NIPPON SHOKUBAI

Financial Section

2019

Consolidated Financial Statements

Consolidated Statement of Financial Position

	April 1, 2017 (Transition Date)	March 31, 2018	March 31, 2019
		(Millions of yen)	
Assets			
Current assets:			
Cash and cash equivalents *(Note 6)*	¥ 50,122	¥ 52,635	**¥ 47,434**
Trade receivables *(Note 7)*	66,490	79,338	**81,158**
Inventories *(Note 8)*	52,639	56,388	**59,266**
Other financial assets *(Notes 9 and 27)*	11,429	9,300	**8,945**
Other current assets	5,235	4,701	**4,768**
Total current assets	185,915	202,362	**201,571**
Non-current assets:			
Property, plant and equipment *(Note 10)*	177,853	187,906	**193,632**
Goodwill *(Note 11)*	4,406	4,406	**4,360**
Intangible assets *(Note 11)*	10,374	9,763	**9,200**
Investments in associates and joint ventures accounted for using equity method *(Note 12)*	17,385	20,232	**21,773**
Other financial assets *(Notes 9 and 27)*	40,063	44,332	**38,296**
Net defined benefit assets *(Note 18)*	7,298	6,160	**8,149**
Deferred tax assets *(Note 13)*	2,605	2,926	**2,736**
Other non-current assets	1,270	2,228	**1,951**
Total non-current assets	261,254	277,954	**280,097**
Total assets	¥ 447,169	¥ 480,316	**¥ 481,668**

	April 1, 2017 (Transition Date)	March 31, 2018	March 31, 2019
		(Millions of yen)	
Liabilities and equity			
Liabilities			
Current liabilities:			
Trade payables *(Notes 14 and 27)*	¥ 44,811	¥ 58,811	**¥ 51,866**
Bonds and borrowings *(Notes 15, 16 and 27)*	21,424	12,683	**20,851**
Income taxes payable	3,722	5,583	**3,850**
Provisions *(Note 17)*	4,536	4,802	**5,178**
Other financial liabilities *(Notes 16, 27 and 28)*	9,255	7,920	**7,818**
Other current liabilities	5,300	4,714	**4,464**
Total current liabilities	89,049	94,513	**94,028**
Non-current liabilities:			
Bonds and borrowings *(Notes 15, 16 and 27)*	40,213	45,302	**34,902**
Other financial liabilities *(Notes 16, 27 and 28)*	1,229	1,157	**1,501**
Net defined benefit liability *(Note 18)*	12,829	14,282	**14,119**
Provisions *(Note 17)*	248	1,925	**1,896**
Deferred tax liabilities *(Note 13)*	7,779	6,948	**5,995**
Total non-current liabilities	62,297	69,614	**58,413**
Total liabilities	151,346	164,128	**152,441**
Equity:			
Share capital *(Note 19)*	25,038	25,038	**25,038**
Capital surplus *(Note 19)*	22,396	22,400	**22,472**
Treasury shares *(Note 19)*	(6,249)	(6,263)	**(6,274)**
Retained earnings *(Note 19)*	242,059	258,117	**276,934**
Other components of equity *(Note 19)*	5,526	9,780	**4,838**
Total equity attributable to owners of parent	288,770	309,073	**323,008**
Non-controlling interests	7,052	7,115	**6,219**
Total equity	295,822	316,188	**329,227**
Total liabilities and equity	¥ 447,169	¥ 480,316	**¥ 481,668**

See accompanying notes to consolidated financial statements.

Consolidated Statement of Income

	Years ended March 31,			
	2018		2019	
	(Millions of yen)			
Revenue *(Notes 5 and 21)*	¥	313,939	**¥**	**338,869**
Cost of sales		246,395		**272,292**
Gross profit		67,544		**66,577**
Selling, general and administrative expenses *(Note 22)*		41,835		**40,923**
Other operating income *(Note 23)*		2,170		**2,193**
Other operating expenses *(Note 23)*		2,269		**1,677**
Operating profit		25,610		**26,170**
Finance income *(Note 24)*		1,420		**1,771**
Finance expenses *(Note 24)*		904		**923**
Share of profit of investments accounted for using equity method *(Note 12)*		3,680		**5,101**
Profit before income tax		29,805		**32,119**
Income tax expense *(Note 13)*		6,638		**7,767**
Profit	¥	23,167	**¥**	**24,352**
Profit attributable to:				
Owners of parent		22,641		**23,849**
Non-controlling interests		527		**503**
Profit	¥	23,167	**¥**	**24,352**
Earnings per share:				
Basic earnings per share (Yen) *(Note 26)*		567.71		**598.05**
Diluted earnings per share (Yen) *(Note 26)*		—		**—**

See accompanying notes to consolidated financial statements.

Consolidated Statement of Comprehensive Income

	Years ended March 31,			
	2018		2019	
	(Millions of yen)			
Profit	¥	23,167	**¥**	**24,352**
Other comprehensive income (loss)				
Items that will not be reclassified to profit or loss:				
Net changes in financial assets measured at fair value through other comprehensive income *(Note 25)*		2,922		**(4,102)**
Remeasurements of defined benefit plans *(Notes 18 and 25)*		(972)		**1,593**
Share of other comprehensive income (loss) of associates and joint ventures accounted for using equity method *(Notes 12 and 25)*		27		**(63)**
Subtotal of items that will not be reclassified to profit or loss		1,977		**(2,572)**
Items that may be reclassified to profit or loss:				
Exchange differences on translation of foreign operations *(Note 25)*		628		**85**
Net changes in fair value of cash flow hedges *(Notes 25 and 27)*		(3)		**(3)**
Share of other comprehensive income (loss) of associates and joint ventures accounted for using equity method *(Notes 12 and 25)*		1,159		**(992)**
Subtotal of items that may be reclassified to profit or loss		1,784		**(910)**
Total other comprehensive income (loss)		3,761		**(3,482)**
Comprehensive income	¥	26,928	**¥**	**20,870**
Comprehensive income attributable to:				
Owners of parent		26,294		**20,455**
Non-controlling interests		634		**415**
Comprehensive income	¥	26,928	**¥**	**20,870**

See accompanying notes to consolidated financial statements.

Consolidated Statement of Changes in Equity

FY2017 (April 1, 2017 to March 31, 2018)

	Share capital	Capital surplus	Treasury shares	Retained earnings	Other components of equity: Net changes in financial assets measured at fair value through other comprehensive (loss) income	Other components of equity: Remeasurements of defined benefit plans
				(Millions of yen)		
Balance as of April 1, 2017	¥ 25,038	¥ 22,396	¥ (6,249)	¥ 242,059	¥ 5,520	¥ –
Profit	–	–	–	22,641	–	–
Other comprehensive income *(Note 25)*	–	–	–	–	2,921	(968)
Comprehensive (loss) income:	–	–	–	22,641	2,921	(968)
Acquisition of treasury shares *(Note 19)*	–	–	(14)	–	–	–
Disposal of treasury shares *(Note 19)*	–	0	0	–	–	–
Cash dividends *(Note 20)*	–	–	–	(5,982)	–	–
Increase (decrease) in non-controlling interests	–	4	–	–	–	–
Transfer from other components of equity to retained earnings	–	–	–	(600)	(369)	968
Total transactions with owners	–	4	(14)	(6,582)	(369)	968
Balance as of March 31, 2018	¥ 25,038	¥ 22,400	¥ (6,263)	¥ 258,117	¥ 8,072	¥ –

	Other components of equity: Net changes in fair value of cash flow hedges	Other components of equity: Exchange differences on translation of foreign operations	Other components of equity: Total	Total equity attributable to owners of parent	Non-controlling interests	Total equity
			(Millions of yen)			
Balance as of April 1, 2017	¥ 6	¥ –	¥ 5,526	¥ 288,770	¥ 7,052	¥ 295,822
Profit	–	–	–	22,641	527	23,167
Other comprehensive income *(Note 25)*	(3)	1,705	3,654	3,654	107	3,761
Comprehensive (loss) income:	(3)	1,705	3,654	26,294	634	26,928
Acquisition of treasury shares *(Note 19)*	–	–	–	(14)	–	(14)
Disposal of treasury shares *(Note 19)*	–	–	–	0	–	0
Cash dividends *(Note 20)*	–	–	–	(5,982)	(564)	(6,546)
Increase (decrease) in non-controlling interests	–	–	–	4	(7)	(3)
Transfer from other components of equity to retained earnings	–	–	600	–	–	–
Total transactions with owners	–	–	600	(5,992)	(571)	(6,563)
Balance as of March 31, 2018	¥ 3	¥ 1,705	¥ 9,780	¥ 309,073	¥ 7,115	¥ 316,188

FY2018 (April 1, 2018 to March 31, 2019)

	Share capital	Capital surplus	Treasury shares	Retained earnings	Other components of equity: Net changes in financial assets measured at fair value through other comprehensive (loss) income	Other components of equity: Remeasurements of defined benefit plans
				(Millions of yen)		
Balance as of April 1, 2018	¥ 25,038	¥ 22,400	¥ (6,263)	¥ 258,117	¥ 8,072	¥ –
Profit	–	–	–	23,849	–	–
Other comprehensive income *(Note 25)*	–	–	–	–	(4,099)	1,516
Comprehensive (loss) income:	–	–	–	23,849	(4,099)	1,516
Acquisition of treasury shares *(Note 19)*	–	–	(12)	–	–	–
Disposal of treasury shares *(Note 19)*	–	–	–	–	–	–
Cash dividends *(Note 20)*	–	–	–	(6,580)	–	–
Increase (decrease) in non-controlling interests	–	72	–	–	–	–
Transfer from other components of equity to retained earnings	–	–	–	1,548	(31)	(1,516)
Total transactions with owners	–	72	(12)	(5,032)	(31)	(1,516)
Balance as of March 31, 2019	¥ 25,038	¥ 22,472	¥ (6,274)	¥ 276,934	¥ 3,942	¥ –

	Other components of equity: Net changes in fair value of cash flow hedges	Other components of equity: Exchange differences on translation of foreign operations	Other components of equity: Total	Total equity attributable to owners of parent	Non-controlling interests	Total equity
			(Millions of yen)			
Balance as of April 1, 2018	¥ 3	¥ 1,705	¥ 9,780	¥ 309,073	¥ 7,115	¥ 316,188
Profit	–	–	–	23,849	503	24,352
Other comprehensive income *(Note 25)*	(3)	(808)	(3,394)	(3,394)	(87)	(3,482)
Comprehensive (loss) income:	(3)	(808)	(3,394)	20,455	415	20,870
Acquisition of treasury shares *(Note 19)*	–	–	–	(12)	–	(12)
Disposal of treasury shares *(Note 19)*	–	–	–	–	–	–
Cash dividends *(Note 20)*	–	–	–	(6,580)	(355)	(6,935)
Increase (decrease) in non-controlling interests	–	–	–	72	(956)	(884)
Transfer from other components of equity to retained earnings	–	–	(1,548)	–	–	–
Total transactions with owners	–	–	(1,548)	(6,520)	(1,311)	(7,831)
Balance as of March 31, 2019	¥ –	¥ 896	¥ 4,838	¥ 323,008	¥ 6,219	¥ 329,227

See accompanying notes to consolidated financial statements.

Consolidated Statement of Cash Flows

	Years ended March 31,	
	2018	2019
	(Millions of yen)	
Cash flows from operating activities:		
Profit before income tax	¥ 29,805	**¥ 32,119**
Depreciation and amortization	22,918	**25,626**
Decrease (increase) in net defined benefit asset	(50)	**32**
Increase in net defined benefit liability	1,234	**110**
Interest and dividend income	(1,411)	**(1,769)**
Interest expenses	431	**582**
Share of profits of associates and joint ventures accounted for using equity method	(3,680)	**(5,101)**
Increase in trade receivables	(13,049)	**(1,653)**
Increase in inventories	(3,622)	**(2,933)**
Increase (decrease) in trade payables	13,814	**(6,928)**
Other	2,388	**1,212**
Subtotal	48,777	**41,298**
Interest and dividends received	2,577	**4,378**
Interest paid	(445)	**(584)**
Income taxes paid	(6,704)	**(9,175)**
Net cash flows provided by operating activities	44,206	**35,918**
Cash flows from investing activities:		
Purchase of property, plant and equipment	(32,750)	**(32,432)**
Proceeds from sale of property, plant and equipment	59	**225**
Purchase of intangible assets	(242)	**(243)**
Purchase of investments	(4,807)	**(4,944)**
Proceeds from sale and redemption of investments	5,223	**4,937**
Other	954	**1,140**
Net cash flows used in investing activities	(31,563)	**(31,316)**
Cash flows from financing activities:		
Net decrease in short-term borrowings *(Note 16)*	(1,905)	**(518)**
Proceeds from long-term borrowings *(Note 16)*	8,787	**3,043**
Repayments of long-term borrowings *(Note 16)*	(10,829)	**(4,556)**
Acquisition of treasury shares	(14)	**(12)**
Dividends paid *(Note 20)*	(5,982)	**(6,580)**
Dividends paid to non-controlling interests	(564)	**(355)**
Purchase of investments in subsidiaries not resulting in change in scope of consolidation	(3)	**(884)**
Other	(92)	**(121)**
Net cash flows used in financing activities	(10,601)	**(9,982)**
Effect of exchange rate changes on cash and cash equivalents	471	**179**
Net increase (decrease) in cash and cash equivalents	2,513	**(5,202)**
Cash and cash equivalents at the beginning of the year *(Note 6)*	50,122	**52,635**
Cash and cash equivalents at the end of the year *(Note 6)*	¥ 52,635	**¥ 47,434**

See accompanying notes to consolidated financial statements.

Notes to Consolidated Financial Statements
March 31, 2019

1. Reporting Entity

Nippon Shokubai Co., Ltd. (the "Company") is a company incorporated in Japan.

The registered addresses of the Company's head office and main offices are disclosed on the Company's website (URL http://www.shokubai.co.jp/). The consolidated financial statements comprise the Company and its subsidiaries (the "Group") and its affiliates. The Group's main business includes manufacturing and sales of products in the Basic chemicals, Functional chemicals, and Environment & catalysts businesses. The details of each business are described in Note "5. Segment Information."

2. Basis of Preparation

(1) Compliance with IFRS

The Group's consolidated financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRS") issued by the International Accounting Standards Board ("IASB"). As the Company meets the requirements of a "Specified Company applying Designated International Financial Reporting Standards" pursuant to Article 1-2 of the "Ordinance on Terminology, Forms and Preparation Methods of Consolidated Financial Statements" (Ordinance of the Ministry of Finance of Japan No. 28 of 1976), it has adopted the provision of Article 93 of said ordinance. The consolidated financial statements were approved on June 20, 2019 by Yujiro Goto, President and Representative Director.

As the Group has adopted IFRS from the fiscal year ended March 31, 2019, these are the Group's first consolidated financial statements prepared in conformity with IFRS. The date of transition to IFRS was April 1, 2017. For the transition, the Group has adopted IFRS 1 "First-time Adoption of International Financial Reporting Standards." The effect of the transition from accounting principles generally accepted in Japan ("Japanese GAAP") to IFRS on the consolidated financial statements and application of the exemption provisions approved under IFRS 1 are described in Note "34. First-time Adoption."

(2) Basis of measurement

The Group's consolidated financial statements have been prepared on a historical cost basis, except for certain financial instruments measured at fair value as described in Note "3. Significant Accounting Policies."

(3) Functional currency and presentation currency

The Group's consolidated financial statements are presented in Japanese yen, the Company's functional currency, and figures are rounded to the nearest million yen.

(4) New accounting standards and interpretations that had been issued but not yet effective

The following shows the main new accounting standards and interpretations that were issued as of the date of approval of the consolidated financial statements but not applied by the Group as of March 31, 2019.

IFRS	Name of the standard	Mandatory application (fiscal year beginning on or after)	To be applied by the Group	Description of new accounting standards, interpretations, and revisions
IFRS 16	Leases	January 1, 2019	Fiscal year ending March 31, 2020	Revisions of accounting standard for leases

Under IFRS 16, lessees are no longer required to classify lease transactions as either finance or operating leases. In principle, an entity must recognize all leases in the consolidated statement of financial position.

In adopting IFRS 16, the Group plans to select a method to recognize cumulative effects of the adoption at the date of the application. Furthermore, the Group estimates that right-of-use assets and lease liabilities will increase by approximately \6,000 million in the consolidated statement of financial position as of the beginning of the fiscal year ending March 31, 2020 due to the adoption of the standard. However, the effect on the consolidated statement of income will be immaterial.

3. Significant Accounting Policies

(1) Basis of consolidation

1) Subsidiaries

Subsidiaries are entities that are controlled by the Group.

The Group is deemed to control an entity when the Group is exposed or has rights to variable returns from its involvement in the entity and has the ability to affect those returns through its power over the entity.

The Group consolidates subsidiaries from the date on which it gains control until the date on which it loses control. If any accounting policies applied by a subsidiary differ from those applied by the Company, adjustments are made to financial statements of such consolidated subsidiaries where necessary. All intercompany balances, transactions and unrealized gains or losses arising from intragroup transactions are eliminated in preparation of consolidated financial statements.

Any additional acquisition of non-controlling interests after the acquisition of control is accounted for as an equity transaction. Any difference between the amount by which the non-controlling interests are adjusted and the fair value of consideration paid or received is directly recognized in equity. Goodwill from such transactions is not recognized.

Any change in ownership interests in subsidiaries without a loss of control is accounted for as an equity transaction. Any difference between the amount by which the non-controlling interests are adjusted and the fair value of consideration is directly recognized in equity. When control is lost, gains or losses arising from the loss of control are recognized in profit or loss.

2) Associates and joint ventures

Associates are entities over which the Group has significant influence in terms of their financial and operating policies but are not controlled by the Group. When the Group owns 20% or more but less than 50% of the voting power of another entity, the Group is deemed to have significant influence over such entity. When the Group determines that it has significant influence over another entity due to the dispatch of officers and significant transactions, even if it owns less than 20% of the voting rights, such entity shall be included in associates.

Joint ventures are entities that are jointly controlled by one or more parties, including the Group, in accordance with contractual agreements, and require unanimous consent of all parties in deciding policies for related activities.

The Group recognizes the ownership interests in associates and joint ventures at acquisition cost and accounts for its investments using the equity method until the date on which it loses significant influence or joint control.

If accounting policies applied by an associate or a joint venture differ from those applied by the Company, adjustments are made to the financial statements of associate or joint venture where necessary.

Regarding some associates and joint ventures that cannot practically unify their fiscal year end with that of the Company due to relationships with other shareholders etc, necessary adjustments are made for the effects of significant transactions that occur until the year end of the Company.

(2) Business combinations

The Group accounts for business combinations using the acquisition method. Consideration is measured as the net of the fair value of assets acquired and liabilities assumed in exchange for the control of an acquiree and equity instruments issued by the Company at the acquisition date. If the consideration exceeds the net of the fair value of identifiable assets acquired and liabilities assumed, the Group records it as goodwill in the consolidated statement of financial position. However, if the consideration is less than the net of the fair value of identifiable assets acquired and liabilities assumed, the Group immediately records it in income in the consolidated statement of income.

If the Group does not complete its initial accounting treatment by the end of the period in which the business combination occurs, it will account for the business combination using provisional amounts and revise the provisional amounts during the measurement period within one year from the acquisition date.

Acquisition-related costs incurred are accounted for as expenses.

In addition, any additional acquisition of non-controlling interests after the acquisition of control is accounted for as an equity transaction. Any difference between the amount by which the non-controlling interests are adjusted and the fair value of consideration paid or received is directly recognized in equity. Goodwill from such transactions is not recognized.

(3) Foreign currency translation

1) Foreign currency transactions

The Group measures items included in the financial statements of each group company using the currency used in the main economic environment where each group company conducts its operating activities (functional currency).

Foreign currency transactions are converted into the functional currency using the exchange rates at the date of the transactions. When remeasuring items included in the financial statements, the Group converts them into the functional currency using the exchange rates at the date of the remeasurement. Exchange differences arising from the settlement of these transactions or the translation of monetary assets or liabilities in a foreign currency using the exchange rates at the date of the settlement are recognized in profit or loss. However, translation differences arising from equity financial instruments measured at fair value through other comprehensive income or cash flow hedges are recognized in other comprehensive income.

2) Foreign operations

Regarding foreign operations using a functional currency that differs from the presentation currency, assets and liabilities (including goodwill arising from the acquisition and revision of fair value) are translated to Japanese yen using the exchange rates at the end of the reporting period, while income and expenses are translated to Japanese yen at the average rate during the period unless the exchange rates fluctuate significantly during that period.

Exchange differences arising from the translation of financial statements of a foreign operation are recognized in other comprehensive income. When a foreign operation is disposed of, the cumulative translation differences related to the foregoing operation are recognized in profit or loss at the time of the disposal.

