	
Purchase of treasury stock				(6)	(6)	
Gain on sales of treasury stock		0		0	0	
Change in ownership interest of parent due to transactions with non-controlling interests		(88)			(88)	
Net changes in items other than shareholders' equity						
Total changes during the year	—	(88)	6,569	(5)	6,475	
Balance at end of the year	20,886	16,411	146,252	(302)	183,247	
	Accumulated other comprehensive income					
Year ended December 31, 2019	Unrealized holding gain on available-for- sale securities	Translation adjustments	Remeasurements of defined benefit plans	Total accumulated other comprehensive income	Non-controlling interests	Total net assets
Balance at beginning of the year	8,307	1,617	(277)	9,647	4,876	191,296
Changes during the year:						
Cash dividends						(3,817)
Net income attributable to owners of parent						10,387
Purchase of treasury stock						(6)
Gain on sales of treasury stock						0
Change in ownership interest of parent due to transactions with non-controlling interests						(88)
Net changes in items other than shareholders' equity	667	(36)	237	868	(61)	807
Total changes during the year	667	(36)	237	868	(61)	7,282
Balance at end of the year	8,974	1,581	(40)	10,516	4,815	198,579

See accompanying notes to consolidated financial statements.

iv) [Consolidated Statements of Cash Flows]

	(Millions of yen)	
Years ended December 31,	2018	2019
Operating activities		
Income before income taxes	17,491	15,290
Depreciation and amortization	8,374	9,257
Impairment losses on property, plant and equipment	—	410
Increase (decrease) in allowance for doubtful receivables	3	(2)
Increase (decrease) in other provisions	2	(3)
Increase in net defined benefit asset	(84)	(189)
Increase (decrease) in net defined benefit liability	(8)	8
Interest and dividend income	(868)	(1,080)
Interest expense	90	95
Foreign currency exchange loss (gain)	94	(218)
Gain on sales of investment securities	(3)	(553)
Equity in earnings of affiliates	(165)	(164)
Loss on sales of shares of subsidiaries and affiliates	5	—
Gain on sales of non-current assets	(5)	(7)
Subsidy income	(325)	(9)
Loss on disposal of non-current assets	240	100
Decrease (increase) in receivables	(2,638)	2,611
Increase in inventories	(604)	(1,609)
Increase (decrease) in payables	1,364	(2,059)
Other, net	(421)	950
Subtotal	22,541	22,826
Interest and dividends received	1,223	1,210
Interest paid	(95)	(94)
Subsidy income received	325	9
Income taxes paid	(4,153)	(5,336)
Net cash provided by operating activities	19,841	18,615
Investing activities		
Decrease (increase) in time deposits	764	(224)
Purchases of investment securities	(10)	(90)
Proceeds from sales of investment securities	6	856
Purchases of shares of subsidiaries and affiliates	—	(5)
Proceeds from sales of shares of subsidiaries and affiliates	599	—
Purchases of property, plant and equipment	(11,668)	(15,307)
Proceeds from sales of property, plant and equipment	18	7
Other, net	(1,618)	(1,091)
Net cash used in investing activities	(11,910)	(15,855)

See accompanying notes to consolidated financial statements.

Years ended December 31,	(Millions of yen)	
	2018	2019
Financing activities		
Proceeds from long-term debt	3,700	—
Repayment of long-term debt	(4,158)	(158)
Payments from changes in ownership interests in subsidiaries that do not result in change in scope of consolidation	(679)	(289)
Proceeds from sales of treasury stock	0	0
Purchases of treasury stock	(7)	(6)
Repayment of lease obligations	(51)	(179)
Cash dividends to shareholders	(3,553)	(3,822)
Cash dividends paid to non-controlling interests	(159)	(127)
Net cash used in financing activities	(4,908)	(4,582)
Effect of exchange rate changes on cash and cash equivalents	(168)	(53)
Net increase (decrease) in cash and cash equivalents	2,853	(1,876)
Cash and cash equivalents at beginning of the year	42,136	44,990
Cash and cash equivalents at end of the year	*1 44,990	*1 43,113

See accompanying notes to consolidated financial statements.

[Notes]

(Basis for Preparation of Consolidated Financial Statements)

1. Scope of consolidation

(1) Consolidated subsidiaries: 21

Consolidated subsidiaries are shown in “4. Information on Subsidiaries and Affiliates” under “I. Overview of the Company.”

(2) Unconsolidated subsidiaries: 3

A major unconsolidated subsidiary is Toa Kenso Co., Ltd. The unconsolidated subsidiaries have an immaterial effect on the Company’s consolidated financial statements as a whole in terms of the sum of total assets, the sum of net sales, the sum of net income/loss, and the sum of retained earnings.

2. Application of equity method

(1) Unconsolidated subsidiaries and affiliates which are accounted for by the equity method

Affiliates: 1 Partnership: 1

Chubu Liquid Oxygen Co., Ltd.

Elmer’s & Toagosei Co.

(2) Unconsolidated subsidiaries and affiliates which are not accounted for by the equity method

Unconsolidated subsidiaries: 3

Affiliates: 11

Toyo Denka Kogyo Co., Ltd.

(3) Reason for exclusion from application of equity method accounting:

Because the effect of their net income/loss and retained earnings on the Company’s consolidated financial statements is immaterial and they are not important as a whole in accounting terms.

3. Fiscal year-end of consolidated subsidiaries

The fiscal year-end of consolidated subsidiaries is the same as the Company’s consolidated fiscal year-end.

4. Accounting policies

(1) Basis and method for valuation of major assets

1) Securities

Available-for-sale securities

Marketable securities classified as available-for-sale securities

Marketable securities classified as available-for-sale securities are carried at fair value determined based on the average of quoted prices (or their equivalent) in the one-month period prior to the balance sheet date with changes in unrealized holding gain or loss, net of the applicable income taxes, included directly in net assets.

Non-marketable securities classified as available-for-sale securities

Non-marketable securities classified as available-for-sale securities are carried at cost. Cost of securities sold is determined by the moving average method.

2) Derivative

Derivative financial instruments are carried at fair value.

3) Inventories

Inventories are stated at the lower of cost or net selling value, cost being determined by the moving average method. (The balance sheet amounts are written down if there is any decrease in profitability.)

(2) Depreciation and amortization of major depreciable and amortizable assets

1) Property, plant and equipment (excluding leased assets)

Depreciation of property, plant and equipment is calculated by the straight-line method based on the estimated useful lives of the respective assets and their residual value.

