

FORD MOTOR CO  
Form 10-K  
February 21, 2019

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, DC 20549

FORM 10-K

(Mark One)

Annual report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the fiscal year ended December 31, 2018

or

Transition report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number 1-3950

Ford Motor Company  
(Exact name of Registrant as specified in its charter)

Delaware 38-0549190  
(State of incorporation) (I.R.S. Employer Identification No.)

One American Road, Dearborn, Michigan 48126  
(Address of principal executive offices) (Zip Code)  
313-322-3000  
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock, par value \$.01 per share	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None.

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.  
Yes  No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes  No

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Indicate by check mark if the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes  No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes  No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act. Large accelerated filer  Accelerated filer  Non-accelerated filer  Smaller reporting company  Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes  No

As of June 29, 2018, Ford had outstanding 3,914,690,010 shares of Common Stock and 70,852,076 shares of Class B Stock. Based on the New York Stock Exchange Composite Transaction closing price of the Common Stock on that date (\$11.07 per share), the aggregate market value of such Common Stock was \$43,335,618,411. Although there is no quoted market for our Class B Stock, shares of Class B Stock may be converted at any time into an equal number of shares of Common Stock for the purpose of effecting the sale or other disposition of such shares of Common Stock. The shares of Common Stock and Class B Stock outstanding at June 29, 2018 included shares owned by persons who may be deemed to be "affiliates" of Ford. We do not believe, however, that any such person should be considered to be an affiliate. For information concerning ownership of outstanding Common Stock and Class B Stock, see the Proxy Statement for Ford's Annual Meeting of Stockholders currently scheduled to be held on May 9, 2019 (our "Proxy Statement"), which is incorporated by reference under various Items of this Report as indicated below.

As of January 31, 2019, Ford had outstanding 3,907,699,661 shares of Common Stock and 70,852,076 shares of Class B Stock. Based on the New York Stock Exchange Composite Transaction closing price of the Common Stock on that date (\$8.80 per share), the aggregate market value of such Common Stock was \$34,387,757,017.

### DOCUMENTS INCORPORATED BY REFERENCE

Document	Where Incorporated
Proxy Statement*	Part III (Items 10, 11, 12, 13, and 14)

\*As stated under various Items of this Report, only certain specified portions of such document are incorporated by reference in this Report.

Exhibit Index begins on page  
96

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FORD MOTOR COMPANY  
 ANNUAL REPORT ON FORM 10-K  
 For the Year Ended December 31, 2018

	Page
Table of Contents	
Part I	
Item 1 Business	<u>1</u>
Overview	<u>2</u>
Automotive Segment	<u>2</u>
Mobility Segment	<u>7</u>
Ford Credit Segment	<u>7</u>
Governmental Standards	<u>8</u>
Employment Data	<u>14</u>
Item 1A Risk Factors	<u>14</u>
Item 1B Unresolved Staff Comments	<u>20</u>
Item 2 Properties	<u>20</u>
Item 3 Legal Proceedings	<u>22</u>
Item 4 Mine Safety Disclosures	<u>24</u>
Item 4A Executive Officers of Ford	<u>24</u>
Part II	
Item 5 Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	<u>25</u>
Item 6 Selected Financial Data	<u>26</u>
Item 7 Management’s Discussion and Analysis of Financial Condition and Results of Operations	<u>27</u>
Overview	<u>27</u>
Results of Operations - 2018	<u>32</u>
Automotive Segment	<u>34</u>
Mobility Segment	<u>43</u>
Ford Credit Segment	<u>44</u>
Corporate Other	<u>47</u>
Interest on Debt	<u>47</u>
Special Items	<u>47</u>
Taxes	<u>47</u>
Results of Operations - 2017	<u>48</u>
Automotive Segment	<u>50</u>
Mobility Segment	<u>57</u>
Ford Credit Segment	<u>58</u>
Corporate Other	<u>59</u>
Interest on Debt	<u>59</u>
Special Items	<u>59</u>
Taxes	<u>59</u>
Liquidity and Capital Resources	<u>60</u>
Credit Ratings	<u>70</u>
2019 External Factors Assumptions	<u>71</u>
Outlook	<u>72</u>
Non-GAAP Financial Measure Reconciliations	<u>74</u>
2018 Supplemental Financial Information	<u>77</u>
Critical Accounting Estimates	<u>81</u>
Accounting Standards Issued But Not Yet Adopted	<u>88</u>
Aggregate Contractual Obligations	<u>89</u>



Table of Contents

(continued)