(4) Cash and cash equivalents

Cash and cash equivalents consist of cash on hand, demand deposits withdrawable at any time, and short-term investments with a maturity of three months or less from the acquisition date that are readily convertible to cash and are subject to insignificant risk of changes in value.

(5) Financial instruments

1) Non-derivative financial assets

(i) Initial recognition and measurement and subsequent measurement

The Group initially recognizes trade receivables and other receivables on the date of occurrence. All other non-derivative financial assets are recognized at the transaction date, on which the Group becomes a party to the contract.

(a) Financial assets measured at amortized cost

Financial assets are classified as “financial assets measured at amortized cost” if they meet the following two conditions:

- The financial assets are held with a business model of the Group whose objective is to collect contractual cash flows.
- The contractual terms of the financial asset provide cash flows on specified dates that are solely payments of principal and interest on the principal amount outstanding.

Financial assets measured at amortized cost are initially recognized at fair value (including transaction cost directly attributable to the acquisition of such financial assets). These financial assets are subsequently measured at amortized cost using the effective interest method.

(b) Financial assets measured at fair value through profit or loss or other comprehensive income

Financial assets that fail to meet either of the above two conditions are classified as “financial assets measured at fair value through profit or loss” or “financial assets measured at fair value through other comprehensive income.” In addition, the Group has made an irrevocable decision and changes in fair value of equity financial instruments, such as shares held with the purpose to maintain and strengthen business relationships with investees, are recognized through other comprehensive income instead of profit or loss.

Debt instruments are classified as “financial assets measured at fair value through other comprehensive income” when the following two conditions are met.

- The debt instruments are held with a business model of the Group whose objective is to both collect contractual cash flows and sell such instruments.
- The contractual terms of the financial asset provide cash flows on specified dates that are solely payments of principal and interest on the principal amount outstanding.

These financial assets are initially recognized at fair value. The Group includes in fair value any transaction costs directly attributable to the acquisition of such financial assets, with the exception of financial assets measured at fair value through profit or loss.

Regarding equity financial instruments measured at fair value through other comprehensive income, loss or gain attributable to changes in realized fair value is not reclassified to profit or loss. However, dividend income from such investments is recognized as “financial income” as a part of profit or loss, except in cases where it is clear that such dividends are the repayment of the investment principal.

(ii) Derecognition

When the rights to the cash flows from a financial asset expire or when a financial asset is transferred and substantially all of the risks and rewards of ownership of such financial asset are transferred, the Group derecognizes such financial asset.

(iii) Impairment of financial assets

When recognizing the impairment of financial assets measured at amortized cost, the Group evaluates whether or not credit risk associated with such financial assets has increased significantly since the initial recognition at the end of each reporting period.

When credit risk has increased significantly, the Group measures provisions for such financial assets at an amount equivalent to lifetime expected credit losses. When credit risk has not increased significantly, the Group measures provisions for such financial assets at an amount equivalent to the 12-month expected credit losses. However, the Group always measures provisions for trade receivables at an amount equivalent to lifetime expected credit losses. Furthermore, the Group measures expected credit losses of financial instruments by considering the time value of the difference between contractual cash flows and the expected cash flows and recognizes it in profit or loss.

The Group determines whether or not credit risk associated with such financial assets has increased significantly since the initial recognition by basing the judgment on changes in the risk of a default occurring. When determining such changes, the Group mainly considers past due information.

When measuring expected credit losses, the Group estimates in a way that reflects the following elements.

(a) Unbiased and probability-weighted amount that is determined by evaluating a range of possible outcomes

(b) Time value of money

(c) Reasonable and supportable information that is available without undue cost or effort at the reporting date about past events, current conditions, and forecasts of future economic conditions.

2) Non-derivative financial liabilities

(i) Initial recognition and measurement and subsequent measurement

Non-derivative financial liabilities are classified as financial liabilities measured at amortized cost and are recognized at the transaction date, on which the Group becomes a party to the contract.

The Group holds borrowings and trade payables as financial liabilities other than derivatives and initially recognizes them at fair value after deducting transaction costs. After initial recognition, these financial liabilities are measured at amortized cost using the effective interest method.

(ii) Derecognition

When financial liabilities expire, in other words, contractual obligations have been executed or discharged or cancelled or have expired, the Group derecognizes financial liabilities.

3) Offsetting financial assets and liabilities

Financial assets and liabilities are offset and reported as net amounts in the consolidated statement of financial position, only when the Group currently holds legal and enforceable rights to set off the recognized amounts and intends to settle on a net basis or to realize the assets and settle the liabilities simultaneously.

4) Derivatives and hedge accounting

The Group designates certain derivative instruments as cash flow hedges to hedge foreign exchange risk, interest rate risk, or other risks.

At the inception of a transaction, the Group documents the relationship between the hedging instrument and hedged item and the risk management objectives and strategies for undertaking various hedge transactions. At the inception of the hedge and on an ongoing basis, the Group also documents its assessment of whether derivatives used for hedge transactions can be highly effective in offsetting changes in cash flows of the hedged item. Furthermore, the Group verifies that such forecast transactions are highly probable to apply cash flow hedge accounting.

Changes in fair value of derivative instruments are recognized in profit or loss. The effective portion of changes in fair value of derivative instruments that are designated as cash flow hedges and meet the qualifying criteria is recognized in other components of equity. The ineffective portion is recognized in profit or loss in the consolidated statement of income.

Any amount incurred with respect to hedging instruments that is recognized in other components of equity is reclassified to profit or loss in the period when hedged items affect profit or loss. When hedged forecast transactions result in the recognition of non-financial assets, any amount that has been recognized in other comprehensive income is reclassified and included in the initial carrying amount of such assets.

The Group discontinues hedge accounting prospectively when the hedging instrument expires or is sold, or the hedge no longer meets the criteria for hedge accounting. Any amount incurred with respect to hedging instruments that have already been recognized in other components of equity is further recognized until forecast transactions are eventually recognized in profit or loss. When forecast transactions are no longer expected to occur, any amount incurred with respect to hedging instruments that has been recognized in other components of equity is immediately recognized in profit or loss.

(6) Inventories

Inventories are measured at the lower of cost or net realizable value. The cost of inventories is principally calculated based on the moving-average method. In addition, net realizable value is the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated selling costs.

(7) Property, plant and equipment

Property, plant and equipment are measured using the cost model and stated at cost less accumulated depreciation and accumulated impairment losses.

Cost includes cost directly attributable to the acquisition of assets, dismantling and removal costs, restoration costs, and borrowing costs that meet requirements for asset capitalization.

Each asset (excluding assets that are not subject to depreciation such as land) is depreciated using the straight-line method over its estimated useful life. The estimated useful lives of main asset items are as follows:

- Buildings and structures: 3 to 50 years
- Machinery and vehicles: 2 to 15 years

Estimated useful lives and the method of depreciation are reviewed at the end of each fiscal year. Any change in estimated useful lives and the depreciation method is accounted for on a prospective basis as a change in accounting estimate.

(8) Goodwill and intangible assets

1) Goodwill

The measurement of goodwill at the time of initial recognition is described in "(2) Business combinations."

The Group does not amortize goodwill but conducts impairment tests every fiscal year or whenever there is an indication of impairment. The impairment loss on goodwill is recognized in profit or loss and is not subsequently reversed.

Furthermore, goodwill is stated at cost less accumulated impairment losses in the consolidated statement of financial position.

2) Intangible assets

Intangible assets are stated at cost less accumulated amortization and accumulated impairment losses.

Individually acquired intangible assets are measured at a cost at the time of initial recognition, while intangible assets acquired through business combination are measured at fair value at the date of the acquisition.

Intangible assets are amortized using the straight-line method over their estimated useful lives. The estimated useful lives of main asset items are as follows:

- Technology-related assets: 15 years
- Software: 5 years

(9) Leases

At the inception of a lease contract, the Company determines whether or not the contract is a lease or contains a lease based on the substance of the contract.

Leases are classified as finance leases when all risks and economic rewards incidental to ownership of an asset are substantially transferred to the lessee.

Lease assets and lease obligations are initially recognized at the lower of fair value or present value of the minimum lease payments.

Lease assets where the transfer of the title of the assets is certain are depreciated using the straight-line method over their estimated useful lives. Otherwise, they are depreciated over their estimated useful lives or the lease term, whichever is shorter.

Lease charges are broken down into financial expenses and repayment of lease obligations. Financial expenses are recognized in profit or loss.

Leases other than finance leases are classified as operating leases. Lease charges are recognized as an expense over the lease term.

(10) Impairment of non-financial assets

Every fiscal year, the Group assesses non-financial assets for any indications of impairment. In case there is an indication of impairment or in case the impairment tests is required every fiscal year, the recoverable amount of the asset is estimated. When the recoverable amount of an asset cannot be estimated, the recoverable amount of the cash-generating unit to which such assets are allocated is estimated. The Group conducts impairment tests of goodwill every fiscal year or whenever there is an indication of impairment. Goodwill is allocated to each cash-generating unit or a group of cash-generating units that are expected to benefit from the synergies of the business combination.

The Group measures the recoverable amount of an asset or a cash-generating unit as the higher of fair value less costs of disposal or value in use. When the carrying value of an asset or a cash-generating unit exceeds its recoverable amount, impairment is recognized and its carrying value is reduced to its recoverable amount. In the calculation of value in use, the estimated future cash flows are discounted to their present value by using the pretax discount rate that reflects the present market valuation related to the time value of money and risks inherent in such asset. In the calculation of fair value less costs of disposal, the Group uses an appropriate valuation model that is supported by available fair-value indicators.

For an asset other than goodwill, the Group evaluates whether or not there is an indication that an impairment loss recognized in the asset in prior years has decreased or may no longer exist when there is a change in the assumptions that were used for calculating the estimated recoverable amount. If there is any such indication, the recoverable amount of such asset or cash-generating unit is estimated. When the recoverable amount exceeds the carrying value of the asset or cash-generating unit, the impairment loss is reversed to the extent of the recoverable amount calculated or the carrying value that would have been recorded, net of depreciation or amortization, if impairment had not been recognized in prior years, whichever is lower.

(11) Employee benefits

1) Post-employment benefits

Defined benefit plans

The Company and some of its subsidiaries have defined benefit pension plans and severance lump-sum payment plans as defined benefit plans. Under the defined benefit plans, the net present value of defined benefit obligations less the fair value of plan assets is recognized in assets or liabilities in the consolidated statement of financial position. The present value of defined benefit obligations is calculated using the projected unit credit method.

The difference in the remeasurement of net defined benefit assets or obligations is recognized in other comprehensive income in the fiscal year as incurred. Furthermore, past service cost is recognized in profit or loss in the fiscal year it is incurred.

Defined contribution plans

Some of the Company's subsidiaries have defined contribution pension plans. Defined contribution pension plans are post-employment benefit plans, under which the employer pays a certain amount of contributions to another independent entity and will have no legal or constructive obligations to pay further contributions. Contributions to the defined contribution pension plans are expensed in the period in which employees render services.

2) Short-term employee benefits

Short-term employee benefits are measured on an undiscounted basis and are recognized as an expense when employees render the related services. For bonuses and compensated absences, estimated amounts are recognized as liabilities when the Company has legal or constructive obligations to make such payments and reliable estimates of the amounts can be made.

(12) Provisions

Provisions are recognized when the Group has present obligations (legal or constructive) as a result of past events, it is probable that the outflow of economic resources will be required to settle the obligations, and the amounts of the obligations can be reliably estimated.

When the time to settle an obligation is expected to be long, and thus the time value of money is significant, the amount of the provision is measured at the present value of the amount of expenditures expected to be required to settle the obligation. To calculate the present value, a pretax discount rate is used that reflects the time value of money and risks inherent in such asset.

(13) Revenue recognition

The Group recognizes revenue in accordance with the following five-step approach, except interest and dividend income under IFRS 9.

Step 1: Identify the contract with the customer
Step 2: Identify the performance obligations in the contract
Step 3: Determine the transaction price
Step 4: Allocate the transaction price to the separate performance obligations in the contract
Step 5: Recognize revenue when, or as, the entity satisfies a performance obligation

The Group's main business includes manufacturing and sales of products in the Basic Chemicals, Functional Chemicals, and Environment and Catalysts businesses. The Group recognizes revenue from the sale of these products upon delivery of the products to the customer, since the performance obligation is fulfilled because the customer obtains control over such products upon delivery of the products. Revenue is measured at the amount obtained after deducting price reductions, rebates, and sales returns from the transaction price in the contract with the customer.

(14) Government grants

Government grants are recognized at fair value when there is a reasonable assurance that the Group will comply with their collateral conditions and will receive the grants.

In case that the government grants are related to expense items, they are recognized in profit or loss on a systematic basis over the period in which the related costs for which the grants are intended to compensate are recognized. With regard to government grants for assets, the total amount of the grants is deducted from the total acquisition cost of the assets.

(15) Income taxes

Income taxes, which consist of current taxes and deferred taxes, are recognized in profit or loss, except to the extent that they relate to items recognized in other comprehensive income or directly in equity.

Current income taxes are calculated by using the tax rates that have been enacted or substantially enacted at the end of the reporting period in countries where the Company and its subsidiaries operate businesses and generate taxable income.

Deferred tax assets and liabilities are recognized based on temporary differences between the tax base of assets and liabilities and their carrying values in the consolidated financial statements, using the asset-and-liability method. However, deferred tax assets and liabilities are not recognized for temporary differences in the following cases:

- Temporary differences arising from the initial recognition of goodwill
- Temporary differences arising from the initial recognition of assets or liabilities in transactions (except business combinations) that affect neither of accounting profit or loss nor taxable income (including tax loss)
- Taxable temporary differences associated with investments in subsidiaries and associates if the Company is able to control the timing of the reversal of the temporary differences and it is probable that the temporary differences will not reverse in the foreseeable future

In principle, deferred tax liabilities are recognized for all taxable temporary differences. Deferred tax assets are recognized for deductible temporary differences, and unused tax losses and tax credit carryforwards only to the extent that it is probable that they can be used for future taxable income.

The carrying amount of deferred tax assets is reviewed every fiscal year and reduced to the extent that it is no longer probable that sufficient future taxable income will be available to realize benefits from all or some of the assets. Unrecognized deferred tax assets are reassessed every fiscal year and are recognized to the extent that it has become probable that future taxable income will allow the deferred tax assets to be recovered.

Deferred tax assets and liabilities are measured using the tax rates that have been enacted or substantially enacted by the end of the reporting period and are expected to be applied in the fiscal year when the related deferred tax assets are realized, or deferred tax liabilities are settled.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets against current tax liabilities, and when deferred tax assets and liabilities are related to income taxes levied by the same taxation authority on either the same taxable entities or different taxable entities that intend to conduct the settlement on a net basis.

(16) Equity

1) Ordinary shares

With regard to ordinary shares issued by the Company, the issuance amount is recorded in share capital and capital surplus, and costs directly attributable to the issue of ordinary shares (net of tax effect) are deducted from share capital and capital surplus according to the ratio to the issuance amount.

2) Treasury shares

When treasury shares are acquired, consideration paid, including costs directly attributable to the transactions (net of tax effect), is recognized as a deduction from equity. When treasury shares are sold, consideration received is recognized as an increase in equity.

(17) Earnings per share

Basic earnings per share is calculated by dividing profit attributable to owners of parent by the average number of ordinary shares outstanding during the period.

4. Significant Accounting Estimates and Judgements

In preparation of the consolidated financial statement, the management makes judgements, estimates, and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income, and expenses. Actual results may differ from these estimates. Estimates and their underlying assumptions are reviewed continuously. The impact of revisions to accounting estimates is recognized in the accounting period in which the estimates are revised and in future accounting periods.

Significant items on which management makes its estimates and judgements are as follows:

- Valuation of inventories (Note 8. Inventories)
- Impairment of non-financial assets (Notes 10. Property, plant and equipment and 11. Goodwill and intangible assets)
- Recoverability of deferred tax assets (Note 13. Income taxes)
- Provisions (Note 17. Provisions)
- Measurement of defined benefit obligation (Note 18. Employee benefits)
- Fair value of financial instruments (Note 27. Financial instruments)

5. Segment Information

(1) Outline of reportable segments

The Company's reportable segments are divisions of the Company for which separate financial information is available, and whose operating results are reviewed regularly by the Board of Directors of the Company in order to allocate management resources and assess performance of operations.

The Company's business lines are divided based on similarities of function and nature, and the Company prepares the comprehensive strategy and conducts the business activities corresponding to the products handled by each business line.

Accordingly, the Company is comprised of three operating segments classified by type of products based on divided business lines. The Company does not aggregate the operating segments, and as a result, Basic Chemicals, Functional Chemicals, and Environment and Catalysts are the reportable segments for the Company.

Basic Chemicals segment is engaged in manufacturing and sales of acrylic acids, acrylates, ethylene oxide, ethylene glycol, ethanolamine, secondary alcohol ethoxylates and glycol ether. Functional Chemicals segment is engaged in manufacturing and sales of superabsorbent polymers, special acrylates, pharmaceutical intermediates, polymers for concrete admixture, electronic information material, iodine, maleic anhydride, resins for adhesives and paints, and adhesive products. Environment and Catalysts segment is engaged in manufacturing and sales of automotive catalysts, De-NOx catalysts, dioxin decomposition catalysts, process catalysts, waste gas treatment catalysts and fuel cell materials.

(2) Calculation method of amounts of revenue, income or loss, assets, and other items

The accounting method for business segments reported is substantially the same as the accounting method adopted for preparing the consolidated financial statements. Inter-segment revenue and transfers are mainly based on market prices and manufacturing costs. The total of segment income after adjustment agreed with operating profit in the consolidated statement of income.

(3) Information about revenue, profit or loss, assets, and other items

FY2017 (April 1, 2017 to March 31, 2018)

	Reportable segments					
	Basic Chemicals	Functional Chemicals	Environment & Catalysts	Total	Adjustment (Notes 1 and 2)	Total
			(Millions of yen)			
Revenue						
(1) Revenue to third parties	¥ 131,084	¥ 173,274	¥ 9,581	¥ 313,939	¥ –	¥ 313,939
(2) Inter-segment revenue and transfers	34,974	6,181	2,012	43,167	(43,167)	–
Total	¥ 166,058	¥ 179,455	¥ 11,593	¥ 357,106	¥ (43,167)	¥ 313,939
Segment income	13,558	11,529	219	25,306	303	25,610
Finance income	–	–	–	–	–	1,420
Finance expenses	–	–	–	–	–	904
Share of profit of investments in associates and joint ventures accounted for using equity method	–	–	–	–	–	3,680
Profit before income tax	¥ –	¥ –	¥ –	¥ –	¥ –	¥ 29,805
Segment assets	140,734	250,097	32,184	423,015	57,301	480,316
Other items:						
Depreciation and amortization	10,005	12,169	744	22,918	–	22,918
Impairment loss	–	465	–	465	–	465
Increase in property, plant and equipment and intangible assets	8,900	23,922	1,109	33,931	–	33,931

Notes: 1. The "Segment income" adjustment of ¥303 million includes inter-segment transaction eliminations and corporate profit (loss) not allocated to reportable segments.
2. The "Segment assets" adjustment of ¥57,301 million includes short-term surplus funds (cash and deposit) and long-term surplus funds (investments in securities) held by the Company.

FY2018 (April 1, 2018 to March 31, 2019)

	Reportable segments											
		Basic Chemicals		Functional Chemicals		Environment & Catalysts		Total		Adjustment (Notes 1 and 2)		Total
						(Millions of yen)						
Revenue												
(1) Revenue to third parties	¥	**139,210**	¥	**189,642**	¥	**10,017**	¥	**338,869**	¥	**–**	¥	**338,869**
(2) Inter-segment revenue and transfers		**39,041**		**7,518**		**1,089**		**47,648**		**(47,648)**		**–**
Total	¥	**178,251**	¥	**197,159**	¥	**11,106**	¥	**386,516**	¥	**(47,648)**	¥	**338,869**
Segment income		**10,709**		**13,394**		**916**		**25,019**		**1,151**		**26,170**
Finance income		**–**		**–**		**–**		**–**		**–**		**1,771**
Finance expenses		**–**		**–**		**–**		**–**		**–**		**923**
Share of profit of investments in associates and joint ventures accounted for using equity method		**–**		**–**		**–**		**–**		**–**		**5,101**
Profit before income tax	¥	**–**	¥	**–**	¥	**–**	¥	**–**	¥	**–**	¥	**32,119**
Segment assets		**145,633**		**261,664**		**28,956**		**436,253**		**45,414**		**481,668**
Other items:												
Depreciation and amortization		**10,429**		**14,226**		**971**		**25,626**		**–**		**25,626**
Impairment loss		**–**		**–**		**–**		**–**		**–**		**–**
Increase in property, plant and equipment and intangible assets		**11,547**		**21,414**		**722**		**33,683**		**–**		**33,683**

Notes: 1. The "Segment income" adjustment of ¥1,151 million includes inter-segment transaction eliminations and corporate profit (loss) not allocated to reportable segments.
2. The "Segment assets" adjustment of ¥45,414 million includes short-term surplus funds (cash and deposit) and long-term surplus funds (investments in securities) held by the Company.