The useful lives for major property, plant and equipment are as follows:

Buildings and structures	2–75 years
Machinery, equipment and other	2–17 years
Tools, furniture and fixtures	2–20 years

2) Intangible fixed assets (excluding leased assets)

Amortization of intangible fixed assets, primarily consisting of software, is calculated by the straight-line method based on the estimated useful lives of the respective assets in this category (primarily 5 years for software).

3) Leased assets (leased assets relating to finance lease transactions that do not transfer ownership)

Depreciation of leased assets shall be calculated based on the assumption that the useful lives equal the lease term and the residual value is zero.

(3) Posting standards for providing major allowance

1) Allowance for doubtful receivables

The allowance for bad debts and doubtful receivables in respect of individual bad debts is provided in an amount sufficient to cover credit losses based on the collectability of individual receivables. The allowance for receivables other than those described above is based on past credit loss experience.

2) Accrued bonuses for employees

Accrued bonuses for employees are provided at the estimated amounts expected to be paid to employees for one consolidated subsidiary.

(4) Accounting methods relating to retirement benefits

1) Periodic allocation of estimated retirement benefits

In calculating retirement benefit obligation, the benefit formula basis is applied for allocation of projected retirement benefit to the periods until the end of the current fiscal year.

2) Amortization of actuarial gain or loss and prior service costs

Actuarial gain or loss of the Company is amortized in the year following the year in which the gain or loss is recognized by the straight-line method over the average remaining years of service of the eligible employees (primarily 10 years) when incurred in each fiscal year. Prior service costs are expensed using the straight-line method over the average remaining years of service of the eligible employees (primarily 10 years) when incurred.

3) Adoption of the simplified method in SMEs

In calculating net defined benefit liability and retirement benefit expenses, some consolidated subsidiaries adopt the simplified method where the projected benefit obligation is an estimated amount of retirement benefits, assuming that all employees terminate their services on the balance sheet date for their own convenience.

(5) Foreign currency translation

Receivables and payables in foreign currencies are translated into yen at the rates of exchange in effect at the balance sheet date, and the resulting translation gain or loss is charged or credited to income.

Assets and liabilities of the foreign consolidated subsidiaries are translated at the same exchange rates. Revenue and expense accounts of the foreign consolidated subsidiaries are translated at periodical average rates during

the fiscal year. The resulting translation gain or loss is included in “Translation adjustments” and “Non-controlling interests” under “Net assets.”

- (6) Scope of funds in the consolidated statements of cash flows
Funds (cash and cash equivalents) in the consolidated statements of cash flows comprise cash on hand, bank deposits available for withdrawal on demand and readily available short-term investments with maturities of three months or less, which are exposed to minor risk of fluctuation in value.
- (7) Other important items concerning the preparation of consolidated financial statements
Consumption taxes and others
Consumption taxes are excluded from the transaction accounts.

(New Accounting Pronouncements)

“Accounting Standard for Revenue Recognition” (ASBJ Statement No. 29 issued on March 30, 2018)
“Implementation Guidance on Accounting Standard for Revenue Recognition” (ASBJ Guidance No. 30 issued on March 30, 2018)

(1) Outline

The standards, etc. listed above are comprehensive accounting standards for revenue recognition. Revenue is to be recognized by applying the five steps below.

Step 1: Identify the contract(s) with a customer

Step 2: Identify the performance obligations in the contract

Step 3: Determine the transaction price

Step 4: Allocate the transaction price to the performance obligations in the contract

Step 5: Recognize revenue when (or as) the entity satisfies a performance obligation

(2) Planned date of application

The Company plans to apply the above standards, etc. from the beginning of the year ending December 31, 2022.

(3) Effect of the application of the above standards, etc.

The Company is currently assessing the effects at the time of preparation of these consolidated financial statements.

“Accounting Standard for Fair Value Measurement” (ASBJ Statement No. 30 issued on July 4, 2019)

“Implementation Guidance on Accounting Standard for Fair Value Measurement” (ASBJ Guidance No. 31 issued on July 4, 2019)

“Accounting Standard for Financial Instruments” (ASBJ Statement No. 10 issued on July 4, 2019)

(1) Outline

In order to improve comparability with provisions in international accounting standards, “Accounting Standard for Fair Value Measurement” and “Implementation Guidance on Accounting Standard for Fair Value Measurement” (hereinafter, “Accounting Standards for Fair Value Measurement, etc.”) were developed, and guidance, etc. regarding the method for measuring fair values were stipulated. Accounting Standards for Fair Value Measurement, etc. will be applied to the fair values of the following items.

Financial instruments set forth in “Accounting Standard for Financial Instruments”

(2) Planned date of application

The Company plans to apply the above standards, etc. from the beginning of the year ending December 31, 2022.

(3) Effect of the application of the above standards, etc.
The Company is currently assessing the effects at the time of preparation of these consolidated financial statements.

(Changes in Presentation)

Changes associated with the application of the “Partial Amendments to Accounting Standard for Tax Effect Accounting”

The Company applied the “Partial Amendments to Accounting Standard for Tax Effect Accounting” (ASBJ Statement No. 28 issued on February 16, 2018) from the beginning of the year ended December 31, 2019, thereby reclassifying deferred tax assets under investments and other assets, and deferred tax liabilities under long-term liabilities.

As a result, in the consolidated balance sheet for the year ended December 31, 2018, “Deferred tax assets” of ¥846 million under “Current assets” and ¥807 million out of “Deferred tax liabilities” under “Long-term liabilities” have been reclassified under and included in “Deferred tax assets” of ¥81 million under “Investments and other assets,” thereby presenting “Deferred tax liabilities” of ¥2,341 million under “Long-term liabilities.”

(Notes to Consolidated Balance Sheets)

*1. Components of inventories:

December 31,	(Millions of yen)	
	2018	2019
Merchandise and finished products (including semi-finished products)	11,146	12,756
Work in process	505	624
Raw materials and supplies	4,890	4,779
Total	16,541	18,161

*2. Investments in unconsolidated subsidiaries and affiliates were as follows:

December 31,	(Millions of yen)	
	2018	2019
Investment securities (stocks)	1,625	1,613

*3. Assets pledged as collateral:

December 31, 2018

Assets pledged as collateral		
Classification	Book value (Millions of yen)	Type of security interests
Buildings and structures	6,668	Plant foundation
Machinery, equipment and other	8,110	ditto
Tools, furniture and fixtures	750	ditto
Land	4,136	ditto
Total	19,667	

(Note) The assets described above are pledged as collateral, but there are no corresponding secured obligations.