Item 8	Financial Statements and Supplementary Data	<u>93</u>
Item 9	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	<u>93</u>
Item 9A	Controls and Procedures	<u>94</u>
Item 9B	Other Information	<u>94</u>
	Part III	
Item 10	Directors, Executive Officers of Ford, and Corporate Governance	<u>95</u>
Item 11	Executive Compensation	<u>95</u>
Item 12	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	<u>95</u>
Item 13	Certain Relationships and Related Transactions, and Director Independence	<u>95</u>
Item 14	Principal Accounting Fees and Services	<u>95</u>
	Part IV	
Item 15	Exhibits and Financial Statement Schedules	<u>96</u>
Item 16	Form 10-K Summary	<u>99</u>
	Signatures	<u>100</u>
	Ford Motor Company and Subsidiaries Financial Statements	
	Report of Independent Registered Public Accounting Firm	<u>ES-1</u>
	Consolidated Income Statement	<u>ES-3</u>
	Consolidated Statement of Comprehensive Income	<u>ES-3</u>
	Consolidated Balance Sheet	<u>ES-4</u>
	Consolidated Statement of Cash Flows	<u>ES-5</u>
	Consolidated Statement of Equity	<u>ES-6</u>
	Notes to the Financial Statements	<u>ES-7</u>
	Schedule II — Valuation and Qualifying Accounts	<u>ESS-1</u>

PART I.

ITEM 1. Business.

Ford Motor Company was incorporated in Delaware in 1919. We acquired the business of a Michigan company, also known as Ford Motor Company, which had been incorporated in 1903 to produce and sell automobiles designed and engineered by Henry Ford. We are a global company based in Dearborn, Michigan. With about 199,000 employees worldwide, the Company designs, manufactures, markets, and services a full line of Ford cars, trucks, sport utility vehicles (“SUVs”), electrified vehicles, and Lincoln luxury vehicles, provides financial services through Ford Motor Credit Company LLC (“Ford Credit”), and is pursuing leadership positions in electrification, autonomous vehicles, and mobility solutions.

In addition to the information about Ford and our subsidiaries contained in this Annual Report on Form 10-K for the year ended December 31, 2018 (“2018 Form 10-K Report” or “Report”), extensive information about our Company can be found at <http://corporate.ford.com>, including information about our management team, our brands and products, and our corporate governance principles.

The corporate governance information on our website includes our Corporate Governance Principles, Code of Ethics for Senior Financial Personnel, Code of Ethics for the Board of Directors, Code of Corporate Conduct for all employees, and the Charters for each of the Committees of our Board of Directors. In addition, any amendments to our Code of Ethics or waivers granted to our directors and executive officers will be posted on our corporate website. All of these documents may be accessed by going to our corporate website, or may be obtained free of charge by writing to our Shareholder Relations Department, Ford Motor Company, One American Road, P.O. Box 1899, Dearborn, Michigan 48126-1899.

Our recent periodic reports filed with the Securities and Exchange Commission (“SEC”) pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, are available free of charge at <http://shareholder.ford.com>. This includes recent Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K, as well as any amendments to those reports. Recent Section 16 filings made with the SEC by the Company or any of our executive officers or directors with respect to our Common Stock also are made available free of charge through our website. We post each of these documents on our website as soon as reasonably practicable after it is electronically filed with the SEC. Our reports filed with the SEC also may be found on the SEC’s website at [www.sec.gov](http://www.sec.gov).

The foregoing information regarding our website and its content is for convenience only and not deemed to be incorporated by reference into this Report nor filed with the SEC.

Item 1. Business (Continued)

OVERVIEW

Segments. We report our results in three operating segments that represent the primary businesses reported in our consolidated financial statements: Automotive, Mobility, and Ford Credit.

Automotive Segment. Our Automotive segment primarily includes the sale of Ford and Lincoln vehicles, service parts, and accessories worldwide, together with the associated costs to develop, manufacture, distribute, and service the vehicles, parts, and accessories. This segment includes revenues and costs related to our electrification vehicle programs. The segment includes the following regional business units: North America, South America, Europe, Middle East & Africa, and Asia Pacific (including China).

Mobility Segment. Our Mobility segment includes Ford Smart Mobility LLC (“FSM”) and our autonomous vehicles business.

Ford Credit Segment. The Ford Credit segment is comprised of the Ford Credit business on a consolidated basis, which is primarily vehicle-related financing and leasing activities.

AUTOMOTIVE SEGMENT

General

Our vehicle brands are Ford and Lincoln. In 2018, we sold approximately 5,982,000 vehicles at wholesale throughout the world. See “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” (“Item 7”) for a discussion of our calculation of wholesale unit volumes.