(4) Information about products and services

Please refer to "(3) Information about revenue, profit or loss, assets, and other items."

(5) Information about geographical areas

1) Revenue

FY2017 (April 1, 2017 to March 31, 2018)

		Japan		Asia		Europe		North America		Others		Total
						(Millions of yen)						
Basic Chemicals	¥	85,382	¥	39,254	¥	2,356	¥	2,239	¥	1,853	¥	131,084
Functional Chemicals		56,423		40,342		38,764		26,452		11,293		173,274
Environment & Catalysts		6,307		1,312		284		1,677		–		9,581
Total	¥	148,111	¥	80,908	¥	41,404	¥	30,368	¥	13,146	¥	313,939

FY2018 (April 1, 2018 to March 31, 2019)

		Japan		Asia		Europe		North America		Others		Total
						(Millions of yen)						
Basic chemicals	¥	**91,278**	¥	**41,483**	¥	**2,132**	¥	**2,536**	¥	**1,782**	¥	**139,210**
Functional chemicals		**60,116**		**48,287**		**40,368**		**22,059**		**18,812**		**189,642**
Environment & catalysts		**5,140**		**2,250**		**567**		**2,060**		**–**		**10,017**
Total	¥	**156,535**	¥	**92,019**	¥	**43,067**	¥	**26,655**	¥	**20,593**	¥	**338,869**

Notes: 1. Revenue is based on customer location and geographical segments are classified according to geographical proximity.
2. Specific countries of each area:
(1) Asia: East and South East Asian countries
(2) Europe: European countries
(3) North America: North American countries
(4) Others: Areas or countries except Asia, Europe, North America and Japan

2) Non-current assets

	April 1, 2017 (Transition Date)	March 31, 2018	March 31, 2019
		(Millions of yen)	
Japan	¥ 114,684	¥ 111,245	**¥ 115,167**
Indonesia	26,679	22,991	**25,279**
Other Asia	4,271	5,537	**5,665**
Belgium	27,882	46,131	**45,901**
North America	20,386	18,399	**17,130**
Total	¥ 193,903	¥ 204,303	**¥ 209,143**

Note: Non-current assets are based on asset location and do not include financial instruments, deferred tax assets and retirement benefit asset, etc.

(6) Information about major customers

There are no customers accounting for 10% or more of the revenue from external customers for the years ended March 31, 2018 and 2019, respectively.

6. Cash and Cash Equivalents

Cash and cash equivalents consist of cash and deposits. The balances of cash and cash equivalents in the consolidated statement of financial position as of March 31, 2018 and 2019 agreed with the respective balances in the consolidated statement of cash flows.

7. Trade Receivables

The details of trade receivables are as follows:

	April 1, 2017 (Transition Date)	March 31, 2018	March 31, 2019
		(Millions of yen)	
Notes and accounts receivable - trade	¥ 66,520	¥ 79,367	**¥ 81,168**
Allowance for doubtful accounts	(30)	(30)	**(10)**
Total	¥ 66,490	¥ 79,338	**¥ 81,158**

8. Inventories

The details of inventories are as follows:

	April 1, 2017 (Transition Date)	March 31, 2018	March 31, 2019
		(Millions of yen)	
Merchandise and finished goods	¥ 31,619	¥ 33,147	**¥ 36,949**
Work in process	6,208	5,469	**5,654**
Raw materials and supplies	14,812	17,773	**16,664**
Total	¥ 52,639	¥ 56,388	**¥ 59,266**

The amount of write-down of inventories recognized as an expense for the fiscal years ended March 31, 2018 and 2019 was ¥1,693 million and ¥1,785 million, respectively.

9. Other Financial Assets

(1) Details

	April 1, 2017 (Transition Date)	March 31, 2018	March 31, 2019
		(Millions of yen)	
Financial assets measured at amortized cost:			
Time deposits	¥ 7,497	¥ 7,109	**¥ 6,325**
Loans receivable	75	63	**54**
Accounts receivable – other	2,872	1,391	**1,913**
Other	1,546	1,426	**1,184**
Allowance for doubtful accounts	(66)	(66)	**(63)**
Financial assets measured at fair value through profit or loss:			
Debt instruments	933	650	**622**
Derivatives	70	84	**30**
Other	129	263	**308**
Financial assets measured at fair value through other comprehensive income:			
Equity instruments	38,436	42,710	**36,868**
Other	1	0	**0**
Total	¥ 51,492	¥ 53,632	**¥ 47,241**
Current assets	11,429	9,300	**8,945**
Non-current assets	40,063	44,332	**38,296**
Total	¥ 51,492	¥ 53,632	**¥ 47,241**

(2) Equity securities measured at fair value through other comprehensive income

The Group has designated equity securities held for the purpose of maintaining and strengthening business relationships as financial assets measured at fair value through other comprehensive income.

The fair values of major equity securities are as follows:

	April 1, 2017 (Transition Date)	March 31, 2018	March 31, 2019
		(Millions of yen)	
Sanyo Chemical Industries, Ltd.	¥ 5,175	¥ 5,518	**¥ 5,668**
Toyo Ink SC Holdings Co., Ltd.	4,452	5,482	**4,128**
FUSO CHEMICAL CO., LTD.	4,135	3,261	**2,209**

The Group reviews the importance of holding the equity securities in accordance with the Group's policy, and sells the equity securities where the importance are weakened from the view of the efficiency of assets utilization.

Fair values and accumulated gains on sales of equity securities as of March 31, 2018 and 2019 are as follows. Accumulated gains on sales (net of tax effect) are transferred from other accumulated comprehensive income to retained earnings.

	Years ended March 31, 2018	Years ended March 31, 2019
	(Millions of yen)	
Fair values at the date of sales	¥ 868	**¥ 52**
Accumulated gains (losses) before tax effect	527	**46**
Accumulated gains (losses) after tax effect	369	**31**

10. Property, Plant and Equipment

(1) Schedule of movements

(Millions of yen)

Historical cost	Buildings and structures	Machinery and vehicles	Tools, furniture and fixtures	Land	Construction in progress	Total
Balance as of April 1, 2017	¥ 107,485	¥ 367,949	¥ 21,079	¥ 36,883	¥ 33,373	¥ 566,769
Acquisition	21	586	137	—	32,870	33,614
Transfer from construction in progress	2,685	15,340	1,246	23	(19,294)	—
Disposal	(1,485)	(7,021)	(1,217)	(310)	(228)	(10,261)
Effect of foreign exchange rate fluctuation	(167)	(2,102)	5	25	2,340	100
Other changes	93	14	(74)	38	(1,139)	(1,068)
Balance as of March 31, 2018	**¥ 108,632**	**¥ 374,766**	**¥ 21,176**	**¥ 36,658**	**¥ 47,921**	**¥ 589,155**
Acquisition	**1,219**	**79**	**201**	**—**	**31,634**	**33,132**
Transfer from construction in progress	**9,738**	**54,408**	**1,521**	**4**	**(65,671)**	**—**
Disposal	**(296)**	**(7,556)**	**(530)**	**(337)**	**—**	**(8,719)**
Effect of foreign exchange rate fluctuation	**(28)**	**650**	**(17)**	**(29)**	**(635)**	**(59)**
Other changes	**—**	**(605)**	**(79)**	**—**	**(693)**	**(1,378)**
Balance as of March 31, 2019	**¥ 119,265**	**¥ 421,743**	**¥ 22,272**	**¥ 36,296**	**¥ 12,556**	**¥ 612,131**

(Millions of yen)

Accumulated depreciation and accumulated impairment losses	Buildings and structures	Machinery and vehicles	Tools, furniture and fixtures	Land	Construction in progress	Total
Balance as of April 1, 2017	¥ (67,735)	¥ (299,956)	¥ (17,679)	¥ (3,547)	¥ —	¥ (388,917)
Depreciation	(3,170)	(17,668)	(1,319)	—	—	(22,156)
Impairment losses	(188)	(272)	(5)	—	—	(465)
Disposal	1,471	6,528	1,211	258	—	9,468
Effect of foreign exchange rate fluctuation	(50)	871	1	8	—	830
Other changes	(9)	(1)	1	—	—	(9)
Balance as of March 31, 2018	**¥ (69,681)**	**¥ (310,498)**	**¥ (17,790)**	**¥ (3,280)**	**¥ —**	**¥ (401,249)**
Depreciation	**(3,544)**	**(19,944)**	**(1,374)**	**—**	**—**	**(24,863)**
Disposal	**267**	**7,321**	**528**	**239**	**—**	**8,354**
Effect of foreign exchange rate fluctuation	**22**	**(851)**	**6**	**(6)**	**—**	**(830)**
Other changes	**—**	**13**	**74**	**—**	**—**	**88**
Balance as of March 31, 2019	**¥ (72,936)**	**¥ (323,959)**	**¥ (18,556)**	**¥ (3,048)**	**¥ —**	**¥ (418,499)**

Carrying amount	Buildings and structures	Machinery and vehicles	Tools, furniture and fixtures	Land	Construction in progress	Total
			(Millions of yen)			
As of April 1, 2017	¥ 39,750	¥ 67,993	¥ 3,400	¥ 33,337	¥ 33,373	¥ 177,853
As of March 31, 2018	38,951	64,268	3,387	33,378	47,921	187,906
As of March 31, 2019	**46,329**	**97,783**	**3,716**	**33,248**	**12,556**	**193,632**

Note: 1. Depreciation of property, plant and equipment is included in "cost of sales," "selling, general and administrative expenses," and "other operating expenses" in the consolidated statement of income.
2. Expenditures for property, plant and equipment under construction are stated as "construction in progress."

Finance lease assets recorded as property, plant and equipment are mainly included in "machinery and vehicles" mentioned above. Their carrying amounts as of April 1, 2017, March 31, 2018 and 2019 are ¥1,735 million, ¥1,474 million and \2,395 million yen, respectively.

(2) Impairment losses

FY2017 (April 1, 2017 to March 31, 2018)

The Company recorded impairment losses for the following asset groups.

Location	Segment	Utilization	Class of asset	Amount
				(Millions of yen)
Himeji Plant (Himeji, Hyogo Prefecture)	Functional Chemicals	Manufacturing equipment of maleic anhydride	Buildings and structures	¥ 184
			Machinery and vehicles	234
			Tools, furniture and fixtures	2
Himeji Plant (Himeji, Hyogo Prefecture)	Functional Chemicals	Manufacturing equipment of sodium polyacrylate	Buildings and structures	3
			Machinery and vehicles	38
			Tools, furniture and fixtures	3

Based on the business segments, the Group determines asset groupings by the minimum unit that generates independent cash flows. Furthermore, the Group classifies individual assets that are not expected to be used in the future as a single unit.

The Group reduced the carrying value of its manufacturing equipment for maleic anhydride in Himeji, Hyogo Prefecture, to the recoverable value and recorded the reduction as an impairment loss (¥420 million) under "other operating expenses," since the Group saw the profitability of maleic anhydride decline due to the deterioration of the supply and demand balance and the product is forecast to continue to incur a loss in the future. Although the Group measures the recoverable value of the relevant asset group based on value in use, it records the amount at memorandum value due to negative expected future cash flows.

The Group reduced the carrying value of its manufacturing equipment for sodium polyacrylate in Himeji, Hyogo Prefecture, to the recoverable value and recorded the reduction as an impairment loss (¥45 million) under "other operating expenses," since the Group saw demand for sodium polyacrylate remain sluggish and the product is forecast to continue to incur a loss in the future. Although the Group measures the recoverable value of the relevant asset group as the value in use, it records the amount at the memorandum value due to negative expected future cash flows.

FY2018 (April 1, 2018 to March 31, 2019)

There were no impairment losses recorded.

11. Goodwill and Intangible Assets

(1) Schedule of movements

Historical cost	Goodwill	Intangible assets: Technology-related assets	Intangible assets: Software	Intangible assets: Other	Total
			(Millions of yen)		
Balance as of April 1, 2017	¥ 4,406	¥ 6,563	¥ 1,895	¥ 3,723	¥ 12,181
Acquisition	—	—	92	136	228
Transfer	—	—	265	(265)	—
Disposal	—	—	(197)	(15)	(212)
Effect of foreign exchange rate fluctuation	0	47	(7)	(151)	(110)
Other changes	—	—	16	—	16
Balance as of March 31, 2018	**¥ 4,406**	**¥ 6,611**	**¥ 2,065**	**¥ 3,427**	**¥ 12,103**
Acquisition	**—**	**—**	**62**	**144**	**206**
Transfer	**—**	**—**	**45**	**(43)**	**2**
Disposal	**—**	**—**	**(130)**	**(0)**	**(130)**
Effect of foreign exchange rate fluctuation	**(47)**	**(117)**	**5**	**121**	**9**
Balance as of March 31, 2019	**¥ 4,360**	**¥ 6,494**	**¥ 2,048**	**¥ 3,649**	**¥ 12,190**

Accumulated amortization and accumulated impairment losses	Goodwill	Intangible assets: Technology-related assets	Intangible assets: Software	Intangible assets: Other	Total
			(Millions of yen)		
Balance as of April 1, 2017	¥ —	¥ —	¥ (1,234)	¥ (574)	¥ (1,807)
Amortization	—	(437)	(264)	(61)	(762)
Disposal	—	—	197	12	208
Effect of foreign exchange rate fluctuation	—	(3)	7	19	23
Other changes	—	—	(2)	—	(2)
Balance as of March 31, 2018	**¥ —**	**¥ (441)**	**¥ (1,296)**	**¥ (603)**	**¥ (2,340)**
Amortization	**—**	**(431)**	**(272)**	**(61)**	**(763)**
Disposal	**—**	**—**	**130**	**0**	**130**
Effect of foreign exchange rate fluctuation	**—**	**6**	**(5)**	**(17)**	**(17)**
Balance as of March 31, 2019	**¥ —**	**¥ (866)**	**¥ (1,444)**	**¥ (680)**	**¥ (2,990)**

Carrying amount	Goodwill	Intangible assets: Technology-related assets	Intangible assets: Software	Intangible assets: Other	Total
			(Millions of yen)		
As of April 1, 2017	¥ 4,406	¥ 6,563	¥ 661	¥ 3,150	¥ 10,374
As of March 31, 2018	4,406	6,170	769	2,824	9,763
As of March 31, 2019	**4,360**	**5,628**	**604**	**2,968**	**9,200**

Note: Amortization of intangible assets is included in “cost of sales” and “selling, general and administrative expenses” in the consolidated statement of income.

(2) Significant intangible assets

Major intangible assets recorded in the consolidated statement of financial position are technology-related assets. The technology-related assets were recognized through the acquisition of SIRRUS Inc., a consolidated subsidiary, and their remaining useful life is 13 years.

(3) Impairment test of goodwill

Goodwill arising from business combinations is allocated to the cash-generating unit that benefits from the business combination at the date of the acquisition. The carrying values by segment are as follows:

Segment	April 1, 2017 (Transition Date)		March 31, 2018		March 31, 2019	
			(Millions of yen)			
Functional Chemicals Business	¥	4,406	¥	4,406	**¥**	**4,360**

Impairment loss of goodwill is recognized when the recoverable amount is less than the carrying amount. The carrying amount of the relevant goodwill is reduced to its recoverable amount. The recoverable amount is calculated based on its value in use. The value in use is calculated by discounting the estimated future cash flows to the present value based on past experience and external information.

The Group did not record impairment losses since the recoverable amount of the cash-generating unit exceeded the carrying amount as a result of the impairment tests at the date of transition, in FY2017, and in FY2018.

The Group used the weighted average cost of capital set by a cash-generating unit and the like as the discount rates in the impairment test of goodwill. The pre-tax discount rates used in the impairment test were 15.2% at the date of transition, 16.8% in FY2017, and 16.5% in FY2018. In addition, the growth rate of the cash flow for the period that exceeds the period of the business plan approved by the management team is set at 2.1% (the inflation rate in the United States).

Since the value in use significantly exceeds the carrying amount of the relevant cash-generating unit, the Group has determined that significant impairment is unlikely to occur, even if the major assumptions used in the calculation of the value in use change within a reasonable range.

(4) Other disclosures

The Group's expenditures for research and development activities that were recognized as expenses in FY2017 and FY2018 were ¥14,251 million and ¥13,996 million, respectively. The expenditures were included in "cost of sales" and "selling, general and administrative expenses" in the consolidated statement of income.

12. Investments Accounted for Using the Equity Method

The carrying amounts of investments in associates and joint ventures individually immaterial are as follows:

	April 1, 2017 (Transition Date)		March 31, 2018		March 31, 2019	
			(Millions of yen)			
Total carrying amount	¥	17,385	¥	20,232	**¥**	**21,773**

The Group's shares of comprehensive income of associates and joint ventures individually immaterial are as follows:

	Years ended March 31,			
	2018		2019	
	(Millions of yen)			
Group's share of profit	¥	3,680	**¥**	**5,101**
Group's share of other comprehensive income (loss)		1,186		**(1,055)**
Group's share of comprehensive income	¥	4,866	**¥**	**4,046**

13. Income Taxes

(1) Schedule of movements

The breakdown of deferred tax assets and liabilities and its movements are as follows:

FY2017 (April 1, 2017 to March 31, 2018)

	Beginning balance	Recognized through profit or loss	Recognized through other comprehensive income (loss)	Other	Ending balance
			(Millions of yen)		
Deferred tax assets:					
Depreciation (including impairment losses)	¥ 2,103	¥ (85)	¥ —	¥ (20)	¥ 1,998
Accrued bonuses	872	58	—	(1)	929
Net defined benefit liability	1,471	361	429	(1)	2,260
Unrealized income	250	79	—	—	329
Loss carried forward	162	1,479	—	(62)	1,579
Other	874	(16)	(2)	(5)	851
Total deferred tax assets	¥ 5,732	¥ 1,876	¥ 427	¥ (89)	¥ 7,946
Deferred tax liabilities:					
Depreciation (overseas subsidiaries)	(11)	(846)	—	36	(821)
Intangible assets	(2,502)	1,215	—	(9)	(1,296)
Financial assets measured at fair value through other comprehensive income	(4,774)	—	(984)	—	(5,759)
Investment in affiliates (overseas subsidiaries)	—	(331)	—	14	(317)
Retained income of affiliates	(2,512)	(298)	—	—	(2,809)
Other	(1,106)	139	3	(1)	(964)
Total deferred tax liabilities	¥ (10,905)	¥ (120)	¥ (981)	¥ 39	¥ (11,967)
Net deferred tax assets (liabilities)	¥ (5,174)	¥ 1,756	¥ (554)	¥ (50)	¥ (4,021)

FY 2018 (April 1, 2018 to March 31, 2019)

	Beginning balance	Recognized through profit or loss	Recognized through other comprehensive income (loss)	Other	Ending balance
			(Millions of yen)		
Deferred tax assets:					
Depreciation (including impairment losses)	**¥ 1,998**	**¥ (45)**	**¥ —**	**¥ 21**	**¥ 1,973**
Accrued bonuses	**929**	**76**	**—**	**1**	**1,005**
Net defined benefit liability	**2,260**	**62**	**(692)**	**(0)**	**1,631**
Unrealized income	**329**	**(65)**	**—**	**—**	**265**
Loss carried forward	**1,579**	**(857)**	**—**	**312**	**1,034**
Other	**851**	**301**	**—**	**(242)**	**909**
Total deferred tax assets	**¥ 7,946**	**¥ (528)**	**¥ (692)**	**¥ 90**	**¥ 6,816**
Deferred tax liabilities:					
Depreciation (overseas subsidiaries)	**(821)**	**139**	**—**	**(37)**	**(719)**
Intangible assets	**(1,296)**	**90**	**—**	**23**	**(1,182)**
Financial assets measured at fair value through other comprehensive income (loss)	**(5,759)**	**—**	**1,704**	**—**	**(4,055)**
Investment in affiliates (overseas subsidiaries)	**(317)**	**36**	**—**	**(14)**	**(296)**
Retained income of affiliates	**(2,809)**	**(338)**	**—**	**—**	**(3,148)**
Other	**(964)**	**285**	**1**	**2**	**(676)**
Total deferred tax liabilities	**¥ (11,967)**	**¥ 212**	**¥ 1,705**	**¥ (25)**	**¥ (10,075)**
Net deferred tax assets (liabilities)	**¥ (4,021)**	**¥ (316)**	**¥ 1,013**	**¥ 66**	**¥ (3,258)**

(2) Supplemental remarks to the note "(1) Schedule of movements"

Loss carried forward and deductible temporary differences for which deferred tax assets are not recognized are as follows:

	April 1, 2017 (Transition Date)	March 31, 2018	March 31, 2019
		(Millions of yen)	
Deductible temporary differences	¥ 6,165	¥ 6,715	**¥ 6,426**
Loss carried forward	17,736	13,946	**15,630**

In evaluating recoverability of deferred tax assets, the Group considers the scheduled reversal of deferred tax liabilities, projected future taxable income, and tax planning. As a result of the evaluation of recoverability, it does not recognize deferred tax assets for certain deductible temporary differences and loss carried forward.