December 31, 2019

Assets pledged as collateral		
Classification	Book value (Millions of yen)	Type of security interests
Buildings and structures	6,859	Plant foundation
Machinery, equipment and other	9,828	ditto
Tools, furniture and fixtures	1,022	ditto
Land	4,444	ditto
Total	22,154	

(Note) The assets described above are pledged as collateral, but there are no corresponding secured obligations.

*4. Accumulated depreciation of property, plant and equipment:

December 31,	(Millions of yen)	
	2018	2019
	189,325	194,552

*5. Notes matured at the balance sheet date and cash settlement payable as of the balance sheet date (method of cash settlement payable at due date with the same terms as notes) are treated as if they were settled on the maturity date. Because the balance sheet date of the current fiscal year fell on a holiday for financial institutions, the notes matured and cash settlement payable at the balance sheet date were excluded from the balance as of the end of the current fiscal year.

December 31,	(Millions of yen)	
	2018	2019
Notes and accounts receivable	5,024	4,283
Notes and accounts payable	1,870	1,610
Other (Current liabilities)	465	869

6. Contingent liabilities and secured liabilities:

December 31,	(Millions of yen)		
	2018	2019	
Employees	Guarantees against loans from financial institutions	213	201
Hokuriku Liquid Oxygen Co., Ltd.	ditto	37	28
Total		251	230

(Notes to Consolidated Statements of Income)

*1. Inventories as at the fiscal year-end represent the book value written-down due to a decrease in profitability. The following losses on devaluation of inventories were included in cost of sales (the amount stated is the amount after offset by reversal):

Years ended	(Millions of yen)	
December 31,	2018	2019
	86	47

*2. Major items of selling expenses:

Years ended	(Millions of yen)	
December 31,	2018	2019
Transportation expenses	8,528	8,561
Salaries	1,979	1,973
Bonuses	827	822
Retirement benefit expenses	135	134
Depreciation and amortization	147	144

*3. Major items of general and administrative expenses:

Years ended	(Millions of yen)	
December 31,	2018	2019
Salaries	2,419	2,576
Bonuses	1,210	1,201
Retirement benefit expenses	215	230
Depreciation and amortization	761	901

*4. Research and development cost included in general and administrative expenses and manufacturing cost:

Years ended	(Millions of yen)	
December 31,	2018	2019
	3,686	3,731

*5. Components of gain on sales of non-current assets:

Years ended	(Millions of yen)	
December 31,	2018	2019
Land, etc.	5	7

*6. Components of loss on disposal of non-current assets:

Years ended	(Millions of yen)	
December 31,	2018	2019
Machinery, equipment and other	52	36
Disposal costs	169	44
Buildings and structures, etc.	17	18

*7. Impairment loss:

Year ended December 31, 2018
Not applicable.

Year ended December 31, 2019

The Company and its consolidated subsidiaries have recognized impairment loss on the following class of assets:

Location	Major use	Category	Impairment loss (Millions of yen)
Singapore	Facilities for manufacturing acrylate esters, etc.	Leased assets	410

(Outline and grouping method)

The Company and its consolidated subsidiaries have grouped business-use assets according to the minimum independent cash-flow-generating unit.

The Company wrote down the book values of facilities for manufacturing acrylate esters, etc. that experienced drops in profitability to their respective recoverable amounts.

Accordingly, ¥410 million of impairment loss was recognized under extraordinary losses in the statement of income.

(Components of impairment loss)

The impairment loss was ¥410 million for leased assets.

(Calculation of recoverable amounts, etc.)

The recoverable amounts applicable to assets for which impairment losses were recognized for the corresponding year ended December 31, 2019 were measured using the value in use, which was calculated by discounting future cash flows at 11.75%.

(Notes to Consolidated Statements of Comprehensive Income)

*1. Reclassification adjustment and tax effect of other comprehensive income:

Years ended	(Millions of yen)	
December 31,	2018	2019
Unrealized holding gain on available-for-sale securities		
Amount arising during the fiscal year	(6,832)	1,695
Reclassification adjustment	(3)	(553)
Amount before tax effect	(6,836)	1,142
Tax effect	2,066	(468)
Unrealized holding gain on available-for-sale securities	(4,770)	673
Translation adjustments		
Amount arising during the fiscal year	(309)	(43)
Amount before tax effect	(309)	(43)
Tax effect	—	—
Translation adjustments	(309)	(43)
Remeasurements of defined benefit plans, net of tax		
Amount arising during the fiscal year	(564)	256
Reclassification adjustment	60	84
Amount before tax effect	(504)	340
Tax effect	153	(103)
Remeasurements of defined benefit plans, net of tax	(350)	237
Total other comprehensive income	(5,430)	867

(Notes to Consolidated Statements of Changes in Net Assets)

Year ended December 31, 2018

1. Matters related to the type and total number of issued shares and the type and total number of shares of treasury stock:

(Thousands of shares)

Type of shares	Number of shares at beginning of the year	Increase in the number of shares in the year	Decrease in the number of shares in the year	Number of shares at end of the year
Issued shares				
Common stock	131,996	—	—	131,996
Total	131,996	—	—	131,996
Treasury stock				
Common stock (Notes 1, 2)	361	5	0	366
Total	361	5	0	366

- (Notes) 1. The increase in the number of treasury stock (common stock) is due to purchase of less-than-one-unit shares.
2. The decrease in the number of treasury stock (common stock) is due to sales of less-than-one-unit shares.