Substantially all of our vehicles, parts, and accessories are sold through distributors and dealers (collectively, “dealerships”), the substantial majority of which are independently owned. At December 31, 2018, the approximate number of dealerships worldwide distributing our vehicle brands was as follows:

Brand	Number of Dealerships at December 31, 2018
Ford	10,466
Ford-Lincoln (combined)	858
Lincoln	210
Total	11,534

We do not depend on any single customer or a few customers to the extent that the loss of such customers would have a material adverse effect on our business.

In addition to the products we sell to our dealerships for retail sale, we also sell vehicles to our dealerships for sale to fleet customers, including commercial fleet customers, daily rental car companies, and governments. We also sell parts and accessories, primarily to our dealerships (which in turn sell these products to retail customers) and to authorized parts distributors (which in turn primarily sell these products to retailers). We also offer extended service contracts.

The worldwide automotive industry is affected significantly by general economic and political conditions over which we have little control. Vehicles are durable goods, and consumers have latitude in determining whether and when to



replace an existing vehicle. The decision whether to purchase a vehicle may be affected significantly by slowing economic growth, geopolitical events, and other factors (including the cost of purchasing and operating cars, trucks, and SUVs and the availability and cost of financing and fuel). As we have seen in the United States, Europe, and China, in particular, the number of cars, trucks, and SUVs sold may vary substantially from year to year. Further, the automotive industry is a highly competitive business that has a wide and growing variety of product offerings from a growing number of manufacturers.

2

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Item 1. Business (Continued)

Our wholesale unit volumes vary with the level of total industry demand and our share of that industry demand. Our wholesale unit volumes also are influenced by the level of dealer inventory. Our share is influenced by how our products are perceived in comparison to those offered by other manufacturers based on many factors, including price, quality, styling, reliability, safety, fuel efficiency, functionality, and reputation. Our share also is affected by the timing and frequency of new model introductions. Our ability to satisfy changing consumer preferences with respect to type or size of vehicle, as well as design and performance characteristics, affects our sales and earnings significantly.

As with other manufacturers, the profitability of our business is affected by many factors, including:

• Wholesale unit volumes

• Margin of profit on each vehicle sold - which in turn is affected by many factors, such as:

Market factors - volume and mix of vehicles and options sold, and net pricing (reflecting, among other factors, incentive programs)

Costs of components and raw materials necessary for production of vehicles

Costs for customer warranty claims and additional service actions

Costs for safety, emissions, and fuel economy technology and equipment

• A high proportion of relatively fixed structural costs, so that small changes in wholesale unit volumes can significantly affect overall profitability

Our industry has a very competitive pricing environment, driven in part by industry excess capacity. Prior to its recent stabilization, the decline in the value of the yen over the last several years also has contributed significantly to competitive pressures in many of our markets. For the past several decades, manufacturers typically have given price discounts and other marketing incentives to maintain market share and production levels.

**Competitive Position.** The worldwide automotive industry consists of many producers, with no single dominant producer. Certain manufacturers, however, account for the major percentage of total sales within particular countries, especially their countries of origin. Key competitors with global presence include Fiat Chrysler Automobiles, General Motors Company, Groupe PSA, Honda Motor Company, Hyundai-Kia Automotive Group, Renault-Nissan B.V., Suzuki Motor Corporation, Toyota Motor Corporation, and Volkswagen AG Group.

**Seasonality.** We manage our vehicle production schedule based on a number of factors, including retail sales (i.e., units sold by our dealerships to their customers at retail) and dealer stock levels (i.e., the number of units held in inventory by our dealerships for sale to their customers). Historically, we have experienced some seasonal fluctuation in the business, with production in many markets tending to be higher in the first half of the year to meet demand in the spring and summer (typically the strongest sales months of the year).

**Backlog Orders.** We generally produce and ship our products on average within approximately 20 days after an order is deemed to become firm. Therefore, no significant amount of backlog orders accumulates during any period.

**Raw Materials.** We purchase a wide variety of raw materials from numerous suppliers around the world for use in production of our vehicles. These materials include base metals (e.g., steel, iron castings, and aluminum), precious metals (e.g., palladium), energy (e.g., natural gas), and plastics/resins (e.g., polypropylene). We believe we have adequate supplies or sources of availability of raw materials necessary to meet our needs. There always are risks and uncertainties with respect to the supply of raw materials, however, which could impact availability in sufficient quantities and at cost effective prices to meet our needs. See the “Overview” section of Item 7 for a discussion of commodity and energy price trends, and “Item 7A. Quantitative and Qualitative Disclosures about Market Risk” (“Item 7A”) for a discussion of commodity price risks.