The amount of loss carried forward for which deferred tax assets are not recognized and the expiration of carryforward are as follows:

	April 1, 2017 (Transition Date)	March 31, 2018	March 31, 2019
		(Millions of yen)	
Loss carried forward:			
Within 5 years	¥ 502	¥ 3,263	**¥ 3,199**
Beyond 5 years	17,234	10,683	**12,432**
Total	¥ 17,736	¥ 13,946	**¥ 15,630**

(3) Income tax expenses

The breakdown of income tax expenses are as follows:

	Years ended March 31, 2018	Years ended March 31, 2019
	(Millions of yen)	
Current tax expenses	¥ 8,393	¥ **7,451**
Deferred tax expenses:		
Temporary differences originated and reversed	(1,460)	**327**
Changes in unrecognized deferred tax assets	(296)	**(11)**
Total deferred tax expenses	(1,756)	**316**
Total	¥ 6,638	**¥ 7,767**

Current tax expenses include the amount of benefits arising from loss carryforward and temporary differences recognized in prior periods, for which deferred tax assets were not recognized in prior periods. These effects decreased current income taxes by ¥759 million and ¥201 million for FY2017 and FY2018, respectively.

Deferred tax expenses include the amount of benefits arising from loss carryforward and temporary differences for prior periods, for which deferred tax assets were not recognized in prior periods. These effects decreased deferred income taxes by ¥467 million and ¥11 million for FY2017 and FY2018, respectively.

Adjustments between the effective statutory tax rate and the effective tax rate are as follows:

	Years ended March 31, 2018	Years ended March 31, 2019
Effective statutory tax rate	30.8 %	**30.6 %**
Share of profit of investments accounted for using equity method	(3.8 %)	**(4.9 %)**
Tax credits for research and development expenses	(3.7 %)	**(3.1 %)**
Difference between effective statutory tax rate and consolidated subsidiary's tax rate	(1.6 %)	**(0.8 %)**
Changes in unrecognized deferred tax assets	1.5 %	**1.4 %**
Other	(1.0 %)	**1.0 %**
Effective tax rate	22.3 %	**24.2 %**

The Group is mainly subject to income tax, inhabitant tax, and enterprise tax. The effective statutory tax rate calculated based on these taxes was 30.8% for FY2017 and 30.6% for FY2018. However, foreign subsidiaries are subject to the tax rates at their locations.

14. Trade Payables

The breakdown of trade payables are as follows:

	April 1, 2017 (Transition Date)	March 31, 2018	March 31, 2019
		(Millions of yen)	
Notes and accounts payable – trade	¥ 44,811	¥ 58,811	**¥ 51,866**
Total	¥ 44,811	¥ 58,811	**¥ 51,866**

15. Bonds and Borrowings

(1) Breakdown

	April 1, 2017 (Transition Date)	March 31, 2018	March 31, 2019	Average interest rate	Maturity
		(Millions of yen)			
Short-term borrowings	¥ 10,537	¥ 8,244	**¥ 8,091**	2.62%	
Current portion of long-term borrowings	10,888	4,439	**12,760**	1.03%	
Bonds	10,000	10,000	**10,000**	0.11%	
Long-term borrowings	30,213	35,302	**24,902**	0.78%	2020 to 2024
Total	¥ 61,637	¥ 57,986	**¥ 55,754**	—	
Current liabilities	21,424	12,683	**20,851**	—	
Non-current liabilities	40,213	45,302	**34,902**	—	

Note: The average interest rates and due date are for the balances at the end of FY2018.

(2) Details of bonds

	Currency	Maturity	Carrying value			Nominal interest rate (average)
			April 1, 2017 (Transition Date)	March 31, 2018	March 31, 2019	
				(Millions of yen)		
Unsecured straight bond No.8	Japanese yen	June 2021	¥ 10,000	¥ 10,000	**¥ 10,000**	0.11%
Total			¥ 10,000	¥ 10,000	**¥ 10,000**	

(3) Pledged assets

Assets pledged as collateral and secured debt are as follows:

Assets pledged as collateral

	April 1, 2017 (Transition Date)	March 31, 2018	March 31, 2019
		(Millions of yen)	
Property, plant and equipment	¥ 829	¥ 843	**¥ 280**
Other financial assets	13	13	**13**
Total	¥ 842	¥ 856	**¥ 293**

Secured debt

	April 1, 2017 (Transition Date)	March 31, 2018	March 31, 2019
		(Millions of yen)	
Trade payables	¥ 74	¥ 91	**¥ 85**
Short-term borrowings	520	380	**290**
Total	¥ 594	¥ 471	**¥ 375**

16. Reconciliation of Liabilities Arising from Financing Activities

FY2017 (April 1, 2017 to March 31, 2018)

Item	Beginning balance	Changes incash flows	Non-cash changes: Foreign exchange fluctuations	Non-cash changes: Other	Ending balance
			(Millions of yen)		
Short-term borrowings	¥ 10,537	¥ (1,905)	¥ (388)	¥ —	¥ 8,244
Long-term borrowings	41,100	(2,042)	683	—	39,741
Bonds	10,000	—	—	—	10,000
Lease obligations	552	(75)	8	4	489
Total	¥ 62,189	¥ (4,022)	¥ 303	¥ 4	¥ 58,474

FY2018 (April 1, 2018 to March 31, 2019)

Item	Beginning balance	Changes incash flows	Non-cash changes: Foreign exchange fluctuations	Non-cash changes: Other	Ending balance
			(Millions of yen)		
Short-term borrowings	**¥ 8,244**	**¥ (518)**	**¥ 365**	**¥ —**	**¥ 8,091**
Long-term borrowings	**39,741**	**(1,513)**	**(566)**	**—**	**37,662**
Bonds	**10,000**	**—**	**—**	**—**	**10,000**
Lease obligations	**489**	**(121)**	**(17)**	**529**	**879**
Total	**¥ 58,474**	**¥ (2,151)**	**¥ (219)**	**¥ 529**	**¥ 56,633**

17. Provisions

The breakdown and movements in provisions are as follows:

FY2017 (April 1, 2017 to March 31, 2018)

	Provision for bonuses	Asset retirement obligations	Other provisions	Total
		(Millions of yen)		
Beginning balance	¥ 3,147	¥ 248	¥ 1,389	¥ 4,784
Increases during the period	7,308	1,645	1,306	10,258
Provision utilized	(7,068)	—	(1,297)	(8,365)
Other	19	33	(1)	50
Ending balance:	¥ 3,405	¥ 1,925	¥ 1,397	¥ 6,727
Current liabilities	3,405	—	1,397	4,802
Non-current liabilities	—	1,925	—	1,925

FY2018 (April 1, 2018 to March 31, 2019)

	Provision for bonuses	Asset retirement obligations	Other provisions	Total
		(Millions of yen)		
Beginning balance	**¥ 3,405**	**¥ 1,925**	**¥ 1,397**	**¥ 6,727**
Increases during the period	**8,201**	**61**	**1,409**	**9,671**
Provision utilized	**(7,920)**	**—**	**(1,304)**	**(9,224)**
Other	**(11)**	**(90)**	**1**	**(100)**
Ending balance:	**¥ 3,676**	**¥ 1,896**	**¥ 1,502**	**¥ 7,074**
Current liabilities	**3,676**	**—**	**1,502**	**5,178**
Non-current liabilities	**—**	**1,896**	**—**	**1,896**

Provision for bonuses

To provide for payment of bonuses to employees, provision for bonuses was recorded in FY 2018 based on an estimate of the amount to be paid.

Asset retirement obligations

To provide for obligations to restore plant and equipment and premises that the Group uses and removal of hazardous materials, the Group records asset retirement obligations based on estimated amounts to be paid in the future based on past results. Although these expenses are estimated to be mainly paid after one year or more, they may be affected by future business plans.

18. Employee Benefits

(1) Outline of post-employment benefit system

The Company and its major subsidiaries operate both funded and unfunded defined benefit plans and defined contribution plans to cover payment of net defined benefits to employees.

Under the defined benefit corporate pension plans (funded plans), lump-sums or pensions are paid in accordance with employees' salaries and service years. Under the lump-sums retirement benefit plans (unfunded plans), lump-sums are paid as defined benefit based on employees' salaries and service years. The Company introduces a cash balance plan for the defined benefit pension plan and lump-sums retirement benefit plan. Under the cash balance plan, a hypothetical account that is equivalent to amounts credited and pension fund is prepared for each eligible employee. Primarily, interest credits based on market interest trends and contribution credits based on employees' salary levels are accumulated in the hypothetical account.

These pension plans are exposed to investment risk, interest rate risk, inflation risk, and the like.

(2) Defined benefit plans

1) Reconciliation of present value of defined benefit plan obligations

Changes in the present value of defined benefit plan obligations are as follows:

	Years ended March 31,			
	2018		2019	
	(Millions of yen)			
Beginning balance of the present value of defined benefit plan obligations:	¥	39,661	**¥**	**44,137**
Service cost		1,976		**1,855**
Interest cost		350		**349**
Remeasurements of defined benefit plans:				
Actuarial gains and losses arising from changes in demographic assumptions		(40)		**(263)**
Actuarial gains and losses arising from changes in financial assumptions		2,588		**(1,273)**
Other		(115)		**(89)**
Benefits paid		(1,848)		**(1,998)**
Past service cost		1,537		**—**
Other		27		**(68)**
Ending balance of the present value of defined benefit plan obligations	¥	44,137	**¥**	**42,650**

Note: The weighted average durations of defined benefit plan obligations are 17.20 years, 18.20 years and 17.60 years as of the date of transition, March 31, 2018 and 2019, respectively.

2) Changes in the fair value of plan assets

Changes in the fair value of plan assets are as follows:

	Years ended March 31, 2018	Years ended March 31, 2019
	(Millions of yen)	
Beginning balance of the fair value of plan assets:	¥ 34,130	**¥ 36,014**
Interest income	283	**265**
Remeasurements of defined benefit plans:		
Return on plan assets	1,032	**660**
Employer contributions	1,674	**946**
Benefits paid	(1,158)	**(1,173)**
Other	54	**(33)**
Ending balance of the fair value of plan assets	¥ 36,014	**¥ 36,680**

Note: The employer contributions for FY2019 are expected to be ¥960 million.

3) Reconciliation of the ending balances of defined benefit obligations and plan assets and amounts reported in the consolidated statement of financial position

Amounts reported in the consolidated statement of financial position are as follows:

	April 1, 2017 (Transition Date)	March 31, 2018	March 31, 2019
		(Millions of yen)	
Present value of defined benefit obligations	¥ (39,661)	¥ (44,137)	**¥ (42,650)**
Fair value of plan assets	34,130	36,014	**36,680**
Net amount of liabilities and assets reported in the consolidated statement of financial position	¥ (5,531)	¥ (8,123)	**¥ (5,970)**
Amounts reported in the consolidated statement of financial position:			
Net defined benefit liability	¥ (12,829)	¥ (14,282)	**¥ (14,119)**
Net defined benefit asset	7,298	6,160	**8,149**
Net amount of liabilities and assets reported in the consolidated statement of financial position	¥ (5,531)	¥ (8,123)	**¥ (5,970)**

4) Breakdown of plan assets

The composition of fair value of plan assets for each fiscal year is as follows:

Transition date (As of April 1, 2017)

	With quoted price in an active market	With no quoted price in an active market	Total
		(Millions of yen)	
Debt instruments	¥ —	¥ 19,176	¥ 19,176
Equity instruments	95	8,054	8,149
General account	—	157	157
Cash and deposits	3,562	—	3,562
Other	—	3,085	3,085
Total	¥ 3,658	¥ 30,472	¥ 34,130

Note: 1. Debt instruments include alternative investments whose risk level is equivalent to that of bonds.
2. Debt instruments are mainly composed of bonds in Japan.
3. The total of plan assets includes 0.4% of employee pension trust set up for the corporate pension plan.

FY2017 (As of March 31, 2018)

	With quoted market price in an active market	With no quoted market price in an active market	Total
		(Millions of yen)	
Debt instruments	¥ —	¥ 25,994	¥ 25,994
Equity instruments	95	6,302	6,397
General account	—	159	159
Cash and deposits	1,697	—	1,697
Other	—	1,767	1,767
Total	¥ 1,792	¥ 34,222	¥ 36,014

Note: 1. Debt instruments include alternative investments whose risk level is equivalent to that of bonds.
2. Debt instruments are mainly composed of bonds in Japan.
3. The total of plan assets includes 0.4% of employee pension trust set up for the corporate pension plan.

FY 2018 (March 31, 2019)

	With quoted price in an active market	With no quoted price in an active market	Total
		(Millions of yen)	
Debt instruments	**¥ —**	**¥ 27,359**	**¥ 27,359**
Equity instruments	**83**	**6,351**	**6,433**
General account	**—**	**165**	**165**
Cash and deposits	**663**	**—**	**663**
Other	**—**	**2,059**	**2,059**
Total	**¥ 746**	**¥ 35,934**	**¥ 36,680**

Note: 1. Debt instruments include alternative investments whose risk level is equivalent to that of bonds.
2. Debt instruments are mainly composed of bonds in Japan.
3. The total of plan assets includes 0.3% of employee pension trust set up for the corporate pension plan.

To ensure the payment pension benefits and lump-sums in the future, the plan assets are managed to secure necessary aggregate return over the long term considering the medium-term downside risks.

To achieve the objective, the asset portfolio is determined after considering basic factors, such as the expected return, risk, and correlation coefficient, and the target asset allocation based on safety and efficiency from a medium- to long-term diversified investment viewpoint and is reviewed as necessary.

5) Significant actuarial assumptions

Main actuarial assumptions used for calculating the present value of defined benefit plan obligations are as follows:

	April 1, 2017 (Transition Date)	March 31, 2018	March 31, 2019
Discount rate	0.83%	0.74%	**0.61%**

6) Sensitivity analysis of defined benefit obligations

The sensitivity analysis of defined benefit obligations pertaining to changes in the weighted average of significant actuarial assumptions is as follows:

		March 31, 2018	March 31, 2019
		(Millions of yen)	
Discount rate	0.5% increase	¥ (3,101)	**¥ (2,919)**
	0.5% decrease	3,554	**3,311**

The above sensitivity analysis assumes that all other assumptions other than the one analyzed remain unchanged. In reality, any change in assumptions may occur interrelatedly.

In calculating the sensitivity of defined benefit obligations to the significant actuarial assumptions, the same method that is used to calculate defined benefit obligations recognized in the consolidated statement of financial position (the present value of defined benefit plan obligations calculated by the projected unit credit method at the end of the reporting period) is applied.

(3) Defined contribution plan

The expenses reported with regard to the defined contribution pension plans (including public pension plans in countries where the Group's companies are located) was \199 million for FY2017 and \200 million for FY2018.

(4) Employee benefit expenses

The employee benefit expenses other than net defined benefits included in the consolidated statement of income was \36,640 million for FY2017 and \38,690 million for FY2018.

Employee benefit expenses are mainly composed of salaries, bonuses, and expenses for paid leave, and are included in "cost of sales" and "selling, general and administrative expenses" in the consolidated statement of income.

19. Equity and Other Equity Items

(1) Share capital and treasury shares

The number of shares authorized, class of shares issued, total number of shares issued, and class and number of treasury shares are as follows:

	Years ended March 31,	
	2018	2019
	Common stock	Common stock
Number of shares authorized (Thousands of shares)	127,200	**127,200**
Shares issued:		
Number of shares at beginning of period (Thousands of shares)	40,800	**40,800**
Changes in number of shares during the period (Thousands of shares)	–	**–**
Number of shares at end of period (Thousands of shares)	40,800	**40,800**
Treasury shares:		
Number of shares at beginning of period (Thousands shares)	919	**920**
Changes in number of shares during the period (Thousands of shares)	1	**1**
Number of shares at end of period (Thousand shares)	920	**922**

Note: Changes in the number of treasury shares (common stock) of 1 thousand shares represent the increase due to the acquisition of shares less than one unit.

(2) Surplus

1) Capital surplus

The Companies Act of Japan ("Companies Act") provides that at least one-half of paid-in or contribution for the issuance of shares shall be credited to share capital and the rest be appropriated as capital reserve within capital surplus.

Capital reserves can be appropriated as share capital by resolution at the shareholders' meeting.

2) Retained earnings

The Companies Act requires that one-tenth of retained earnings appropriated for dividends be retained as capital reserve or earned legal reserve until the total amount of earned regal reserve included in capital reserve and retained earnings reaches a quarter of share capital. Earned legal reserves may be revised by resolution at the shareholders' meeting.

(3) Other components of equity

1) Net changes in financial assets measured at fair value through other comprehensive income

It represents the difference between the historical cost and fair value of equity financial instruments measured at fair value through other comprehensive income. When disposing of equity financial instruments measured at fair value through other comprehensive income, the Group transfers the difference between the historical cost and fair value from other components of equity to retained earnings.

2) Remeasurement of defined benefit plans

It represents changes in the present value of defined benefit plan obligations arising from the change of actuarial assumptions and actual results and the difference between projected and actual return of the plan assets. These are recognized as other comprehensive income as incurred and are immediately transferred from other components of equity to retained earnings.

3) **Exchange differences on translation of foreign operations**

It represents foreign exchange translation differences that occur when translating financial statements of foreign operations prepared in foreign currencies into Japanese yen, the Group's functional currency.

4) **Effective portion of cash flow hedges**

It represents the effective portion of changes in the fair value of derivative transactions designated as cash flow hedges.

20. Dividends

FY 2017 (April 1, 2017 to March 31, 2018)

(1) Dividends paid

Resolution	Class of shares	Total dividends (millions of yen)	Dividends per share (yen)	Record date	Effective date
Ordinary General Meeting of Shareholders held on June 21, 2017	Common stock	2,991	75.00	March 31, 2017	June 22, 2017
Board of Directors meeting held on November 7, 2017	Common stock	2,991	75.00	September 30, 2017	December 5, 2017

(2) The dividends whose record date falls in FY2017 and the effective date falls in FY2018

Resolution	Class of shares	Source of dividends	Total dividends (millions of yen)	Dividends per share (yen)	Record date	Effective date
Ordinary General Meeting of Shareholders held on June 20, 2018	Common stock	Retained earnings	3,390	85.00	March 31, 2018	June 21, 2018

FY 2018 (April 1, 2018 to March 31, 2019)

(1) Dividends paid

Resolution	Class of shares	Total dividends (millions of yen)	Dividends per share (yen)	Record date	Effective date
Ordinary General Meeting of Shareholders held on June 20, 2018	Common stock	**3,390**	**85.00**	March 31, 2018	June 21, 2018
Board of Directors meeting held on November 6, 2018	Common stock	**3,190**	**80.00**	September 30, 2018	December 5, 2018

(2) The dividends whose record date falls in FY2018 and the effective date falls in FY2019

Resolution	Class of shares	Source of dividends	Total dividends (millions of yen)	Dividends per share (yen)	Record date	Effective date
Ordinary General Meeting of Shareholders held on June 20, 2019	Common stock	Retained earnings	**3,589**	**90.00**	March 31, 2019	June 21, 2019

21. Revenue

(1) Breakdown of revenue

The Group's operations principally consist of the Basic Chemicals, Functional Chemicals, and Environment and Catalysts businesses. Revenue reported by these businesses is presented and is monitored by the Company's Board of Directors regularly to determine the allocation of management resources and to evaluate business performance. Revenue is classified by region based on the location of customers. The relationship between the revenue classified by region and that by reporting segment is described in Note "5. Segment Information."

1) Basic Chemicals business

The Basic Chemicals business is engaged in sales of chemical products, including acrylic acids, acrylic ester, ethylene oxides, and their inducing substances. Main customers are users of finished goods.

In the Basic Chemicals business, the Group recognizes revenue from the sales of the products when control over such products is transferred to the customer or equivalently, upon delivery of the products to the customer, since the legal title to the products and physical possession of the products, and significant risks and rewards of ownership of the products, are transferred to the customer and the Group obtains rights to receive payments from the customer. Revenue from the sales of these products is measured at the transaction prices fixed in the contract with the customer. The Group receives a consideration for a transaction within one year after fulfilling the performance obligations, and the consideration does not include a significant financing component.

2) Functional Chemicals business

The Functional Chemicals business is engaged in sales of chemical products, including superabsorbent polymers, polymers for concrete admixture, and electronic and information materials. Main customers are users of finished goods.

In the Functional Chemicals business, the Group recognizes revenue from the sales of the products when control over such products is transferred to the customer or equivalently, upon delivery of the products to the customer, since the legal title to the products and physical possession of the products, and significant risks and rewards of ownership of the products, are transferred to the customer and it obtains rights to receive payments from the customer. Revenue from the sales of these products is measured at the transaction prices fixed in the contract with the customer. The Group receives a consideration for a transaction within one year after fulfilling the performance obligations, and the consideration does not include a significant financing component.