2. Matters related to dividends

- (1) Amount of dividends paid

Resolution	Type of shares	Gross amount (Millions of yen)	Dividend per share (Yen)	Record date	Effective date
March 29, 2018 105th Annual Shareholders' Meeting	Common stock	1,711	13.00	December 31, 2017	March 30, 2018
July 31, 2018 Board of Directors	Common stock	1,842	14.00	June 30, 2018	September 6, 2018

- (2) Dividends whose record date was in the year ended December 31, 2018 but whose effective date was in the year ended December 31, 2019

Resolution	Type of shares	Gross amount (Millions of yen)	Source of dividends	Dividend per share (Yen)	Record date	Effective date
March 28, 2019 106th Annual Shareholders' Meeting	Common stock	1,842	Retained earnings	14.00	December 31, 2018	March 29, 2019

Year ended December 31, 2019

1. Matters related to the type and total number of issued shares and the type and total number of shares of treasury stock:

(Thousands of shares)

Type of shares	Number of shares at beginning of the year	Increase in the number of shares in the year	Decrease in the number of shares in the year	Number of shares at end of the year
Issued shares				
Common stock	131,996	—	—	131,996
Total	131,996	—	—	131,996
Treasury stock				
Common stock (Notes 1, 2)	366	5	0	371
Total	366	5	0	371

- (Notes) 1. The increase in the number of treasury stock (common stock) is due to purchase of less-than-one-unit shares.
2. The decrease in the number of treasury stock (common stock) is due to sales of less-than-one-unit shares.

2. Matters related to dividends

- (1) Amount of dividends paid

Resolution	Type of shares	Gross amount (Millions of yen)	Dividend per share (Yen)	Record date	Effective date
March 28, 2019 106th Annual Shareholders' Meeting	Common stock	1,842	14.00	December 31, 2018	March 29, 2019
July 31, 2019 Board of Directors	Common stock	1,974	15.00	June 30, 2019	September 5, 2019

- (Note) Dividend per share of ¥15.00 pursuant to the resolution of the Board of Directors on July 31, 2019 includes a commemorative dividend of ¥1.00 for the 75th anniversary of the Company's foundation.

- (2) Dividends whose record date was in the year ended December 31, 2019 but whose effective date is in the year ending December 31, 2020

Resolution	Type of shares	Gross amount (Millions of yen)	Source of dividends	Dividend per share (Yen)	Record date	Effective date
March 27, 2020 107th Annual Shareholders' Meeting	Common stock	1,974	Retained earnings	15.00	December 31, 2019	March 30, 2020

- (Note) Dividend per share of ¥15.00 includes a commemorative dividend of ¥1.00 for the 75th anniversary of the Company's foundation.

(Notes to Consolidated Statements of Cash Flows)

*1. Reconciliation of the balance of cash and cash equivalents in the consolidated statement of cash flows to cash and deposits included in the consolidated balance sheet:

Years ended	(Millions of yen)	
December 31,	2018	2019
Cash and deposits	32,676	32,989
Securities	46,000	44,000
Time deposits with terms in excess of 3 months	(15,686)	(15,875)
Negotiable certificate of deposit with terms in excess of 3 months	(18,000)	(18,000)
Cash and cash equivalents	44,990	43,113

(Lease Transactions)

1. Finance leases (lessee)

Finance lease transactions that do not transfer ownership

1) Leased assets

Property, plant and equipment

Consists of buildings and structures, machinery, equipment and other, and tools, furniture and fixtures

2) Depreciation of leased assets

As described in "4. Accounting policies (2) Depreciation and amortization of major depreciable and amortizable assets."

2. Operating leases

Future minimum lease payments under noncancelable operating leases:

	(Millions of yen)	
December 31,	2018	2019
Due within one year	24	14
Due after one year	1	—
Total	26	14

(Impairment loss)

An impairment loss which was allocated to leased assets was ¥410 million for the year ended December 31, 2019.

(Financial Instruments)

1. Matters related to the status of financial instruments

(1) Policies on financial instruments

When managing surplus funds, the Group limits the application of such funds to highly secure financial assets, mainly short-term bank deposits, and it procures funds mainly through bank borrowings. Derivative transactions are used to hedge interest fluctuation risk present in borrowings, but are not used for speculative or trading purposes.

(2) Description of financial instruments and associated risks

Notes and accounts receivable, which represent trade receivables, are exposed to client-based credit risk. Furthermore, foreign currency denominated trade receivables are also subject to exchange rate fluctuation risks. In order to counter such risk, foreign currency borrowings are used when necessary as a means of hedging the net position of foreign currency denominated trade payables. Securities and investment securities are primarily negotiable certificate of deposits, held-to-maturity securities and shares related to businesses, and are thus exposed to risk stemming from fluctuations in market value.

Notes and accounts payable, which represent trade payables, are due within one year. A portion of these are foreign currency denominated items related to payment for raw material imports, which are subject to exchange rate fluctuation risk. These are constantly maintained within the balance of receivables denominated in the same foreign currencies. Borrowings are used to procure funds necessary for operational transactions and capital expenditures. A portion of these borrowings bearing variable interest rates are exposed to interest rate fluctuation risk. Derivative transactions (interest rate swap transactions) are used as a means of hedging.

(3) Risk management systems related to financial instruments

1) Management of credit risk (risk associated with non-performance of a contract by a business partner etc.)

The departments in charge of Company operations regularly monitor the trade receivable status of all business partners in accordance with the Regulations on Selling in order to identify business partner-based credit risk associated with the deterioration of financial circumstances or other causes at an early stage and reduce it. In case of the consolidated subsidiaries, their divisions or accounting departments also manage the financial and credit status of their business partners pursuant to their own regulations. Derivative transactions are entered into only with highly rated financial institutions.

The maximum credit risk value as of the date of closing of consolidated accounts for the current term is expressed by the value of financial assets in the consolidated balance sheet which are subject to credit risk.

2) Management of market risk (risk associated with exchange rate and interest rate fluctuations)

When necessary, the Company uses borrowings denominated in foreign currencies to hedge its foreign currency denominated trade receivables and trade payables. Interest rate swaps are used to reduce risk associated with fluctuations in interest expenses related to borrowings.

The Company regularly confirms the fair value of securities and investment securities and the financial condition of the issuers (its business partners) and

continually reviews its shareholdings with a view to maintaining and strengthening comprehensive relations with its business partners and in consideration of the economic rationality of holding their shares.

Derivative transactions are executed and managed in accordance with internal regulations that stipulate transaction authority.

3) Management of liquidity risk associated with procuring funds (the risk of being unable to execute a payment on the due date)

The Company and its consolidated subsidiaries have formulated cash flow management plans and manage liquidity risk by, for example, keeping a certain amount of cash reserves on hand.

(4) Supplementary information regarding the fair value of financial instruments

The fair value of financial instruments consists of their market price-based value, and, if a market price is not available, their logically calculated value. Variable factors are incorporated into the calculations of the fair value, and different fair values are possible depending on the differing assumptions used.

2. Fair value of financial instruments

The fair value and carrying value of financial instruments and the difference between both values are shown below. Financial instruments whose fair value is extremely difficult to determine, are not included in the table below. (Please refer to Note 2.)

December 31, 2018	(Millions of yen)		
	Carrying value	Fair value	Difference
(1) Cash and deposits	32,676	32,676	—
(2) Notes and accounts receivable	45,154	45,154	—
(3) Securities and investment securities:			
Available-for-sale securities	71,452	71,452	—
Total assets	149,283	149,283	—
(1) Notes and accounts payable	16,472	16,472	—
(2) Short-term bank loans	2,503	2,503	—
(3) Long-term debt	9,189	9,296	107
Total liabilities	28,164	28,272	107

December 31, 2019	(Millions of yen)		
	Carrying value	Fair value	Difference
(1) Cash and deposits	32,989	32,989	—
(2) Notes and accounts receivable	42,534	42,534	—
(3) Securities and investment securities: Available-for-sale securities	70,327	70,327	—
Total assets	145,851	145,851	—
(1) Notes and accounts payable	14,413	14,413	—
(2) Short-term bank loans	2,503	2,503	—
(3) Long-term debt	9,031	9,105	74
Total liabilities	25,947	26,022	74

(Note 1)

Valuation method of financial instruments and matters related to securities

Assets

- (1) Cash and cash equivalents, and (2) Notes and accounts receivable
As all of these are settled within a short span of time, the fair value is virtually identical to the carrying value. Therefore, the carrying value is used.
- (3) Securities and investment securities
In the case of the fair value of securities and investment securities, shares are stated at the exchange-listed price and securities are stated at the exchange-listed price or the price quoted by the correspondent financial institution. In the case of those available-for-sale securities which are settled within a short span of time, the fair value is virtually identical to the carrying value. Therefore, the carrying value is used. With regard to notes to securities by purpose of holding, please refer to the note entitled "Securities."

Liabilities

- (1) Notes and accounts payable, and (2) Short-term bank loans
As all of these are settled within a short span of time, the fair value is virtually identical to the carrying value. Therefore, the carrying value is used.
- (3) Long-term debt
The fair value of long-term debt is calculated as the present value by discounting the total principal and interest on the borrowings by the interest rate which would be assumed if new, similar borrowings were made.

(Note 2)

Financial instruments whose fair value is extremely difficult to determine:

December 31,	(Millions of yen)	
	2018	2019
Investments in subsidiaries and affiliates		
Investments in unconsolidated subsidiaries and affiliates	1,625	1,613
Available-for-sale securities:		
Unlisted securities	715	769
Total	2,340	2,383

It is extremely difficult to determine the fair value of these items, as they do not have market prices and future cash flow cannot be estimated. Therefore, they are not included in "Assets: (3) Securities and investment securities."

(Note 3)

The redemption schedule for monetary claims, held-to-maturity securities and available-for-sale securities with maturities subsequent to the consolidated balance sheet date:

December 31, 2018	(Millions of yen)			
	1 year or less	Over 1 year to 5 years	Over 5 years to 10 years	Over 10 years
Cash equivalents	32,670	—	—	—
Notes and accounts receivable	45,154	—	—	—
Securities and investment securities:				
Available-for-sale securities with maturities (negotiable certificate of deposit)	46,000	—	—	—
Total	123,825	—	—	—

December 31, 2019	(Millions of yen)			
	1 year or less	Over 1 year to 5 years	Over 5 years to 10 years	Over 10 years
Cash equivalents	32,984	—	—	—
Notes and accounts receivable	42,534	—	—	—
Securities and investment securities:				
Available-for-sale securities with maturities (negotiable certificate of deposit)	44,000	—	—	—
Total	119,518	—	—	—

(Note 4)

The repayment schedule for long-term debt, lease obligations, and other interest-bearing debt subsequent to the consolidated balance sheet date:

December 31, 2018	(Millions of yen)					
	1 year or less	Over 1 year to 2 years	Over 2 years to 3 years	Over 3 years to 4 years	Over 4 years to 5 years	Over 5 years
Short-term bank loans	2,345	—	—	—	—	—
Long-term debt	158	158	4,558	143	140	4,190
Lease obligations	51	42	29	16	3	0
Total	2,554	200	4,587	159	143	4,190

December 31, 2019	(Millions of yen)					
	1 year or less	Over 1 year to 2 years	Over 2 years to 3 years	Over 3 years to 4 years	Over 4 years to 5 years	Over 5 years
Short-term bank loans	2,345	—	—	—	—	—
Long-term debt	158	4,558	143	140	140	4,050
Lease obligations	185	126	47	32	20	24
Total	2,688	4,684	190	172	160	4,074

(Securities)

1. Marketable securities classified as available-for-sale securities:

December 31, 2018	(Millions of yen)			
	Type	Carrying value	Acquisition cost	Unrealized gain (loss)
Securities whose carrying value exceeds their acquisition cost	(1) Stock	23,286	11,148	12,138
Securities whose acquisition cost exceeds their carrying value	(1) Stock	2,165	2,497	(331)
	(2) Other	46,000	46,000	—
	Subtotal	48,165	48,497	(331)
Total		71,452	59,645	11,806

December 31, 2019	(Millions of yen)			
	Type	Carrying value	Acquisition cost	Unrealized gain (loss)
Securities whose carrying value exceeds their acquisition cost	(1) Stock	24,333	10,912	13,420
Securities whose acquisition cost exceeds their carrying value	(1) Stock	1,994	2,465	(470)
	(2) Other	44,000	44,000	—
	Subtotal	45,994	46,465	(470)
Total		70,327	57,378	12,949

2. Marketable securities classified as available-for-sale securities sold during the fiscal year ended:

December 31, 2018	(Millions of yen)		
	Sales amount	Total gain on sales	Total loss on sales
Stock	6	3	—

December 31, 2019	(Millions of yen)		
	Sales amount	Total gain on sales	Total loss on sales
Stock	856	553	—

3. Other securities for which impairment loss was recognized:

No impairment loss on investment securities was recognized for the current fiscal year.

In the accounting for impairment, an impairment loss is recognized for all securities of which the fair values as of the consolidated balance sheet date decline more than 50% from the acquisition cost, and at an amount deemed necessary for securities of which the fair values as of the same date decline between 30% and 50% in consideration of recoverability and other factors.