3) Environment and Catalysts business

The Environment and Catalysts business is engaged in sales of process catalysts, De-NOx catalysts, dioxin decomposition catalysts, and fuel cell materials. Main customers are users of finished goods.

In the Environment and Catalysts business, the Group recognizes revenue from the sales of the products mainly when control over such products is transferred to the customer or equivalently, upon delivery of the products to the customer, since the legal title to the products and physical possession of the products, and significant risks and rewards of ownership of the products, are transferred to the customer and it obtains rights to receive payments from the customer. With regards to the sales of waste gas treatment equipment, the Group continuously recognizes revenue based on the cost-to-cost method. Regardless of the difference of the methods on recognizing revenue, revenue from the sales of these products is measured based on the transaction prices fixed in the contract with the customer. The Group receives a consideration for a transaction mainly within one year after fulfilling the performance obligations, and the consideration does not include a significant financing component.

(2) Balance of outstanding contracts

	April 1, 2017 (Transition Date)		March 31, 2018		March 31, 2019	
			(Millions of yen)			
Trade receivables arising from contracts with customers						
Notes and accounts receivable - trade	¥	66,520	¥	79,367	**¥**	**81,168**
Contractual liabilities		131		74		**86**

In FY2017 and FY2018, the amounts of revenue recognized from performance obligations fulfilled in the past periods were immaterial.

22. Selling, General and Administrative Expenses

Breakdown of selling, general and administrative expenses are as follows:

	Years ended March 31,			
	2018		2019	
	(Millions of yen)			
Transportation and warehousing expenses	¥	12,573	**¥**	**12,565**
Employee benefit expenses		8,570		**8,577**
Research and development expenses		12,991		**12,583**
Other		7,700		**7,198**
Total	¥	41,835	**¥**	**40,923**

23. Other Operating Income and Other Operating Expenses

Breakdown of other operating income are as follows:

	Years ended March 31,	
	2018	2019
	(Millions of yen)	
Real estate rent	¥ 1,189	**¥ 1,244**
Technical support fee	570	**289**
Other	411	**660**
Total	¥ 2,170	**¥ 2,193**

Breakdown of other operating expenses are as follows:

	Years ended March 31,	
	2018	2019
	(Millions of yen)	
Expenses for removing non-current assets	¥ 161	**¥ 455**
Taxes and dues	263	**262**
Loss on disaster	—	**203**
Depreciation	203	**180**
Loss on disposal of non-current assets	479	**74**
Impairment loss	465	**—**
Other	698	**503**
Total	¥ 2,269	**¥ 1,677**

24. Finance Income and Finance Expenses

The breakdown of finance income are as follows:

	Years ended March 31,	
	2018	2019
	(Millions of yen)	
Interest income		
Financial assets measured at amortized cost	¥ 207	**¥ 293**
Dividend income		
Financial assets measured at fair value through other comprehensive income	1,204	**1,476**
Other	8	**3**
Total	¥ 1,420	**¥ 1,771**

Note: Dividend income is mainly from dividends on corporate equities continuously held.

The breakdown of finance expenses are as follows:

	Years ended March 31,	
	2018	2019
	(Millions of yen)	
Interest expenses		
Financial liabilities measured at amortized cost	¥ 431	**¥ 582**
Foreign exchange losses (net)	459	**326**
Other	15	**16**
Total	¥ 904	**¥ 923**

25. Other Comprehensive Income

Breakdown of other comprehensive income is as follows:

	Years ended March 31, 2018	Years ended March 31, 2019
	(Millions of yen)	
Items that will not be reclassified to profit or loss		
Net changes in financial assets measured at fair value through other comprehensive income (loss):		
Amount arising during period	¥ 3,906	**¥ (5,806)**
Amount of tax effect	(984)	**1,704**
Net amount	2,922	**(4,102)**
Remeasurement of defined benefit plans:		
Amount arising during period	(1,401)	**2,285**
Tax effects	429	**(692)**
Net of tax effect	¥ (972)	**¥ 1,593**
Share of other comprehensive income (loss) of investments in associates and joint ventures accounted for using equity method:		
Amount arising during period	27	**(63)**
Total of items that will not be reclassified to profit or loss	¥ 1,977	**¥ (2,572)**
Items that may be reclassified to profit or loss		
Exchange differences on translation of foreign operations:		
Amount arising during period	687	**38**
Reclassification adjustments	—	**—**
Before tax effect	687	**38**
Tax effects	(59)	**47**
Net of tax effect	¥ 628	**¥ 85**
Effective portion of cash flow hedges:		
Amount arising during period	(2)	**2**
Reclassification adjustments	(3)	**(6)**
Before tax effect	(5)	**(4)**
Tax effects	2	**1**
Net of tax effect	¥ (3)	**¥ (3)**
Share of other comprehensive income (loss) of investments in associates and joint ventures accounted for using equity method:		
Amount arising during period	1,159	**(992)**
Total of items that may be reclassified to profit or loss	¥ 1,784	**¥ (910)**
Other comprehensive income (loss)	¥ 3,761	**¥ (3,482)**

26. Earnings Per Share

Earnings per share and the basis for its calculation are as follows. Diluted earnings per share are not shown since there are no diluted shares outstanding.

	Years ended March 31, 2018	Years ended March 31, 2019
Profit attributable to owners of parent (Millions of yen)	22,641	**23,849**
Averages number of shares of common stock during the period (Thousands of shares)	39,880	**39,878**
Basic earnings per share (Yen)	567.71	**598.05**

27. Financial Instruments

(1) Capital management

The Group aims at achieving a sustainable growth of its businesses by securing financial stability through the strengthening of capital position and reduction of financial risk. To accomplish that, the Group monitors the financial condition using the indices, such as shareholders' equity ratio, the total debt to total assets ratio, and D/E ratio.

	April 1, 2017 (Transition Date)	March 31, 2018	March 31, 2019
Shareholders' equity ratio (%)	64.6	64.3	**67.1**
Total debt to total asset ratio (%)	13.9	12.2	**11.8**
D/E ratio (times)	0.22	0.19	**0.18**

Note: Shareholders' equity ratio = Equity attributable to owners of parent/Total assets
Total debt to total assets ratio = Interest-bearing debt/Total assets
D/E ratio = Interest-bearing debt/ Equity attributable to owners of parent

(2) Financial risk management

The Group's business activities may be affected by various risks, including market risk, credit risk, and liquidity risk. While recognizing the possibility of occurrence of such risks, the Group makes every possible effort to prevent their occurrence and to manage them if they occur. Furthermore, the Group has established the "Risk Management Committee" chaired by the President to implement company-wide measures as appropriate in response to its exposure to various risks.

(3) Market risk

1) Foreign exchange risk

As the Group operates its business globally, it owns trade receivables and payables denominated in foreign currencies. These trade receivables and payables are exposed to the risk of fluctuations of foreign exchange rates. The Group enters into forward exchange contracts to hedge the risk of the trade receivables and the payables denominated in foreign currencies.

With regard to financial instruments denominated in foreign currencies that the Group owned as of March 31, 2018 and 2019, the table below shows the impact on profit before income tax in the Group's consolidated statement of income (foreign exchange sensitivity) in case the Japanese yen appreciates by 1.0% against the US dollar and Euro (The sensitivity analysis assumes that all other variables remain unchanged).

	Years ended March 31,	
	2018	2019
	(Millions of yen)	
US dollar	¥ (44)	**¥ (31)**
Euro	(17)	**(10)**

2) Interest rate risk

The Group covers working capital and capital expenditures using its own capital, bonds, and borrowings. As certain interest rates on its borrowings are floating rates, the Group is exposed to the risk of changes in interest rates. The Group enters into interest rate swap contracts to reduce such risk as necessary.

The effect of changes in market interest rates on the Group's operating profit is immaterial.

3) Share price fluctuation risk

As the Group owns shares of business partners for reinforcing business collaboration or capital tie-ups, it is exposed to the risk of market price fluctuations. To reduce such risk, the Group periodically assesses the market value and financial condition of issuers (business partners) and continually reviews the holding purpose by considering its relationships with business partners.

The table below shows the impact on other comprehensive income (net of tax effects) with regard to the equity financial instruments that the Group owned as of April 1, 2017, March 31, 2018 and March 31, 2019, in case the market price fluctuates by 10% (The analysis assumes that all other variables remain unchanged).

	April 1, 2017 (Transition Date)	March 31, 2018	March 31, 2019
		(Millions of yen)	
10% change in market price	¥ 2,517	¥ 2,757	**¥ 2,360**

4) Derivative transactions

The Group enters into forward exchange contracts to hedge the risk of fluctuation in foreign exchange rates pertaining to trade receivables and payables denominated in foreign currencies, and interest rate swap contracts to hedge the risk of fluctuation in interest rates related to borrowings. The Finance & Accounting Division, etc. is responsible for managing derivative contracts and report the status of such transactions to directors in charge every month.

Transactions for which hedge accounting was applied

Transition date (As of April 1, 2017)

	Contract amount	Beyond 1 year	Carrying amount		Line items in the consolidated statement of finance position
			Assets	Liabilities	
			(Millions of yen)		
Cash flow hedge					
Foreign exchange risk					
Forward exchange contracts	¥ 71	¥ 47	¥ 15	¥ —	Other financial assets
Interest rate risk					
Interest rate swaps	5,000	—	—	6	Other financial liabilities

FY2017 (As of March 31, 2018)

	Contract amount	Beyond 1 year	Carrying amount		Line items in the consolidated statement of finance position
			Assets	Liabilities	
			(Millions of yen)		
Cash flow hedge					
Foreign exchange risk					
Forward exchange contracts	¥ 23	¥ —	¥ 4	¥ —	Other financial assets
Interest rate risk					
Interest rate swaps	—	—	—	—	—

FY2018 (As of March 31, 2019)

	Contract amount	Beyond 1 year	Carrying amount		Line items in the consolidated statement of finance position
			Assets	Liabilities	
			(Millions of yen)		
Cash flow hedge					
Foreign exchange risk					
Forward exchange contracts	**¥ —**	**¥ —**	**¥ —**	**¥ —**	**—**
Interest rate risk					
Interest rate swaps	**—**	**—**	**—**	**—**	**—**

As important terms and conditions of the hedged item match those of the hedging instrument, the amount of the ineffective portion of hedges which shall be recognized in profit or loss is immaterial.

The table below shows the balance of "Net changes in fair value of cash flow hedges."

In FY 2018, there was no discontinued hedge relationship.

Risk of hedged items	April 1, 2017 (Transition Date)	March 31, 2018	March 31, 2019
		(Millions of yen)	
Foreign exchange risk	¥ 11	¥ 3	**¥ —**
Interest rate risk	(4)	—	**—**
Total	**¥ 6**	**¥ 3**	**¥ —**

Impacts on other comprehensive income and profit or loss through the application of hedge accounting are as follows:

FY 2017 (April 1, 2017 to March 31, 2018)

Risk	Profit or loss on hedges reported in other comprehensive income (loss)	Reclassification adjustment from other components of equity to profit or loss	Line item of reclassification adjustment in consolidated statement of income	Amount reclassified to historical cost of hedged items
		(Millions of yen)		
Foreign exchange risk	¥ (11)	¥ 9	Finance income	¥ —
Interest rate risk	6	(6)	Finance expenses	—

FY 2018 (April 1, 2018 to March 31, 2019)

Risk	Profit or loss on hedges reported in other comprehensive income (loss)	Reclassification adjustment from other components of equity to profit or loss	Line item of reclassification adjustment in consolidated statement of income	Amount reclassified to historical cost of hedged items
		(Millions of yen)		
Foreign exchange risk	**¥ (4)**	**¥ 6**	**Finance income/costs**	**¥ —**
Interest rate risk	**—**	**—**	**—**	**—**

Transactions for which hedge accounting was not applied

	April 1, 2017 (Transition Date)			March 31, 2018			March 31, 2019		
	Contract amount	Beyond 1 year	Fair value	Contract amount	Beyond 1 year	Fair value	Contract amount	Beyond 1 year	Fair value
					(Millions of yen)				
Forward exchange contracts									
Selling position	¥ 6,587	¥ —	¥ 50	¥ 8,450	¥ —	¥ 76	**¥ 8,728**	**¥ —**	**¥ 6**
Buying position	24	—	5	28	—	4	**8**	**—**	**0**

(4) Credit risk

Credit risk is the risk of incurring losses where an obligor, an issuer of financial assets owned by the Group, fails to honor its obligations. With regard to trade receivables, each business division regularly monitors the condition of major business partners, manages due dates and balances for each business partner, and assesses the credit condition of major business partners every six months. The consolidated subsidiaries also manage their credit risk in accordance with the above-mentioned procedures.

With regard to derivative transactions, the Group judges that credit risk is minimal since the counterparties are financial institutions with high credit ratings. There is no excessive concentration of the credit risk that requires special management.

The carrying amount of financial assets after deducting provisions for doubtful accounts in the consolidated statement of financial position is the maximum exposure to the credit risk of the Company's financial assets that does not take into account collateral held and other credit enhancements. In addition, the maximum exposure to the credit risk of the debt guarantee is the amount stated in Note "32. Contingencies".

The Group recognizes expected credit losses for trade receivables and other financial assets as provisions for doubtful accounts.

As trade receivables do not include significant financial components, the Group always measures provisions for doubtful accounts at an amount equivalent to lifetime expected credit losses. With regard to other financial assets, when credit risk has increased significantly, the Group measures provisions for such financial assets at an amount equivalent to lifetime expected credit losses; when credit risk has not increased significantly, the Group measures provisions for such financial assets at an amount equivalent to the 12-month expected credit losses.

The Group judges whether or not credit risk has increased significantly based on changes in risk of the occurrence of a default. When judging such changes, the Group mainly considers past due information. The Group judges that credit risk has increased when a payment is overdue. However, it judges that credit risk has not increased significantly taking into consideration the reasons for the overdue payment and relevant information on the financial condition of a business partner. In principle, when the number pf days past due exceeds one year, the Group judges that a default has occurred.

The Group classifies financial assets as credit-impaired financial assets if a business partner faces serious financial difficulty or there is an increase in possibility that a business partner will go bankrupt or commence debt consolidation proceedings.

With regard to all or part of financial assets, for any non-recoverable amount in the future, the total carrying amount of such financial assets is directly written-off accordingly.

The changes in provisions for doubtful accounts are as follows.

FY 2017 (April 1, 2017 to March 31, 2018)

	Trade receivables (financial assets whose provisions for doubtful accounts are always measured at an amount equal to the lifetime expected credit losses)	Other financial assets		Total
		Financial assets measured at an amount equal to the 12-month expected credit losses	Financial assets measured at an amount equal to the lifetime expected credit losses	
		(Millions of yen)		
Beginning balance	¥ 30	¥ 65	¥ 1	¥ 96
Increase during period	4	10	—	14
Utilized	(0)	—	—	(0)
Reversal	(6)	(10)	—	(16)
Other (note)	1	—	—	1
Ending balance	¥ 30	¥ 65	¥ 1	¥ 96

Note: “Other” includes mainly the impact of foreign exchange translation.

FY 2018 (April 1, 2018 to March 31, 2019)

	Trade receivables (financial assets whose provisions for doubtful accounts are always measured at an amount equal to the lifetime expected credit losses)	Other financial assets		Total
		Financial assets measured at an amount equal to the 12-month expected credit losses	Financial assets measured at an amount equal to the lifetime expected credit losses	
		(Millions of yen)		
Beginning balance	**¥ 30**	**¥ 65**	**¥ 1**	**¥ 96**
Increase during period	**4**	**12**	**—**	**16**
Utilized	**(2)**	**—**	**—**	**(2)**
Reversal	**(21)**	**(15)**	**(0)**	**(36)**
Other (note)	**(1)**	**—**	**—**	**(1)**
Ending balance	**¥ 10**	**¥ 63**	**¥ 0**	**¥ 73**

Note: “Other” includes mainly the impact of foreign exchange translation.

Information on trade receivables and other financial assets past due as of April 1, 2017 March 31, 2018 and March 31, 2019 is as follows:

Transition date (As of April 1, 2017)

Number of days past due	Trade receivables (financial assets whose provisions for doubtful accounts are always measured at an amount equal to the lifetime expected credit losses)	Other financial assets		Total
		Financial assets measured at an amount equal to the 12-month expected credit losses	Financial assets measured at an amount equal to the lifetime expected credit losses	
		(Millions of yen)		
Not past due	¥ 65,652	¥ 4,492	¥ —	¥ 70,145
Past due within 6 months	860	0	—	861
Past due over 6 months within 12 months	4	—	—	4
Past due over 12 months	3	—	1	4
Total	¥ 66,520	¥ 4,492	¥ 1	¥ 71,013

FY 2017 (As of March 31, 2018)

Number of days past due	Trade receivables (financial assets whose provisions for doubtful accounts are always measured at an amount equal to the lifetime expected credit losses)	Other financial assets		Total
		Financial assets measured at an amount equal to the 12-month expected credit losses	Financial assets measured at an amount equal to the lifetime expected credit losses	
		(Millions of yen)		
Not past due	¥ 76,998	¥ 2,880	¥ —	¥ 79,879
Past due within 6 months	2,348	0	—	2,348
Past due after 6 months within 12 months	18	—	—	18
Past due over 12 months	3	—	1	4
Total	¥ 79,367	¥ 2,880	¥ 1	¥ 82,248

FY 2018 (As of March 31, 2019)

Number of days past due	Trade receivables (financial assets whose provisions for doubtful accounts are always measured at an amount equal to the lifetime expected credit losses)	Other financial assets		Total
		Financial assets measured at an amount equal to the 12-month expected credit losses	Financial assets measured at an amount equal to the lifetime expected credit losses	
		(Millions of yen)		
Not past due	**¥ 78,643**	**¥ 3,150**	**¥ —**	**¥ 81,792**
Past due within 6 months	**2,469**	**1**	**—**	**2,470**
Past due after 6 months within 12 months	**54**	**—**	**—**	**54**
Past due over 12 months	**3**	**—**	**0**	**3**
Total	**¥ 81,168**	**¥ 3,150**	**¥ 0**	**¥ 84,318**

(5) Liquidity risk

Liquidity risk is the risk that the Group will be unable to perform its repayment obligations for financial liabilities on the due date. Each group company manages liquidity risk by preparing their funding plans in a timely manner.

Contractual maturities of major financial liabilities are as follows:
Financial guarantee contracts are not included in the tables below since the Group is obliged when a demand for execution is made.

Transition date (As of April 1, 2017)

(Millions of yen)

	Contract amount	Within 1 year	Over 1 year within 2 years	Over 2 years within 3 years	Over 3 years within 4 years	Over 4 years within 5 years	Over 5 years
Non-derivative financial liabilities							
Trade payables	¥ 44,811	¥ 44,811	¥ —	¥ —	¥ —	¥ —	¥ —
Bonds	10,000	—	—	—	—	10,000	—
Short-term borrowings	10,537	10,537	—	—	—	—	—
Long-term borrowings	41,100	10,888	4,575	9,324	2,217	2,117	11,979
Lease obligations	552	61	102	143	43	42	161
Total	¥ 107,000	¥ 66,297	¥ 4,677	¥ 9,466	¥ 2,260	¥ 12,160	¥ 12,140
Derivative financial liabilities							
Interest rate derivatives	6	6	—	—	—	—	—
Total	¥ 6	¥ 6	¥ —	¥ —	¥ —	¥ —	¥ —

FY 2017 (As of March 31, 2018)

(Millions of yen)

	Contract amount	Within 1 year	Over 1 year within 2 years	Over 2 years within 3 years	Over 3 years within 4 years	Over 4 years within 5 years	Over 5 years
Non-derivative financial liabilities							
Trade payables	¥ 58,811	¥ 58,811	¥ —	¥ —	¥ —	¥ —	¥ —
Bonds	10,000	—	—	—	10,000	—	—
Short-term borrowings	8,244	8,244	—	—	—	—	—
Long-term borrowings	39,741	4,439	12,773	6,132	6,106	5,985	4,307
Lease obligations	489	65	97	124	42	42	119
Total	¥ 117,285	¥ 71,559	¥ 12,870	¥ 6,256	¥ 16,148	¥ 6,027	¥ 4,426
Derivative financial liabilities							
Interest rate derivatives	0	0	—	—	—	—	—
Total	¥ 0	¥ 0	¥ —	¥ —	¥ —	¥ —	¥ —

FY 2018 (As of March 31, 2019)

(Millions of yen)

	Contract amount	Within 1 year	Over 1 year within 2 years	Over 2 years within 3 years	Over 3 years within 4 years	Over 4 years within 5 years	Over 5 years
Non-derivative financial liabilities							
Trade payables	**¥ 51,866**	**¥ 51,866**	**¥ —**	**¥ —**	**¥ —**	**¥ —**	**¥ —**
Bonds	**10,000**	**—**	**—**	**10,000**	**—**	**—**	**—**
Short-term borrowings	**8,091**	**8,091**	**—**	**—**	**—**	**—**	**—**
Long-term borrowings	**37,662**	**12,760**	**6,353**	**6,989**	**6,668**	**4,297**	**596**
Lease obligations	**879**	**107**	**211**	**93**	**93**	**93**	**282**
Total	**¥ 108,499**	**¥ 72,825**	**¥ 6,564**	**¥ 17,082**	**¥ 6,761**	**¥ 4,390**	**¥ 877**
Derivative financial liabilities							
Interest rate derivatives	**25**	**25**	**—**	**—**	**—**	**—**	**—**
Total	**¥ 25**	**¥ 25**	**¥ —**	**¥ —**	**¥ —**	**¥ —**	**¥ —**

(6) Fair value of financial instruments

1) Fair value and carrying amount

The carrying amount and fair value of financial assets and liabilities measured at amortized cost are as follows:

Financial assets whose carrying values approximate their fair values are not included in the table below.

	April 1, 2017 (Transition Date)		March 31, 2018		March 31, 2019	
	Carrying amount	Fair value	Carrying amount	Fair value	Carrying amount	Fair value
			(Millions of yen)			
Financial liabilities measured at amortized cost						
Bonds and long-term borrowings	¥ 51,100	¥ 50,936	¥ 49,741	¥ 49,509	**¥ 47,662**	**¥ 47,775**
Lease obligations	552	586	489	534	**879**	**960**
Total financial liabilities	¥ 51,652	¥ 51,522	¥ 50,230	¥ 50,043	**¥ 48,542**	**¥ 48,735**

2) Calculation methods of fair value

The fair values of financial assets and liabilities are determined by the following methods. When estimating fair values of financial instruments, market prices are used when available. The fair value of financial instruments without market prices is estimated by discounting the future cash flows or using other appropriate valuation techniques.

(i) Long-term borrowings and lease obligations
The fair value of these borrowings and obligations is calculated by discounting the total amounts of principal and interest to the present value using the incremental borrowing rate.

(ii) Bonds
The fair value of bonds is determined based on their market prices.

3) Fair value hierarchy

The table below shows the analysis on financial instruments reported by fair values. Each level is defined as follows:

Level 1: Fair values measured at quoted prices (unadjusted) for identical assets or liabilities in active markets
Level 2: Fair values measured using direct or indirect observable inputs other than Level 1
Level 3: Fair values measured using unobservable inputs

Transition date (As of April 1, 2017)

	Level 1	Level 2	Level 3	Total
		(Millions of yen)		
Financial assets measured at fair value through profit or loss				
Debt instruments	¥ 933	¥ —	¥ —	¥ 933
Derivative assets	—	70	—	70
Other	—	45	84	129
Financial assets measured at fair value through other comprehensive income				
Equity instruments	36,274	—	2,162	38,436
Other	—	—	1	1
Total assets	¥ 37,207	¥ 115	¥ 2,247	¥ 39,568
Financial liabilities measured at fair value through profit or loss				
Derivative liabilities	—	6	—	6
Total liabilities	¥ —	¥ 6	¥ —	¥ 6

FY 2017 (As of March 31, 2018)

	Level 1	Level 2	Level 3	Total
		(Millions of yen)		
Financial assets measured at fair value through profit or loss				
Debt instruments	¥ 650	¥ —	¥ —	¥ 650
Derivative assets	—	84	—	84
Other	—	44	219	263
Financial assets measured at fair value through other comprehensive income				
Equity instruments	39,733	—	2,977	42,710
Other	—	—	0	0
Total assets	¥ 40,383	¥ 128	¥ 3,197	¥ 43,708
Financial liabilities measured at fair value through profit or loss				
Derivative liabilities	—	0	—	0
Total liabilities	¥ —	¥ 0	¥ —	¥ 0

FY 2018 (As of March 31, 2019)

	Level 1	Level 2	Level 3	Total
		(Millions of yen)		
Financial assets measured at fair value through profit or loss				
Debt instruments	**¥ 622**	**¥ —**	**¥ —**	**¥ 622**
Derivative assets	**—**	**30**	**—**	**30**
Other	**—**	**54**	**253**	**308**
Financial assets measured at fair value through other comprehensive income				
Equity instruments	**34,005**	**—**	**2,863**	**36,868**
Other	**—**	**—**	**0**	**0**
Total assets	**¥ 34,627**	**¥ 85**	**¥ 3,117**	**¥ 37,829**
Financial liabilities measured at fair value through profit or loss				
Derivative liabilities	**—**	**25**	**—**	**25**
Total liabilities	**¥ —**	**¥ 25**	**¥ —**	**¥ 25**

Listed shares are classified as Level 1 in the fair value hierarchy since their fair values are measured using quoted prices in the stock exchange.

Derivative transactions are classified as Level 2 in the fair value hierarchy since their fair values are measured using assessed valuations calculated using observable inputs, including foreign exchange rates provided by correspondent financial institutions.

Unlisted stocks are classified as Level 3 in the fair value hierarchy since their fair values are measured at the value calculated based on net asset value, etc. The rationality of the evaluation is verified by the Accounting Division and approved by the manager of the Division. Significant changes in fair values caused by changes in unobservable inputs are not expected.

In FY2017 and FY2018, there were no significant transfers between Level 1 and Level 2.

The table below shows the reconciliation from the beginning balance to the ending balance for fair value measurement categorized as Level 3 in the fair value hierarchy.

FY 2017 (April 1, 2017 to March 31, 2018)

	Financial assets measured at fair value through other comprehensive income (loss)	Financial assets measured at fair value through profit or loss	Total
		(Millions of yen)	
Beginning balance	¥ 2,162	¥ 84	¥ 2,247
Purchase	906	150	1,056
Transfer	(20)	—	(20)
Profit (loss)	—	(15)	(15)
Other comprehensive income	(68)	—	(68)
Decrease due to sales	(2)	—	(2)
Ending balance	¥ 2,978	¥ 219	¥ 3,197

FY 2018 (April 1, 2018 to March 31, 2019)

	Financial assets measured at fair value through other comprehensive income (loss)	Financial assets measured at fair value through profit or loss	Total
		(Millions of yen)	
Beginning balance	**¥ 2,978**	**¥ 219**	**¥ 3,197**
Purchase	**—**	**50**	**50**
Profit (loss)	**—**	**(16)**	**(16)**
Other comprehensive income	**(109)**	**—**	**(109)**
Sales	**(6)**	**—**	**(6)**
Ending balance	**¥ 2,863**	**¥ 253**	**¥ 3,117**

Profit or loss pertaining to the above financial assets is included in “Finance income” and “Finance expenses” in the consolidated statement of income, while other comprehensive income is included in “Net changes in financial assets measured at fair value through other comprehensive income” in the consolidated statement of comprehensive income.

28. Leases

(1) Finance lease (lessee)

The Group leases mainly tools, furniture and fixtures under finance leases.

Future minimum lease payments and present value of the finance leases are as follows:

	April 1, 2017 (Transition Date)		March 31, 2018		March 31, 2019	
	Minimum lease payments	Present value of minimum lease payments	Minimum lease payments	Present value of minimum lease payments	Minimum lease payments	Present value of minimum lease payments
			(Millions of yen)			
Within 1 year	¥ 70	¥ 61	¥ 73	¥ 65	**¥ 124**	**¥ 107**
Over 1 year within 5 years	364	330	336	305	**547**	**491**
Over 5 years	185	161	137	119	**303**	**282**
Total	¥ 618	¥ 552	¥ 546	¥ 489	**¥ 974**	**¥ 879**
Future finance expenses	(66)	—	(57)	—	**(94)**	**—**
Present value of minimum lease payments	552	552	489	489	**879**	**879**

(2) Operating lease (lessee)

Future minimum lease payments based on non-cancellable operating leases are as follows:

	April 1, 2017 (Transition Date)	March 31, 2018	March 31, 2019
		(Millions of yen)	
Within 1 year	¥ 41	¥ 39	**¥ 47**
Over 1 year within 5 years	55	53	**68**
Total	¥ 96	¥ 92	**¥ 115**

Lease payments for operating leases (including cancellable leases) recorded as expenses are as follows:

	Years ended March 31,	
	2018	2019
	(Millions of yen)	
Lease payments	¥ 3,002	**¥ 3,163**

29. Significant Subsidiaries

The Company's significant subsidiaries are described in the table below.

Company name (Subsidiaries)	Share Capital		Location	Principal business (Note 1)	Ratio of voting rights (Note2)
					(%)
Nippoh Chemicals Co., Ltd.	¥	517 million	Chuo-ku, Tokyo	Basic Chemicals	84.4
Nisshoku Butsuryu Co., Ltd.	¥	100 million	Chuo-ku, Osaka	Basic Chemicals Functional Chemicals Environment & Catalysts	100.0
Tokyo Fine Chemical Co., Ltd.	¥	80 million	Minato-ku, Tokyo	Functional Chemicals	89.5
Chugoku Kako Co., Ltd.	¥	75 million	Kurashiki-shi, Okayama	Functional Chemicals	93.3
Nippon Shokubai Trading Co., Ltd.	¥	40 million	Chuo-ku, Tokyo	Basic Chemicals Functional Chemicals Environment & Catalysts	100.0
Nisshoku Techno Fine Chemical Co., Ltd.	¥	90 million	Ichikawa-shi, Chiba	Functional Chemicals	96.8
Nihon Nyukazai Co., Ltd.	¥	1,000 million	Chuo-ku, Tokyo	Basic Chemicals	100.0
Nihon Polymer Industries Co., Ltd.	¥	100 million	Himeji-shi, Hyogo	Functional Chemicals	60.0
Nippon Shokubai America Industries, Inc.	$	100,000 thousand	Texas, USA	Functional Chemicals	100.0
Nippon Shokubai (Asia) Co., Ltd.	$	4,175 thousand	Singapore	Basic Chemicals Functional Chemicals	100.0
PT. Nippon Shokubai Indonesia	$	120,000 thousand	Banten, Indonesia	Basic Chemicals Functional Chemicals	99.9
Nippon Shokubai Europe N.V.	€	193,000 thousand	Zwijndrecht, Belgium	Functional Chemicals	100.0
Singapore Acrylic Pte Ltd.	$	27,007 thousand	Singapore	Basic Chemicals	79.4
Nisshoku Chemical Industry (Zhang Jia Gang) Co., Ltd.	$	52,820 thousand	Jiangsu, China	Functional Chemicals	100.0
SINO-JAPAN CHEMICAL CO., LTD	NT$	144,732 thousand	Taipei, Taiwan	Basic Chemicals	52.0 (3.4)
Sirrus, Inc.	$	98,000 thousand	Ohio, USA	Functional Chemicals	100.0

Other 8 subsidiaries

Note: 1. The column "Principal business" indicates the segment stated in Note "5. Segment Information."
2. A number in the parenthesis represents the ratio of indirect voting rights, which is a part of the ratio of voting rights.

30. Related Party Transactions

(1) Transactions with related parties

Significant transactions between the Group and related parties are as follows:

FY 2017 (April 1, 2017 to March 31, 2018)

Type	Name of the related party	Relationship with related party	Details of transactions	Transaction amounts	Ending balance
				(Millions of yen)	
Affiliate	Umicore Shokubai Japan Co., Ltd.	Supply of finished goods (catalysts for automobiles) and incidental transactions	Sales of catalysts for automobiles	¥ 23,493	¥ 8,670
			Purchase of raw materials	20,553	5,679

Note: 1. Transaction amounts do not include consumption taxes, but the ending balance includes consumption taxes.
2. Transaction conditions and policies on transaction conditions, etc.
Sales of products and purchase of raw materials are determined after price negotiations in consideration of market prices and costs.

FY 2018 (April 1, 2018 to March 31, 2019)

Type	Name of the related party	Relationship with related party	Details of transactions	Transaction amounts	Ending balance
				(Millions of yen)	
Affiliate	Umicore Shokubai Japan Co., Ltd.	Supply of finished goods (catalysts for automobiles) and incidental transactions	Sales of catalysts for automobiles	**¥ 22,129**	**¥ 7,315**
			Purchase of raw materials	**17,816**	**3,314**

Note: 1. Transaction amounts do not include consumption taxes, but the ending balance includes consumption taxes.
2. Transaction conditions and policies on transaction conditions, etc.
Sales of products and purchase of raw materials are determined after price negotiations in consideration of market prices and costs.

(2) Remuneration for key management personnel

Remuneration for key management personnel is as follows:

	Years ended March 31,	
	2018	2019
	(Millions of yen)	
Remuneration and bonuses	¥ 486	**¥ 470**
Net defined benefits	—	**6**

31. Commitments

Commitment regarding the acquisition of property, plant and equipment is as follows:

	April 1, 2017 (Transition Date)	March 31, 2018	March 31, 2019
		(Millions of yen)	
Acquisition of property, plant and equipment	¥ 17,551	¥ 8,215	**¥ 12,246**

32. Contingencies

The Group guarantees bonds issued by a company other than consolidated subsidiaries as follows:

	April 1, 2017 (Transition Date)	March 31, 2018	March 31, 2019
		(Millions of yen)	
American Acryl L.P.	¥ 1,361	¥ 1,289	**¥ 1,346**
	(681)	(644)	**(673)**

Note: The amounts in the parentheses indicate the debt guarantee balance guaranteed by Arkema Delaware Inc.

33. Subsequent Event

(Notice Regarding the Execution of a Basic Agreement Concerning the Consideration of Business Integration between Nippon Shokubai Co., Ltd. and Sanyo Chemical Industries, Ltd.)

Nippon Shokubai Co., Ltd. ("Nippon Shokubai") and Sanyo Chemical Industries, Ltd. ("Sanyo Chemical") (each, a "Company," and collectively, the "Companies") have announced that, based on resolutions adopted at extraordinary meetings of their boards of directors held on May 29, 2019, the Companies have entered into a basic agreement (the "Basic Agreement") to move ahead with the consideration toward the integration of their businesses (the "Business Integration") based on an equal footing.

The Companies will carry out detailed examinations and discussions concerning the Business Integration based on the spirit of mutual trust and equality, with the aim of concluding the final agreement on the Business Integration (the "Final Agreement") around December 2019.

1. Purpose of the Business Integration and others

(1) Purpose of the Business Integration

With the group mission *"TechnoAmenity - Providing affluence and comfort to people and society, with our unique technology,"* Nippon Shokubai, guided by its core catalyst, polymer and organic synthesis technology, has been engaged in the manufacturing of basic chemicals, including acrylic acid and ethylene oxide, as well as the development, manufacture and sale of high-performance functional chemicals and environmental and catalyst products using these basic chemicals as raw materials.

Guided by its company motto *"Let us contribute to building a better society through our corporate activities,"* Sanyo Chemical, with its core surface activity control technology, has developed, manufactured and marketed approximately 3,000 types of sophisticated performance chemicals in order to meet the diversified needs of a wide range of industries.

In recent years, the business environment surrounding the chemical industry has become increasingly severe. In Japan, domestic demand for chemicals is expected to decline due to changing social structure such as a decline and aging of the population, causing intense competition between chemical manufacturers. In emerging countries, there is an increase in demand for chemicals due to rising population and income levels, but the rise of manufacturers of emerging countries and increasing scale disparity with European and American chemical giants are resulting in the Japanese chemical industry being less competitive. Moreover, although superabsorbent polymers (SAP), one of the core businesses of both Companies, can expect continuing and stable demand growth given the growing world population, the outlook is worsening due to a downturn in profitability with changes in the business environment such as oversupply in the emerging countries, where new players are entering the market. Meanwhile, the Sustainable Development Goals (SDGs) adopted at the United Nations summit held in September 2015 set 17 goals ranging from the end of poverty to the revitalization of the global partnership, and it is expected that companies take steps towards such SDGs as a stakeholder of society. We believe that we can contribute in connection with such 17 goals in many ways using the technical capabilities and problem-solving skills that the Companies have cultivated over the years.

In order to respond to these rapidly changing external circumstances, the Companies have formulated their respective medium-term management plans and are working on changes to create new value. Nippon Shokubai has set its vision for 2025 to be *"an innovative chemical company that provides new value for people's lives"* and started executing the 2nd medium-term business plan Reborn Nippon Shokubai 2020 NEXT (see the 2nd Medium-Term Business Plan disclosed on May 9, 2017) in fiscal year 2017. Meanwhile, Sanyo Chemical has set *"We have grown to be a unique, global, and highly profitable company, in which all our employees take pride and find meaning in their work, and contribute to society"* as what it would like to be in ten years, and formulated the medium-term management plan *"New Sanyo for 2027"* (see the 10th Medium-Term Management Plan "New Sanyo for 2027" disclosed on May 8, 2018) which covers the three-year period from fiscal year 2018. In the medium-term management plans, the Companies have set forth "create value and contribute to society through corporate activities," "put profitability ahead of sales," "shift resources to new growth fields (e.g., life science, new energy, electronics)," "accelerate overseas expansion," and "commit to safety, environment and quality" as management policies.

As described above, each Company has set their respective medium-term management plans and has been working on countermeasures to deal with the changes in the external circumstances, but in the course of discussing the respective management challenges between the Companies, which had a business relationship of trading chemical raw materials from the past, Nippon Shokubai, which holds a group mission, *"TechnoAmenity - Providing affluence and comfort to people and society, with our unique technology,"* and Sanyo Chemical, which holds a company motto, *"Let us contribute to building a better society through our corporate activities,"* came to recognize not only the affinity level of their group mission and management motto, which is to contribute to society through corporate activities, is high, but the strengths and business challenges of the respective Companies are in a mutual complementary relationship. Specifically, Nippon Shokubai has its strength in having a value chain of in-house-manufacturing process of basic chemicals and functional chemicals, but on the other hand, is facing a challenge to create new businesses that meets users' needs. Sanyo Chemical, on the other hand, has its strength in manufacturing and marketing performance chemicals, whose scope of variation extends to approximately 3,000 types, as part of its solution business that addresses customers' challenges. At the same time, Sanyo Chemical has been facing the issue of its dependence on procurement of raw materials from external suppliers, including Nippon Shokubai. With such recognition, the Companies were exchanging opinions on various options including a business integration, and have reached an understanding that executing a business integration with each other is the best way to make use of the Companies' strengths, solve the business challenges and create a synergy effect. Consequently, the Companies came to agree to move ahead with the consideration of a business integration by the Companies and entered into the Basic Agreement concerning the consideration of a business integration.

In the event that a final agreement concerning the Business Integration is reached and the Business Integration is executed, the Companies consider that they will be able to become a chemical manufacturer with both significant presence as well as multiple businesses with strengths, by bringing together their respective strengths in sales, manufacturing, research and other capabilities, concentrating management resources and expanding the operating base, and utilizing their respectively cultivated corporate cultures and management strategies at the same time as realizing further changes in business and enhancement of competitiveness. In that light, we will work to create a sustainable society and solve social problems, thereby providing affluence and comfort to people and society, through the creation of products and services to meet people's wishes for "something more…."

Nippon Shokubai and Sanyo Chemical will make their utmost efforts to realize the Business Integration based on the spirit of mutual trust and equality.

(2) Basic Strategies for Post-Business Integration

In the Business Integration, the integrated holding company after the Business Integration (the "Integrated Holding Company") will be in charge of operation and management of the entire cooperate group, consisting of the two Companies and their subsidiaries (the "Integrated Group").

Our basic policy is that, when the Business Integration takes effect, the Companies' corporate planning, finance and accounting, legal, general affairs, HR, IR/PR, internal audit, corporate research, RC (responsible care) and other back-office sections will be integrated into the Integrated Holding Company.

The Integrated Group's basic strategies will include the following items, and the Companies will discuss and determine the details before the execution of the Final Agreement.

(i) Strengthening of business base: Achieve the effects of integration in terms of technology and cost through the integration of the Companies' management base. For the SAP business in particular, improve quality and reduce cost by uniting the two Companies' production technologies and research and development capabilities, with the aim of sound development.

(ii) Strengthening of competitiveness and profitability through scale expansion: Achieve further growth of existing businesses by pursuing cost cutting and the like, while harnessing demand for chemicals in emerging countries.

(iii) Diversification of portfolio: Realize diversification of businesses by combining the Companies' businesses. Meanwhile, constantly examine such diversified businesses from the perspective of selection and concentration and cultivate multiple highly-profitable businesses with strengths.

(iv) Acceleration of development of new business: Aim to contribute to profitability at an early stage by concentrating the two Companies' management resources in focus areas.

(3) Effect of the Business Integration

We will examine measures to generate the effects of integration by the time of the execution of the Final Agreement. In order to achieve the effects of integration as soon as possible, we will carry out discussion to build future structure such as an early integration of the Companies' back–office sections and a merger in two years' time.