(Retirement Benefit Plans)

1. Outline of adopted retirement benefit plans for employees
The Company and its consolidated subsidiaries adopt a defined benefit plan and a defined contribution plan, either funded or unfunded, to provide for retirement benefits for employees.

Under defined benefit corporate pension plans (all the plans are funded), a lump-sum or annuity is paid based on accumulated points according to a qualification grade.

Under defined contribution pension plans, a premium calculated by the qualification grade is expensed when contributed.

Under retirement lump-sum payment plans (consisting of funded plans and unfunded plans), salaries and lump-sum payments based on length of service are paid as retirement benefits.

In addition, under the retirement lump-sum payment plans adopted by some of the consolidated subsidiaries, net defined benefit liability and retirement benefit expenses are calculated in accordance with the simplified plan.

2. Defined benefit plan

- (1) Reconciliation of opening and closing balance of retirement benefit obligation (excluding plans using the simplified method)

Years ended December 31,	(Millions of yen)	
	2018	2019
Balance of retirement benefit obligation at beginning of year	11,365	11,370
Service cost	538	547
Actuarial gain or loss	53	(68)
Retirement benefits paid	(587)	(428)
Prior service cost	—	227
Balance of retirement benefit obligation at end of year	11,370	11,648

- (2) Reconciliation of opening and closing balance of plan assets (excluding plans using the simplified method)

Years ended December 31,	(Millions of yen)	
	2018	2019
Balance of plan assets at beginning of year	13,300	12,884
Expected return on plan assets	133	130
Actuarial gain or loss	(511)	415
Contribution from employer	551	690
Retirement benefits paid	(587)	(428)
Balance of plan assets at end of year	12,884	13,693

- (3) Reconciliation of opening and closing balance of net defined benefit liability under the plans using the simplified method

Years ended December 31,	(Millions of yen)	
	2018	2019
Balance of net defined benefit liability at beginning of year	162	153
Retirement benefit expenses	15	23
Retirement benefits paid	(18)	(10)
Contribution to plan	(4)	(4)
Other	(0)	(0)
Balance of net defined benefit liability at end of year	153	161

- (4) Reconciliation of the ending balance of retirement benefit obligations and plan assets and the net defined benefit liability and the net defined benefit asset included in the consolidated balance sheets

December 31,	(Millions of yen)	
	2018	2019
Funded retirement benefit obligations	11,579	11,862
Plan assets	(12,981)	(13,788)
	(1,402)	(1,926)
Unfunded projected benefit obligations	41	42
Net amount of relevant liabilities and assets on the consolidated balance sheets	(1,360)	(1,883)
Net defined benefit liability	153	161
Net defined benefit asset	(1,514)	(2,045)
Net amount of relevant liabilities and assets on the consolidated balance sheets	(1,360)	(1,883)

(Note) Includes the plans using the simplified method.

- (5) Retirement benefit expenses and components thereof

Years ended December 31,	(Millions of yen)	
	2018	2019
Service cost	538	547
Expected return on plan assets	(133)	(130)
Amortization of actuarial gain or loss	108	111
Amortization of prior service cost	(48)	(27)
Retirement benefit expenses calculated using the simplified method	15	23
Retirement benefit expenses related to the defined benefit plan	481	524

- (6) Remeasurements of defined benefit plans, net of tax
The components of items (before tax) reported under remeasurements of the defined benefit plans, net of tax were as follows:

Years ended December 31,	(Millions of yen)	
	2018	2019
Prior service cost	(48)	(254)
Actuarial gain or loss	(456)	595
Total	(504)	340

- (7) Remeasurements of defined benefit plans
The components of items (before tax) reported under remeasurements of the defined benefit plans were as follows:

December 31,	(Millions of yen)	
	2018	2019
Unrecognized prior service cost	(471)	(216)
Unrecognized actuarial gain or loss	870	274
Total	398	57

- (8) Matters regarding plan assets

1) Major components of the plan assets

The percentages of the major asset types accounting for the total plan assets were as follows:

December 31,	2018	2019
Bonds	39.3%	39.8%
Stocks	16.9	18.2
General accounts of life insurance companies	38.9	37.7
Other	4.9	4.3
Total	100.0	100.0

2) Method for setting the long-term rate of the expected return on plan assets

To determine the long-term rate of the expected return on plan assets, we take into account the current and projected distribution of plan assets and the current and anticipated long-term yield rates of the various assets that constitute the plan assets.

- (9) Matters regarding the assumptions for actuarial calculations
Key assumptions for actuarial calculations (representing weighted averages)

Years ended December 31,	2018	2019
Discount rate	0.0%	0.0%
Long-term rate of the expected return on plan assets	1.0	1.0

3. Defined contribution plan

The amounts required to be contributed by the Company and consolidated subsidiaries are ¥297 million for the previous fiscal year and ¥304 million for the current fiscal year.

(Stock Options, etc.)

Not applicable.

(Tax Effect Accounting)

1. Significant components of deferred tax assets and liabilities:

December 31,	(Millions of yen)	
	2018	2019
Deferred tax assets		
Elimination of unrealized profit	1,412	1,418
Net operating loss carry forwards	460	690
Depreciation	490	520
Accrued costs of removing facilities	576	475
Loss on valuation of investment securities	323	299
Impairment loss on property, plant and equipment	244	221
Accrued enterprise tax	198	160
Valuation loss on inventories	103	87
Net defined benefit liability	46	49
Loss on valuation of golf club membership	41	42
Other	278	304
Gross deferred tax assets	4,175	4,270
Valuation allowance	(969)	(1,145)
Total deferred tax assets	3,205	3,124
Deferred tax liabilities		
Unrealized holding gain on available-for-sale securities	(3,484)	(3,953)
Reserve for reduction entry	(1,078)	(1,029)
Net defined benefit asset	(461)	(624)
Securities returned from retirement benefit trust	(221)	(221)
Undistributed earnings of subsidiaries and affiliates	(185)	(192)
Other	(34)	(34)
Total deferred tax liabilities	(5,465)	(6,055)
Net deferred tax assets (liability)	(2,259)	(2,931)

2. Major reasons for which the effective tax rates reflected in the consolidated statements of income differ from the statutory tax rates:

December 31,	2018	2019
Statutory tax rate	30.70%	30.53%
Effect of:		
Permanent difference – entertainment expenses	0.25	0.43
Permanent difference – dividend income	(0.32)	(0.58)
Inhabitants' per capita taxes	0.43	0.50
Equity in earnings of affiliates	(0.29)	(0.33)
Valuation allowance	(3.83)	0.51
Different tax rates applied to income of foreign consolidated subsidiaries	(0.05)	0.29
Tax deduction of experiment and research expenses	(1.21)	(1.80)
Other, net	0.22	0.77
Effective tax rates.	25.91	30.31

(Asset Retirement Obligations)

Not applicable.

(Rental properties, etc.)

Disclosure on rental properties, etc. is not required because rental properties, etc. are not significant in the Group.

(Segment Information, etc.)

[Segment Information]

1. Outline of Reportable Segments

(1) Methods for Determining Reportable Segments

The reportable segments of the Company and its consolidated subsidiaries are defined as operating segments for which discrete financial information is available and reviewed by the Board of Directors regularly in order to make decisions about resources to be allocated to individual segments and assess performance.

Group operating divisions are organized based on products and services and the operating divisions are responsible for comprehensive domestic and overseas comprehensive plans as to the products and services. The five reportable segments of the Company are “Commodity Chemicals,” “Polymer & Oligomer,” “Adhesive Material,” “Performance Chemicals,” and “Plastics” based on similarity of economic characteristics, and nature of products and services.

(2) Major products attributable to each reportable segment

Reportable segment	Major products
Commodity Chemicals	Caustic soda, caustic potash, sodium hypochlorite and other electrolytic products, sulfuric acid, industrial gases, acrylic acids, acrylate esters and other acrylic monomers
Polymer & Oligomer	Acrylic polymers, polymer flocculants, UV-Curable Resins and other acrylic oligomers, etc.
Adhesive Material	Instant glues, functional adhesives, etc.
Performance Chemicals	High purity inorganic chemicals, inorganic functional materials, etc.
Plastics	Piping equipment products, products for construction and civil engineering, nursing care products, elastomer compounds, etc.

2. Method of calculating net sales, income and loss, assets, liabilities and others

The accounting method applied to the reportable segments is the same as described in “Basis for Preparation of Consolidated Financial Statements.”

Segment income of the reportable segments is based on operating income.

Intersegment sales or transfer amounts are determined chiefly on the basis of market prices.

The Company applied the “Partial Amendments to Accounting Standard for Tax Effect Accounting” (ASBJ Statement No. 28 issued on February 16, 2018) from the beginning of the year ended December 31, 2019, resulting in changes in presentation.

Figures for segment assets for the year ended December 31, 2018 have been reclassified in accordance with the changes in presentation.

3. Information about the amounts of net sales, profit (loss), assets and other items for each reportable segment

(Millions of yen)

Year ended December 31, 2018	Reportable segments						Others (Note 1)	Total	Adjustments (Note 2)	Consolidated (Note 3)
	Commodity Chemicals	Polymer & Oligomer	Adhesive Material	Performance Chemicals	Plastics	Total				
Sales										
Sales to third parties	69,908	29,506	11,914	8,095	27,167	146,592	3,474	150,066	—	150,066
Intersegment sales	3,800	1,283	149	50	23	5,307	3,572	8,879	(8,879)	—
Net sales	73,708	30,790	12,064	8,146	27,190	151,899	7,046	158,946	(8,879)	150,066
Segment income	6,654	2,977	2,567	2,548	1,427	16,174	230	16,404	3	16,408
Segment assets	61,040	27,355	11,561	7,900	43,542	151,398	1,749	153,147	88,016	241,164
Other items										
Depreciation	4,541	1,099	430	493	1,125	7,689	70	7,759	614	8,374
Investment in associates accounted for using equity method	699	—	—	—	—	699	—	699	—	699
Increase in tangible and intangible fixed assets	3,241	3,247	398	1,607	3,466	11,960	201	12,162	358	12,521

(Notes)

1. The Others segment includes business operations relative to research and development, transportation and trading firm business.
2. "Adjustments" were as follows:
 - (1) The adjustments to segment income include intersegment eliminations.
 - (2) The adjustments to segment assets include corporate assets of ¥116,949 million that are not allocated to any reportable segments, and intersegment eliminations.
 - (3) The adjustments to depreciation include mainly corporate expenses that are not allocated to any reportable segments.
 - (4) The adjustments to increase in tangible and intangible fixed assets include mainly capital investment in corporate assets that are not allocated to any reportable segments.
3. Segment income is reconciled with operating income on the consolidated statements of income.
4. Depreciation in the table above includes amortization of long-term prepaid expense.

(Millions of yen)

Year ended December 31, 2019	Reportable segments						Others (Note 1)	Total	Adjustments (Note 2)	Consolidated (Note 3)
	Commodity Chemicals	Polymer & Oligomer	Adhesive Material	Performance Chemicals	Plastics	Total				
Sales										
Sales to third parties	65,667	29,112	11,174	8,148	27,079	141,183	3,772	144,955	—	144,955
Intersegment sales	3,465	1,265	83	55	33	4,903	1,987	6,890	(6,890)	—
Net sales	69,133	30,377	11,258	8,203	27,112	146,086	5,759	151,845	(6,890)	144,955
Segment income	5,442	3,526	1,356	2,116	1,233	13,676	132	13,808	(25)	13,782
Segment assets	59,365	30,449	12,892	10,902	43,594	157,205	1,476	158,682	88,528	247,211
Other items										
Depreciation	4,471	1,512	448	580	1,423	8,435	190	8,626	631	9,257
Investment in associates accounted for using equity method	682	—	—	—	—	682	—	682	—	682
Increase in tangible and intangible fixed assets	4,701	2,867	2,013	3,404	2,356	15,343	239	15,582	283	15,865

(Notes)

- The Others segment includes business operations relative to research and development, transportation and trading firm business.
- “Adjustments” were as follows:
 - The adjustments to segment income include intersegment eliminations.
 - The adjustments to segment assets include corporate assets of ¥116,016 million that are not allocated to any reportable segments, and intersegment eliminations.
 - The adjustments to depreciation include mainly corporate expenses that are not allocated to any reportable segments.
 - The adjustments to increase in tangible and intangible fixed assets include mainly capital investment in corporate assets that are not allocated to any reportable segments.
- Segment income is reconciled with operating income on the consolidated statements of income.
- Depreciation in the table above includes amortization of long-term prepaid expense.