2. Summary of the Business Integration

(1) Method of the Business Integration

The basic policy for the Business Integration is that it will be carried out through the two Companies conducting a joint share transfer (the "Share Transfer"), establishing the Integrated Holding Company, their wholly owning parent company, and making the two Companies the wholly owned subsidiaries of the Integrated Holding Company. The details of the Business Integration will continue to be discussed and examined by the Companies in good faith and will be set out in the Final Agreement.

Further, the Companies have the basic policy of carrying out a merger between them by around the second anniversary of when the Business Integration takes effect, but the specific policies therefor will be determined through discussions between the Companies in light of business practicality.

(2) Business Integration Schedule

The basic schedule of the Business Integration is as follows. The schedule will be determined through discussions between the Companies in light of the progress of the business combination review of the Business Integration by the Fair Trade Commission and other preparations for the Business Integration.

Resolutions Adopted at the Companies' Extraordinary Meetings of Boards of Directors	May 29, 2019
Execution of the Basic Agreement	May 29, 2019
Execution of the Final Agreement	December 2019 (scheduled)
Annual meetings of shareholders of Nippon Shokubai and Sanyo Chemical ("Annual Shareholders Meetings")	June 2020 (scheduled)
Effective date of the Share Transfer (Establishment date of the Integrated Holding Company)	October 1, 2020 (scheduled)

* The joint share transfer plan concerning the Share Transfer will be prepared before the Annual Shareholders Meetings of the Companies to be held in June 2020 (scheduled).

(3) Items Regarding the Listing of the Companies' Shares after the Business Integration

The basic policy concerning the method of the Business Integration is that it will be carried out through a joint share transfer. In the event that the Companies ultimately agree that it will be carried out by a joint share transfer, the Companies will submit a new listing application for listing the shares of the Integrated Holding Company on the First Section of the Tokyo Stock Exchange (technical listing). The date of listing is planned to be October 1, 2020, which is the effective date of the Share Transfer. Nippon Shokubai and Sanyo Chemical will become wholly owned subsidiaries of the Integrated Holding Company when the Share Transfer takes place, so the Companies will be delisted prior to the effective date of the Share Transfer. However, in the event that the listing of the shares of the Integrated Holding Company is approved, the shareholders of the respective Companies will be able to trade the shares of the Integrated Holding Company, which will be distributed upon the execution of the Share Transfer, on the Tokyo Stock Exchange.

(4) System to Implement the Business Integration

In order to smoothly consider the Business Integration, promptly after the execution of the Basic Agreement, on May 29, 2019, the Companies established an integration preparatory committee, with the president of each Company acting as co-chairs, and will have discussions necessary for the Business Integration.

3. Post-Business Integration Status

(1) Trade Name

The trade name of the Integrated Holding Company has not been determined yet. It will be determined through discussions between the Companies based on the basic policy that it is different from either Company's trade name and is appropriate in light of the purpose of the Business Integration.

(2) Location of Head Offices

It is contemplated that the Integrated Holding Company will have its head office functions in the City of Osaka and in the 23-ward area of Tokyo, and that the following will be the case as of the effective date of the Business Integration. However, the Companies will continue discussing and examining the location of the head office functions.

Osaka Head Office	4-1-1 Koraibashi, Chuo-ku, Osaka
Tokyo Head Office	1-2-2 Uchisaiwai-cho, Chiyoda-ku, Tokyo

(3) Location of the Registered Head Office

It is contemplated that the registered head office of the Integrated Holding Company will be located as follows.

Registered Head Office	11-1, Ikkyo Nomoto-cho, Higashiyama-ku, Kyoto

(4) Policy for Distributions to Shareholders

The Integrated Holding Company will have the basic policy of paying dividends with due consideration to an appropriate internal reserve level and aiming to increase the level of dividends in the medium to long term.

(5) Organizations and Directors, Audit & Supervisory Board Members and Executive Officers

In order to smoothly carry out and achieve the purpose of the Business Integration and to contribute to maximizing the effects of integration, the basic policy is that the organization and officers of the Integrated Holding Company will be as follows.

(i) Organizations
The Integrated Holding Company will be a company with an audit & supervisory board, and will voluntarily establish, as an advisory body to the Board of Directors, a Nomination and Remuneration Committee.

(ii) Representative Directors
The Integrated Holding Company will have two representative directors, a Chairman and Representative Director and a President and Representative Director. The President and Representative Director will serve as the chair of meetings of shareholders and the board of directors of the Integrated Holding Company. The initial representative directors of the Integrated Holding Company will be as follows.

Chairman and Representative Director	President & CEO of Sanyo Chemical
President and Representative Director	President and Representative Director of Nippon Shokubai

(iii) Directors and Audit & Supervisory Board Members
The number and structure of directors and audit & supervisory board members of the Integrated Holding Company will continue to be discussed and examined between the Companies in good faith and set out in the Final Agreement with a high regard of the Corporate Governance Code of the Tokyo Stock Exchange and based on the principle of placing the right people in the right jobs.

(iv) Executive Officers
Executive officers of the Integrated Holding Company will continue to be discussed and examined between the Companies in good faith with the basic policy of placing the right people in the right jobs and fair and equitable staffing.

(6) Staffing and Treatment of Employees

In order to smoothly carry out and achieve the purpose of the Business Integration as well as to contribute to maximizing the effects of integration, in terms of staffing and treating employees of the Integrated Group, the Companies will treat employees based on the principle of placing the right people in the right jobs and in a fair and equitable manner without regard to their origin, and will not unfairly treat any employee of the Integrated Group based on that employee's origin or other factors.

Further, the Companies will have the following basic policies with respect to staffing and treatment of employees of the Integrated Group:

(i) After the Business Integration takes effect, employees will be recruited by the Integrated Holding Company.

(ii) No personnel reductions will be made due to the Business Integration.

(iii) No disadvantageous changes will be made with respect to employee treatment for several years after the execution of Business Integration. In the future, with the basic policy of maintain work conditions under the Companies' existing systems, the Companies aim to integrate those existing systems into a new system incorporating the merits of each system to a maximum extent.

(7) Share Transfer Ratio

The Companies have the basic policy of discussing and examining in good faith, and setting out, in the Final Agreement, the share transfer ratio of the Share Transfer.

4. Outline of Sanyo Chemical (As of March 31, 2019)

(1) Name	Sanyo Chemical Industries, Ltd.
(2) Location	11-1, Ikkyo Nomoto-cho, Higashiyama-ku, Kyoto
(3) Title and name of representative	Takao Ando, President & CEO
(4) Capital	¥13,051 million
(5) Incorporated on	November 1, 1949
(6) No. of issued shares	Common stock 23,534,752 shares
(7) Consolidated net assets	¥132,623 million
(8) Consolidated total assets	¥193,630 million
(9) Fiscal year end	March 31
(10) No. of employees	2,078 (consolidated)

5. Impact on consolidated financial statements

The impact of the business integration on consolidated financial statements has not been determined.

34. First-time Adoption

The Group has disclosed consolidated financial statements prepared in accordance with IFRS from the current fiscal year. The latest consolidated financial statements in accordance with accounting principles under Japanese GAAP (JGAAP) were those for the fiscal year ended March 31, 2018. The transition date to IFRS was April 1, 2017.

(1) IFRS 1 Exemptions

Under IFRS, entities that adopt IFRS for the first time are in principle required to retroactively apply standards required by IFRS. However, IFRS 1 "First-time Adoption of International Financial Reporting Standards" allows for the application of voluntary exemptions in some of the standards required by IFRS. The main exemptions applied by the Group are as follows. The effects of applying these exemptions are adjusted in retained earnings or other components of equity on the date of transition to IFRS.

1) Business combinations

IFRS 1 permits an entity not to apply IFRS 3 "Business Combinations" retroactively to business combinations that occurred prior to the date of transition. The Group applied this exemption and elected not to retroactively apply IFRS 3 to business combinations that occurred prior to the date of transition. As a result, business combinations that took place prior to the date of transition have not been restated.

2) Exchange differences on translation of foreign operations

IFRS 1 permits an entity to elect to deem the cumulative amount of exchange differences on translation of foreign operations to be zero as of the date of transition. The Group applied this exemption and elected to deem the cumulative amount of exchange differences on translation of foreign operations to be zero as of the date of transition.

3) Leases

IFRS 1 permits an entity to judge whether or not there is a lease included in a contract as of the date of transition. The Group applied this exemption and judged whether or not there is a lease included in a contract based on facts and circumstances that existed as of the date of transition.

4) Designation of financial instruments recognized prior to date of transition

IFRS 1 permits an entity to designate changes in the fair value of equity instruments as financial assets measured through other comprehensive income based on facts and circumstances that existed as of the date of transition.

The Group made judgements based on facts and circumstances that existed as of the date of transition and designates certain equity instruments it owns as financial assets measured through other comprehensive income.

(2) Mandatory Exceptions Under IFRS 1

IFRS 1 prohibits an entity from retroactively applying IFRS with respect to "estimates," "derecognition of financial assets and financial liabilities," "classification and measurement of financial assets," "hedge accounting," and "non-controlling interests." The Group prospectively applies IFRS to these items from the date of transition.

(3) Reconciliations from JGAAP to IFRS

The reconciliations required for the first-time adoption of IFRS are as follows. In the reconciliations below, "reclassification" includes items that do not affect retained earnings and comprehensive income, while "differences in recognition and measurement" includes items that affect retained earnings and comprehensive income.

1) Reconciliations of equity as of the transition date (As of April 1, 2017)

Account items under JGAAP	JGAAP	Reclassification	Differences in recognition and measurement	IFRS	Notes	Accounting items under IFRS
		(Millions of yen)				
Assets						Assets
Current assets						Current assets
Cash and deposits	¥ 56,139	¥ (4,439)	¥ (1,578)	¥ 50,122	(a), (b)	Cash and cash equivalents
Notes and accounts receivable - trade	64,201	(11)	2,300	66,490	(a), (b), (c)	Trade receivables
Merchandise and finished goods	28,162	(28,162)	–	–		
Work in process	6,315	(6,315)	–	–		
Raw materials and supplies	16,632	(16,632)	–	–		
	–	51,109	1,530	52,639	(a), (b), (c)	Inventories
Deferred tax assets	3,154	(3,154)	–	–		
Other	9,916	(1,782)	3,295	11,429	(a), (b)	Other financial assets
	–	3,293	1,941	5,235	(a), (b)	Other current assets
Allowance for doubtful accounts	(11)	11	–	–		
Total current assets	¥ 184,509	¥ (6,082)	¥ 7,488	¥ 185,915		Total current assets
Non-current assets						Non-current assets
Property, plant and equipment	163,160	2,928	11,764	177,853	(a), (b), (c), (d)	Property, plant and equipment
	–	–	4,406	4,406	(a)	Goodwill
Intangible assets	3,877	–	6,497	10,374	(a), (b)	Intangible assets
Investments and other assets						
Investment securities	65,760	(44,518)	(3,857)	17,385	(a), (b)	Investments in associates and joint ventures accounted for using equity method
Investments in capital	3,265	(3,265)	–	–		
Long-term loans receivable	1,172	49,238	(10,347)	40,063	(a), (b)	Other financial assets
Deferred tax assets	1,868	3,154	(2,417)	2,605	(a), (b), (e)	Deferred tax assets
Net defined benefit asset	7,298	–	–	7,298		Net defined benefit asset
Other	2,767	(1,522)	24	1,270	(a), (b)	Other non-current assets
Allowance for doubtful accounts	(66)	66	–	–		
Total non-current assets	¥ 249,101	¥ 6,082	¥ 6,071	¥ 261,254		Total non-current assets
Total assets	¥ 433,610	¥ –	¥ 13,559	¥ 447,169		Total assets

Account items under JGAAP	JGAAP	Reclassification	Differences in recognition and measurement	IFRS	Notes	Accounting items under IFRS
			(Millions of yen)			
Liabilities						Liabilities
Current liabilities						Current liabilities
Notes and accounts payable - trade	¥ 44,615	¥ –	¥ 197	¥ 44,811	(a), (b)	Trade payables
Short-term loans payable	9,976	11,583	(134)	21,424	(a), (b)	Bonds and borrowings
Current portion of long-term loans payable	11,583	(11,583)	–	–		
Lease obligations	25	(25)	–	–		
Income taxes payable	3,378	–	345	3,722	(a), (b)	Income taxes payable
Provision	5,750	–	(1,214)	4,536	(b), (f)	Provisions
Other	11,520	(2,895)	630	9,255	(a), (b)	Other financial liabilities
	–	2,919	2,380	5,300	(a), (b), (g)	Other current liabilities
Total current liabilities	¥ 86,845	¥ –	¥ 2,204	¥ 89,049		Total current liabilities
Non-current liabilities						Non-current liabilities
Bonds payable	10,000	(10,000)	–	–		
Long-term loans payable	26,374	10,000	3,839	40,213	(a), (b)	Bonds and borrowings
Lease obligations	83	738	408	1,229	(a), (b)	Other financial liabilities
Deferred tax liabilities	4,971	–	2,807	7,779	(a), (b), (e)	Deferred tax liabilities
Net defined benefit liability	12,072	–	758	12,829	(a), (b)	Net defined benefit liability
	–	248	–	248	(b)	Provisions
Other	989	(986)	(4)	–		
Total non-current liabilities	¥ 54,489	¥ –	¥ 7,808	¥ 62,297		Total non-current liabilities
Total liabilities	¥ 141,335	¥ –	¥ 10,012	¥ 151,346		Total liabilities
Net assets						Equity
Shareholders' equity						
Capital stock	25,038	–	–	25,038		Share capital
Capital surplus	22,396	–	–	22,396		Capital surplus
Retained earnings	229,092	–	12,967	242,059	(h)	Retained earnings
Treasury shares	(6,249)	–	–	(6,249)		Treasury shares
	–	18,395	(12,868)	5,526	(a), (b), (i)	Other components of equity
Total shareholders' equity	¥ 270,277	¥ 18,395	¥ 99	¥ 288,770		Total equity attributable to owners of parent
Accumulated other comprehensive income						
Valuation difference on available-for-sale securities	12,247	(12,247)	–	–		
Deferred gains or losses on hedges	11	(11)	–	–		
Foreign currency translation adjustment	6,153	(6,153)	–	–		
Remeasurements of defined benefit plans	(16)	16	–	–		
Total accumulated other comprehensive income	¥ 18,395	¥ (18,395)	¥ –	¥ –		
Non-controlling interests	3,604	–	3,448	7,052	(a), (b)	Non-controlling interests
Total net assets	¥ 292,275	¥ –	¥ 3,547	¥ 295,822		Total equity
Total liabilities and net assets	¥ 433,610	¥ –	¥ 13,559	¥ 447,169		Total liabilities and equity

2) Reconciliations of equity as of March 31, 2018

Account items under JGAAP	JGAAP	Reclassification	Differences in recognition and measurement	IFRS	Notes	Accounting items under IFRS
		(Millions of yen)				
Assets						Assets
Current assets						Current assets
Cash and deposits	¥ 55,920	¥ (4,308)	¥ 1,024	¥ 52,635	(a)	Cash and cash equivalents
Notes and accounts receivable - trade	78,038	(9)	1,309	79,338	(a), (c)	Trade receivables
Merchandise and finished goods	31,414	(31,414)	–	–		
Work in process	5,437	(5,437)	–	–		
Raw materials and supplies	20,163	(20,163)	–	–		
	–	57,015	(627)	56,388	(a), (c)	Inventories
Other	7,440	(1,581)	3,441	9,300	(a)	Other financial assets
	–	3,100	1,601	4,701	(a)	Other current assets
Allowance for doubtful accounts	(9)	9	–	–		
Total current assets	¥ 198,403	¥ (2,789)	¥ 6,748	¥ 202,362		Total current assets
Non-current assets						Non-current assets
Property, plant and equipment	175,241	2,789	9,875	187,906	(a), (c), (d)	Property, plant and equipment
	–	–	4,406	4,406	(a)	Goodwill
Intangible assets	3,531	–	6,233	9,763	(a)	Intangible assets
Investments and other assets						
Investment securities	74,707	(50,643)	(3,832)	20,232	(a)	Investments in associates and joint ventures accounted for using equity method
Investments in capital	2,354	(2,354)	–	–		
Long-term loans receivable	931	54,292	(10,891)	44,332	(a)	Other financial assets
Deferred tax assets	2,652	–	275	2,926	(a), (e)	Deferred tax assets
Net defined benefit asset	6,160	–	–	6,160		Net defined benefit asset
Other	3,474	(1,361)	115	2,228	(a)	Other non-current assets
Allowance for doubtful accounts	(66)	66	–	–		
Total non-current assets	¥ 268,983	¥ 2,789	¥ 6,182	¥ 277,954		Total non-current assets
Total assets	¥ 467,386	¥ –	¥ 12,929	¥ 480,316		Total assets

Account items under JGAAP	JGAAP	Reclassifi-cation	Differences in recognition and measurement	IFRS	Notes	Accounting items under IFRS
			(Millions of yen)			
Liabilities						Liabilities
Current liabilities						Current liabilities
Notes and accounts payable - trade	¥ 58,066	¥ –	¥ 745	¥ 58,811	(a)	Trade payables
Short-term loans payable	8,244	4,438	1	12,683	(a)	Bonds and borrowings
Current portion of long-term loans payable	4,438	(4,438)	–	–		
Lease obligations	28	(28)	–	–		
Income taxes payable	5,489	–	94	5,583	(a)	Income taxes payable
Provision	6,020	–	(1,218)	4,802	(f)	Provisions
Other	10,351	(2,528)	97	7,920	(a)	Other financial liabilities
	–	2,556	2,158	4,714	(a), (g)	Other current liabilities
Total current liabilities	¥ 92,636	¥ –	¥ 1,878	¥ 94,513		Total current liabilities
Non-current liabilities						Non-current liabilities
Bonds payable	10,000	(10,000)	–	–		
Long-term loans payable	35,301	10,000	1	45,302	(a)	Bonds and borrowings
Lease obligations	52	733	371	1,157	(a)	Other financial liabilities
Deferred tax liabilities	2,370	–	4,577	6,948	(a), (e)	Deferred tax liabilities
Net defined benefit liability	13,607	–	676	14,282	(a)	Net defined benefit liability
	–	1,925	–	1,925		Provisions
Other	2,658	(2,658)	–	–		
Total non-current liabilities	¥ 63,989	¥ –	¥ 5,626	¥ 69,614		Total non-current liabilities
Total liabilities	¥ 156,624	¥ –	¥ 7,503	¥ 164,128		Total liabilities
Net assets						Equity
Shareholders' equity						
Capital stock	25,038	–	–	25,038		Share capital
Capital surplus	22,400	–	0	22,400		Capital surplus
Retained earnings	248,158	–	9,959	258,117	(h)	Retained earnings
Treasury shares	(6,263)	–	–	(6,263)		Treasury shares
	–	17,937	(8,158)	9,780	(a), (i)	Other components of equity
Total shareholders' equity	¥ 289,334	¥ 17,937	¥ 1,802	¥ 309,073		Total equity attributable to owners of parent
Accumulated other comprehensive income						
Valuation difference on available-for-sale securities	14,786	(14,786)	–	–		
Deferred gains or losses on hedges	3	(3)	–	–		
Foreign currency translation adjustment	4,868	(4,868)	–	–		
Remeasurements of defined benefit plans	(1,719)	1,719	–	–		
Total accumulated other comprehensive income	¥ 17,937	¥ (17,937)	¥ –	¥ –		
Non-controlling interests	3,491	–	3,624	7,115	(a)	Non-controlling interests
Total net assets	¥ 310,762	¥ –	¥ 5,426	¥ 316,188		Total equity
Total liabilities and net assets	¥ 467,386	¥ –	¥ 12,929	¥ 480,316		Total liabilities and equity

Notes Concerning Reconciliations of Equity

(a) Revision to scope of consolidation

Under JGAAP, immaterial subsidiaries were excluded from the scope of consolidation, however, under IFRS, such subsidiaries are included in the scope of consolidation.

(b) Differences in accounting period

Under JGAAP, for consolidated subsidiaries with account closing dates that differ from the Company, adjustments have been made on consolidation for material transactions that occurred between the account closing dates of such subsidiaries (based on financial statements as of the account closing dates of the consolidated subsidiaries) and the Company's account closing date. However, under IFRS, excluding those cases where it is practically impossible, the account closing dates of the consolidated subsidiaries are either aligned with that of the Company, or provisional accounting is made on the Company's account closing date. In this way, consolidated subsidiaries' financial statements are reported on the same date as the Company's account closing date for consolidation.

(c) Reconciliation of trade receivables and inventories

Under JGAAP, revenues from certain sales transactions of goods were recognized upon shipment. Under IFRS, this was changed to a method in which revenue is recognized upon delivery of the goods to the customer. As a result of this change, "trade receivables" and "inventories" have been reconciled.

Under JGAAP, replacement parts, spare equipment, and maintenance parts were posted under "raw materials and supplies" under inventories. Under IFRS, however, important replacement parts, spare equipment, and maintenance parts are recognized as "property, plant and equipment."