[Related Information]

Year ended December 31, 2018

1. Information related to geographic region

(1) Net sales

(Millions of yen)

Japan	Asia	North America	Other	Total
125,498	18,321	3,309	2,936	150,066

(Note) Net sales are classified into countries and regions based on geographic location of the customer.

(2) Information related to property, plant and equipment

This information is not required to be disclosed because the amount of property, plant and equipment in Japan exceeded 90% of the amount on the consolidated balance sheet.

2. Information on major customer

This information is not required to be disclosed because net sales to any particular customer are less than 10% of the net sales on the consolidated statements of income.

Year ended December 31, 2019

1. Information related to geographic region

(1) Net sales

(Millions of yen)

Japan	Asia	North America	Other	Total
122,326	16,392	3,201	3,034	144,955

(Note) Net sales are classified into countries and regions based on geographic location of the customer.

(2) Information related to property, plant and equipment

This information is not required to be disclosed because the amount of property, plant and equipment in Japan exceeded 90% of the amount on the consolidated balance sheet.

2. Information on major customer

This information is not required to be disclosed because net sales to any particular customer are less than 10% of the net sales on the consolidated statements of income.

[Impairment loss on non-current assets by reportable segment]

Year ended December 31, 2018

Not applicable.

Year ended December 31, 2019

(Millions of yen)

Commodity	Polymer & Chemicals	Adhesive Oligomer	Performance Adhesive Material	Performance Chemicals	Plastics	Others	Adjustment	Total
410	—	—	—	—	—	—	—	410

[Balance of goodwill by reportable segment]

Not applicable.

[Gain on negative goodwill by reportable segment]

Not applicable.

[Related party information]
Not applicable.

(Per Share Information)

Years ended	(Yen)	
December 31,	2018	2019
Net assets per share	1,416.24	1,472.09
Net income per share	96.85	78.91

(Notes)

1. Diluted net income per share is not disclosed because no potential shares exist.
2. The basis for calculation of “net income per share” is as follows:

Years ended December 31,	2018	2019
Net income per share		
Net income attributable to owners of parent (Millions of yen)	12,748	10,387
Amounts not belonging to shareholders of common stock (Millions of yen)	—	—
Net income attributable to owners of parent relating to common stock (Millions of yen)	12,748	10,387
Average number of common shares during the fiscal year (Thousands of shares)	131,632	131,627

3. The basis for calculation of “net assets per share” is as follows:

December 31,	2018	2019
Total amount of net assets (Millions of yen)	191,296	198,579
Amount deducted from the total amount of net assets (Millions of yen) (including non-controlling interests)	4,876	4,815
Amount of net assets at the end of the fiscal year attributable to common stock (Millions of yen)	186,419	193,763
Number of common shares used for calculating net assets per share (Thousands of shares)	131,629	131,624

(Subsequent Events)

Treasury stock acquisition

At the Board of Directors meeting held on January 30, 2020, the Company resolved to acquire its treasury stock in accordance with provisions of Article 156 of the Companies Act, as applied by replacing terms pursuant to the provisions of Article 165, Paragraph 3 of the said Act.

1. Reasons for treasury stock acquisition

To strengthen returns to shareholders, improve capital efficiency, raise the corporate value and implement flexible capital policies.

2. Details of matters regarding the acquisition

- | | |
|---|---|
| (1) Type of stock to be acquired | Common stock of the Company |
| (2) Total number of shares that can be acquired | Up to 2,400,000 shares (1.82% of total number of shares issued [excluding treasury stock]) |
| (3) Total acquisition cost | Up to ¥3,000 million |
| (4) Acquisition period | April 21, 2020 to December 31, 2020
(The repurchase begins after the decision is made on the allocation and granting of the restricted shares where shares of the Company’s common stock are issued or disposed of.) |
| (5) Acquisition method | Market purchase on the Tokyo Stock Exchange based on a discretionary investment agreement on the treasury stock acquisition |

v) [Supplementary Financial Schedules]

[Schedule of bonds and debentures]

Not applicable.

[Schedule of borrowings, etc.]

Classification	Beginning balance (Millions of yen)	Ending balance (Millions of yen)	Average interest rate (%)	Due date of repayment
Short-term bank loans	2,345	2,345	0.478	—
Long-term debt scheduled to be repaid within one year	158	158	0.970	—
Lease obligations scheduled to be repaid within one year	51	185	—	—
Long-term debt (excluding debt scheduled to be repaid within one year)	9,189	9,031	0.638	From 2021 to 2027
Lease obligations (excluding obligations scheduled to be repaid within one year)	94	251	—	From 2021 to 2027
Other interest-bearing debt	—	—	—	—
Total	11,838	11,970	—	—

(Notes)

1. “Average interest rate” presents the weighted average interest rate against the term-end balance of borrowings.
2. “Average interest rate” for lease obligations is not required to be disclosed because lease obligations are stated in the consolidated balance sheets in the amount before deducting the amount equivalent to related interest expenses, which are included in the total lease payments.
3. The projected repayment amounts of long-term debt and lease obligations (excluding debt and obligations scheduled to be repaid within one year) within five years after the consolidated balance sheet date are as follows.

	(Millions of yen)			
	Over 1 year to 2 years	Over 2 years to 3 years	Over 3 years to 4 years	Over 4 years to 5 years
Long-term debt	4,558	143	140	140
Lease obligations	126	47	32	20

[Schedule of asset retirement obligations]

Not applicable.

(2) [Other]

Quarterly data for the current fiscal year ended December 31, 2019

Cumulative periods	First quarter (From January 1 to March 31, 2019)	Second quarter (From January 1 to June 30, 2019)	Third quarter (From January 1 to September 30, 2019)	Current fiscal year (From January 1 to December 31, 2019)
Net sales (Millions of yen)	35,248	72,023	108,287	144,955
Income before income taxes (Millions of yen)	4,428	8,043	12,105	15,290
Net income attributable to owners of parent (Millions of yen)	3,025	5,537	8,268	10,387
Net income per share (Yen)	22.99	42.07	62.82	78.91

Accounting period	First quarter (From January 1 to March 31, 2019)	Second quarter (From April 1 to June 30, 2019)	Third quarter (From July 1 to September 30, 2019)	Fourth quarter (From October 1 to December 31, 2019)
Net income per share (Yen)	22.99	19.09	20.75	16.09