(d) Reconciliation of property, plant and equipment

Under JGAAP, provisions were allocated for large-scale periodic repair expenses. Under IFRS, such expenses incurred for continuing operations are recognized in the carrying amount of the property, plant and equipment, and depreciated over the estimated period until the large-scale periodic repairs scheduled in the future. As a result, "property, plant and equipment" has been reconciled.

IFRS does not permit reduction entries due to factors other than state subsidies; therefore, the amounts recorded by direct reduction method under JGAAP have been canceled and are recognized as one-time revenue.

Certain transactions that were recognized as expenses under JGAAP have been recorded under assets as finance leases under IFRS based on the substance of the agreement. As a result, "property, plant and equipment" has increased.

(e) Reconciliation of deferred tax assets and deferred tax liabilities

In line with the application of IFRS, "deferred tax assets" and "deferred tax liabilities" have increased or decreased on account of occurrence of temporary differences and the reconsideration of the recoverability of all deferred tax assets. In addition, for tax effects due to the elimination of unrealized gains or losses, under JGAAP, the tax rate of the seller was used, but under IFRS, the calculation is made using the tax rate of the buyer.

Under JGAAP, deferred tax assets and deferred tax liabilities were offset separately in current and non-current categories, respectively. Under IFRS, however, due to deferred tax assets and deferred tax liabilities being categorized as non-current in their entirety, the offset amount increases, and as a result, "deferred tax assets" and "deferred tax liabilities" have declined.

(f) Reconciliation of provisions

Under JGAAP, expenses in anticipation of future large-scale periodic repairs were recognized as provision for repairs. Under IFRS, however, these have been reversed as the recognition requirements for provisions are not satisfied. As a result, "provisions" have declined.

Unused paid leaves of employees that are not required to be recognized as liabilities under JGAAP are required to be recognized as liabilities under IFRS. As a result, "provisions" have increased.

(g) Reconciliation of other current liabilities

Levies that are not required to be recognized as liabilities under JGAAP are required to be recognized as liabilities under IFRS. As a result, "other current liabilities" have increased.

(h) Reconciliation of retained earnings

The effects of reconciliations on retained earnings upon application of IFRS are as follows:

Amounts after adjusting for related tax effect and non-controlling interests are shown below.

Reconciliation items	Notes	April 1, 2017 (Transition Date)	March 31, 2018
Changes in scope of consolidation	(a)	¥ 70	¥ 356
Reconciliation of trade receivables and inventories	(c)	(215)	(185)
Reconciliation of property, plant and equipment	(d)	2,701	2,505
Reconciliation of provisions	(f)	910	848
Transfer related to equity instruments	(i)	6,728	6,670
Transfer of cumulative amount of exchange differences on translation of foreign operations	(i)	3,326	3,326
Reconciliation related to employee benefits	(i)	244	(1,515)
Other		(797)	(2,045)
Total reconciliations of retained earnings		¥ 12,967	¥ 9,959

(i) Reconciliation of other components of equity

Under JGAAP, impairment losses on equity instruments were recognized in retained earnings through profit or loss. Under IFRS, the changes in fair value of equity instruments are permitted to be recognized in other comprehensive income. In that case, the impairment loss of such equity instruments is recognized in other components of equity through other comprehensive income. In line with this change, the amount of impairment loss recognized prior to the transition date is reclassified from retained earnings to other components of equity.

Under JGAAP, actuarial gains and losses and past service costs were recognized in other comprehensive income when they were incurred, and amortized over a certain period within the average remaining service period of employees. Under IFRS, remeasurements of defined benefit plans, including the actuarial gains and losses, are recognized in other comprehensive income when they were incurred and immediately reclassified to retained earnings. Past service costs are recognized in profit or loss in a lump sum when they were incurred.

The Group applies the exemption under IFRS 1 and has transferred all the cumulative amount of exchange differences on translation of foreign operations to retained earnings as of the transition date.

(j) Reclassifications

In addition to the above, the Group made reclassifications to comply with IFRS provisions, of which the principal items are as follows:

- Under JGAAP, the Group included time deposits with deposit terms exceeding three months in “cash and deposits,” but under IFRS these are reclassified and presented in “other financial assets” (current assets).
- Deferred tax assets recorded as a current portion under JGAAP are reclassified to a non-current portion in IFRS.
- Charged catalysts that had been included in “other” of current assets under JGAAP have been reclassified and presented in “property, plant and equipment” under IFRS.
- Under JGAAP, “investment securities,” “investments in capital,” and “long-term loans receivable” were separately presented, but under IFRS these are reclassified and presented as “other financial assets” (non-current assets). Under JGAAP, the Group included investments in affiliates accounted for using equity method in “investment securities” and “investments in capital,” but under IFRS these are separately presented as “investments in associates and joint ventures accounted for using equity method.”

3) Reconciliations to profit or loss and comprehensive income for FY2017 (April 1, 2017 to March 31, 2018)

Account items under JGAAP	JGAAP	Reclassification	Differences in recognition and measurement	IFRS	Notes	Accounting items under IFRS
		(Millions of yen)				
Net sales	¥ 322,801	¥ –	¥ (8,862)	¥ 313,939	(a), (b)	Revenue
Cost of sales	256,664	–	(10,269)	246,395	(a), (b)	Cost of sales
Gross profit	¥ 66,137	–	¥ 1,407	¥ 67,544		Gross profit
Selling, general and administrative expenses	39,409	–	2,425	41,835	(a)	Selling, general and administrative expenses
	–	2,148	22	2,170	(a)	Other operating income
	–	2,251	18	2,269	(a)	Other operating expenses
Operating profit	¥ 26,727	¥ (103)	¥ (1,015)	¥ 25,610		Operating profit
Non-operating income	7,906	(5,927)	(559)	1,420	(a), (c)	Finance income
Non-operating expenses	2,341	(1,545)	109	904	(a)	Finance expenses
	–	4,405	(724)	3,680	(a)	Share of profit of investments accounted for using equity method
Extraordinary income	626	(626)	–	–		
Extraordinary losses	706	(706)	–	–		
Profit before income taxes	¥ 32,212	¥ –	¥ (2,407)	¥ 29,805		Profit before income tax
Total income taxes	¥ 7,888	¥ –	¥ (1,250)	¥ 6,638	(a), (c)	Income tax expense
Profit	¥ 24,325	¥ –	¥ (1,157)	¥ 23,167		Profit

Account items under JGAAP	JGAAP	Reclassification	Differences in recognition and measurement	IFRS	Notes	Accounting items under IFRS
		(Millions of yen)				
Profit	¥ 24,325	¥ –	¥ (1,157)	¥ 23,167		Profit
Other comprehensive income (loss)						Other comprehensive income (loss)
Valuation difference on available-for-sale securities	2,538	–	384	2,922	(d)	Net change in financial assets measured at fair value through other comprehensive income
Remeasurements of defined benefit plans, net of tax	(1,765)	–	793	(972)	(a), (d)	Remeasurements of defined benefit plans
Foreign currency translation adjustment	(2,537)	–	3,165	628	(a), (d)	Exchange differences on translation of foreign operations
Deferred gains or losses on hedges	(8)	–	4	(3)		Effective portion of cash flow hedges
Share of other comprehensive income of associates and joint ventures accounted for using equity method	1,170	–	16	1,186	(a)	Share of other comprehensive income of investments in associates and joint ventures accounted for using equity method
Total other comprehensive income (loss)	¥ (602)	¥ –	¥ 4,363	¥ 3,761		Other comprehensive income (loss)
Comprehensive income	¥ 23,723	¥ –	¥ 3,205	¥ 26,928		Comprehensive income

Notes Concerning Reconciliations of Profit or Loss and Comprehensive Income

(a) Change in to scope of consolidation

Under JGAAP, immaterial subsidiaries were excluded from the scope of consolidation, however, under IFRS, such subsidiaries are included in the scope of consolidation.

(b) Reconciliation of revenue

Under JGAAP, revenues from certain sales transactions of goods were recognized upon shipment. Under IFRS, this was changed to a method in which revenue is recognized upon delivery of the goods to the customer. As a result of this change, “revenue” and “cost of sales” have been reconciled.

Under JGAAP, transactions undertaken as an agency were presented on a gross basis as “net sales” and “cost of sales,” but under IFRS, these transactions are presented on a net basis. As a result, “revenue” and “cost of sales” decreased.

(c) Reconciliation of finance income and income tax expenses

Under JGAAP, the Group recognized gains and losses on the sale of equity instruments, as well as income taxes associated with such sales in profit or loss. Under IFRS, as for equity instruments designated as measured at fair value through other comprehensive income, the amount of changes in fair value is recognized in other comprehensive income, and immediately reclassified to retained earnings at the time of sale. Accordingly, “finance income” and “income taxes” decreased.

(d) Reconciliation of other comprehensive income

Under JGAAP, gains or losses on sales of equity instruments and income taxes on such gains or losses on sales were recognized as profit or loss. Under IFRS, those equity instruments are designated as financial assets measured at fair value through other comprehensive income, and based on the above, are recognized in other comprehensive income. As a result, “net changes in financial assets measured at fair value through other comprehensive income” increased.

Under JGAAP, actuarial gains and losses were recognized in other comprehensive income when incurred, and were recognized in profit or loss by an amortization method over a certain period within the average remaining service period of employees. Under IFRS, however, remeasurements of defined benefit plans including actuarial gains and losses are recognized as other comprehensive income when incurred and are not recognized in profit or loss by amortization. As a result, “remeasurements of defined benefit plans” increased.

Under JGAAP, the exchange rate at the end of reporting periods was used to translate into Japanese yen revenue and costs at foreign operations that are using functional currencies different from presentation currencies. Under IFRS, these are translated to Japanese yen using the average exchange rate during the reporting period. In line with this change, “exchange differences on translation of foreign operations” increased.

(e) Reclassifications

Of the items presented in non-operating income, non-operating expenses, extraordinary income, and extraordinary losses under JGAAP, those related to finance are reclassified and presented in “finance income” or “finance expenses” while other items are reclassified and presented in “other operating income,” “other operating expenses,” or “share of profit of associates and joint ventures accounted for using equity method.”

4) Reconciliations of cash flows for FY2017 (April 1, 2017 to March 31, 2018)

There are no significant differences between the consolidated statement of cash flows based on JGAAP and that based on IFRS.

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Independent Auditor's Report

The Board of Directors
Nippon Shokubai Co., Ltd.

We have audited the accompanying consolidated financial statements of Nippon Shokubai Co., Ltd. and its consolidated subsidiaries, which comprise the consolidated statement of financial position as at March 31, 2019, and the consolidated statements of income, comprehensive income, changes in equity, and cash flows for the year then ended and a summary of significant accounting policies and other explanatory information, all expressed in Japanese yen.

Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with International Financial Reporting Standards, and for designing and operating such internal control as management determines is necessary to enable the preparation and fair presentation of the consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in Japan. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. The purpose of an audit of the consolidated financial statements is not to express an opinion on the effectiveness of the entity's internal control, but in making these risk assessments the auditor considers internal controls relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of Nippon Shokubai Co., Ltd. and its consolidated subsidiaries as at March 31, 2019, and their consolidated financial performance and cash flows for the year then ended in conformity with International Financial Reporting Standards.

Emphasis of Matter

We draw attention to Note 33 to the consolidated financial statements, which describes that, at an extraordinary meeting of the Board of Directors held on May 29, 2019, the Company resolved to agree the basic terms for moving ahead with the business integration based on an equal footing with Sanyo Chemical Industries, Ltd. Consequently, the Company and Sanyo Chemical Industries, Ltd. have entered into a basic agreement based on the resolution. Our opinion is not qualified in respect of this matter.

Ernst & Young ShinNihon LLC

June 20, 2019
Osaka, Japan

A member firm of Ernst & Young Global Limited

Corporate Data

NIPPON SHOKUBAI CO., LTD. (As of March 31, 2019)

Established: August 21, 1941

Common Stock (Paid in Capital): 25,038 million yen

Number of Shares Issued: 40,800,000 shares

Number of Shares Authorized: 127,200,000 shares

Number of Employees: 4,454 (Consolidated)
2,306 (Non-consolidated)

Markets listed: Tokyo Stock Exchange; Securities Code: 4114;
ADR (The Bank of New York Mellon Bank);
Checker Symbol: NPSHY

Fiscal Year Ends: March 31

Auditors: Ernst & Young Shin Nihon LLC

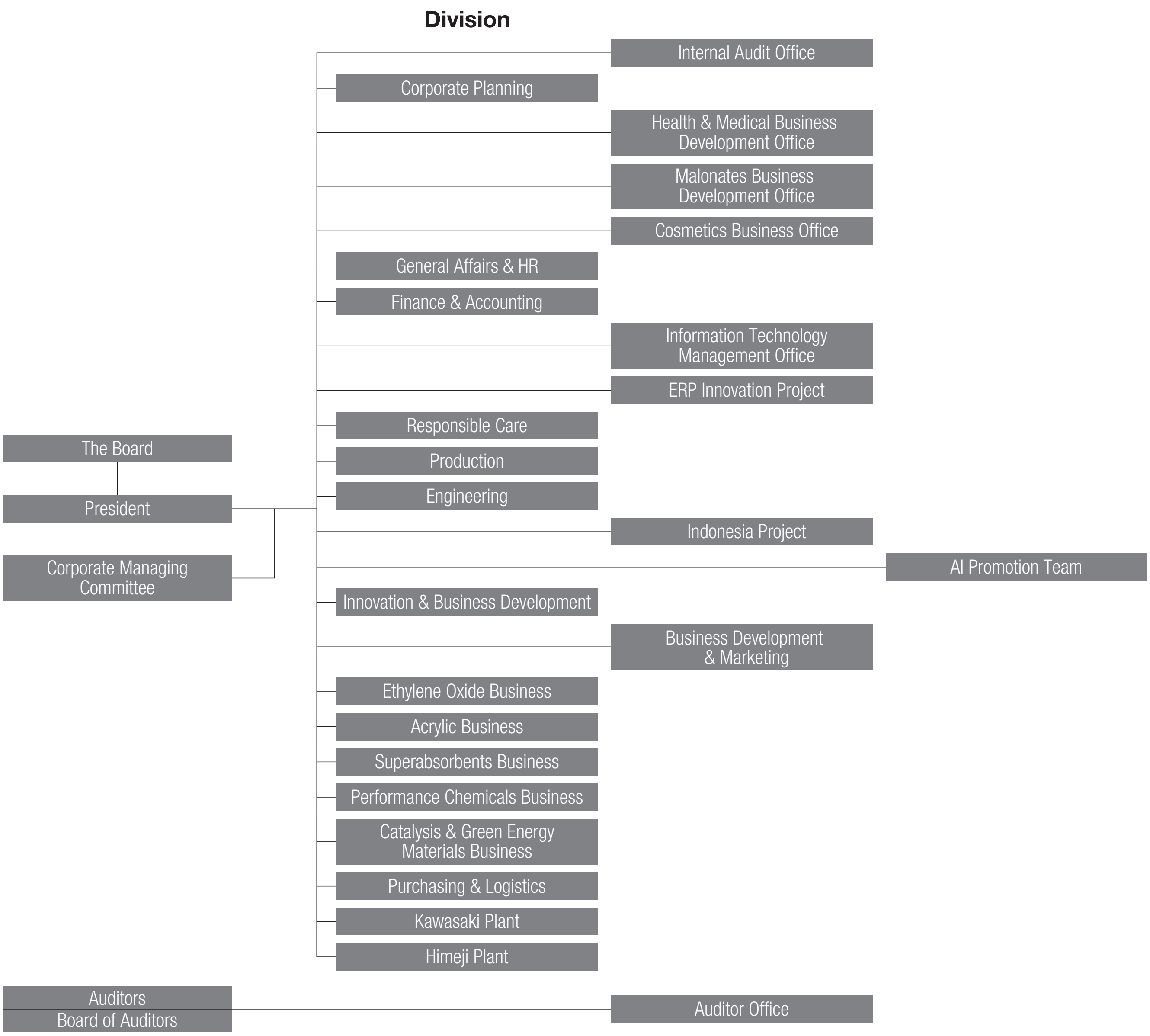
Lead Managers (Securities): Nomura Securities Co., ltd.,
Mizuho Securities Co., Ltd.

Stock Transfer Agency: Mitsubishi UFJ Trust and Banking Corporation

Banks: Resona Bank, Limited,
Mizuho Bank, Ltd.,
MUFG Bank, Ltd.

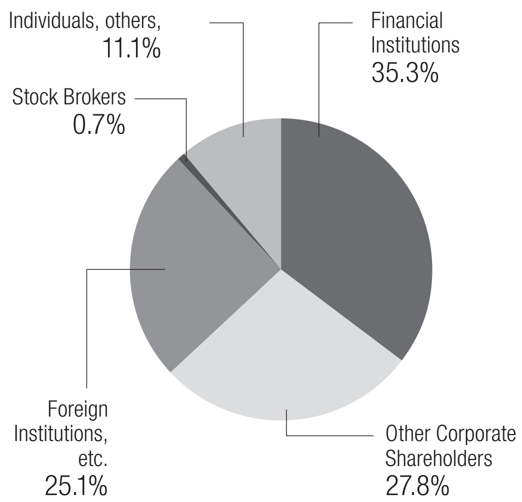
Number of shareholders: 9,508

Organization Chart (As of April 1, 2019)



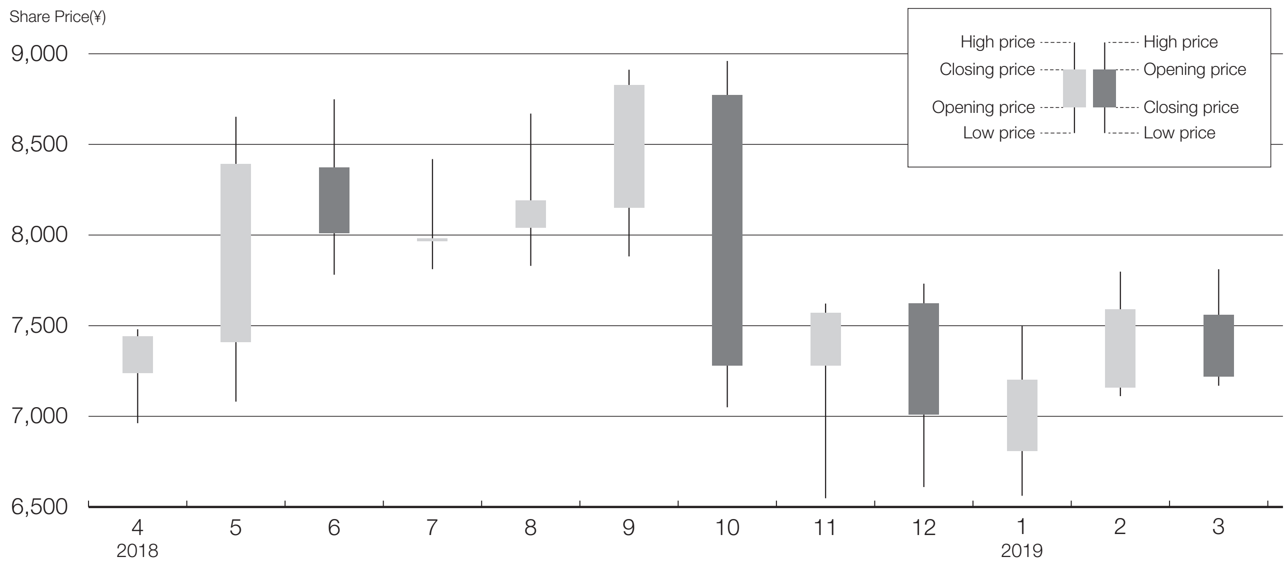
Major Shareholders (As of March 31, 2019)

Name	Number of Shares Owned (thousand shares)	Ratio of capital Contribution (%)
Sumitomo Chemical Company, Limited	2,727	6.84
Japan Trustee Services Bank, Ltd. (Trust Account)	2,358	5.91
JXTG Holdings, Inc.	2,129	5.33
The Master Trust Bank of Japan, Ltd. (Trust Account)	1,911	4.79
National Mutual Insurance Federation of Agricultural Cooperatives	1,608	4.03
Resona Bank, Limited.	1,373	3.44
Sanyo Chemical Industries, Ltd.	1,267	3.17
JP MORGAN CHASE BANK 385635	1,087	2.72
Mizuho Bank, Ltd.	948	2.37
Toyo Ink SC Holdings Co., Ltd.	904	2.26



Notes: 1. Other than the above, the Company holds 922 thousand shares as treasury stock.
2. Treasury stock is excluded from the calculation for "Shareholding Ratio of the Total Shares Outstanding" above.
3. Figures in "Number of Shares Owned" and "Shareholding Ratio of the Total Shares Outstanding" are truncated.

Share Price and Turnover (April 2018- March 2019)



NIPPON
SHOKUBAI

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