Item 1. Business (Continued)

Intellectual Property. We own or hold licenses to use numerous patents, copyrights, and trademarks on a global basis. Our policy is to protect our competitive position by, among other methods, filing U.S. and international patent applications to protect technology and improvements that we consider important to the development of our business. We have generated a large number of patents, and expect this portfolio to continue to grow as we actively pursue additional technological innovation. We have approximately 60,000 active patents and pending patent applications globally, with an average age for patents in our active patent portfolio of just over four and a half years. In addition to this intellectual property, we also rely on our proprietary knowledge and ongoing technological innovation to develop and maintain our competitive position. Although we believe these patents, patent applications, and know-how, in the aggregate, are important to the conduct of our business, and we obtain licenses to use certain intellectual property owned by others, none is individually considered material to our business. We also own numerous trademarks and service marks that contribute to the identity and recognition of our Company and its products and services globally. Certain of these marks are integral to the conduct of our business, a loss of any of which could have a material adverse effect on our business.

Warranty Coverage, Field Service Actions, and Customer Satisfaction Actions. We provide warranties on vehicles we sell. Warranties are offered for specific periods of time and/or mileage, and vary depending upon the type of product and the geographic location of its sale. Pursuant to these warranties, we will repair, replace, or adjust all parts on a vehicle that are defective in factory-supplied materials or workmanship during the specified warranty period. In addition to the costs associated with this warranty coverage provided on our vehicles, we also incur costs as a result of field service actions (i.e., safety recalls, emission recalls, and other product campaigns), and for customer satisfaction actions.

For additional information regarding warranty and related costs, see “Critical Accounting Estimates” in Item 7 and Note 23 of the Notes to the Financial Statements.

## Item 1. Business (Continued)

## Wholesales

Wholesales consist primarily of vehicles sold to dealerships. For the majority of such sales, we recognize revenue when we ship the vehicles to our customers (i.e., the dealerships) from our manufacturing facilities. See the “Overview” section in Item 7 for additional discussion of revenue recognition practices. Wholesales in each region and in certain key markets within each region during the past three years were as follows:

	Wholesales (a)		
	(in thousands of units)		
	2016	2017	2018
United States	2,588	2,566	2,540
Canada	313	308	295
Mexico	103	82	69
North America	3,019	2,967	2,920
Brazil	182	215	235
Argentina	101	115	86
South America	325	373	365
United Kingdom	428	418	387
Germany	283	277	313
EU21 (b)	1,387	1,429	1,439
Russia	45	54	51
Turkey	116	116	65
Europe	1,539	1,582	1,533
Middle East & Africa	161	119	109
China	1,267	1,215	731
Australia	82	78	65
India	86	88	98
ASEAN (c)	106	122	117
Asia Pacific	1,607	1,566	1,055
Total Company	6,651	6,607	5,982

Wholesale unit volume includes sales of medium and heavy trucks. Wholesale unit volume includes all Ford and Lincoln badged units (whether produced by Ford or by an unconsolidated affiliate) that are sold to dealerships, units manufactured by Ford that are sold to other manufacturers, units distributed for other manufacturers, and local brand units produced by our unconsolidated Chinese joint venture Jiangling Motors Corporation, Ltd. (“JMC”) that (a) are sold to dealerships. Vehicles sold to daily rental car companies that are subject to a guaranteed repurchase option (i.e., rental repurchase), as well as other sales of finished vehicles for which the recognition of revenue is deferred (e.g., consignments), also are included in wholesale unit volume. Revenue from certain vehicles in wholesale unit volume (specifically, Ford badged vehicles produced and distributed by our unconsolidated affiliates, as well as JMC brand vehicles) are not included in our revenue.

EU21 markets are United Kingdom, Germany, France, Italy, Spain, Austria, Belgium, Czech Republic, Denmark, (b) Finland, Greece, Hungary, Ireland, Netherlands, Norway, Poland, Portugal, Romania, Russia, Sweden, and Switzerland.

(c) ASEAN includes Philippines, Thailand, and Vietnam.

## Item 1. Business (Continued)

## Retail Sales, Industry Volume, and Market Share

Retail sales, industry volume, and market share in each region and in certain key markets within each region during the past three years were as follows:

	Retail Sales (a)			Industry Volume (b)			Market Share (c)		
	(in millions of units)			(in millions of units)			(as a percentage)		
	2016	2017	2018	2016	2017	2018	2016	2017	2018
United States	2.6	2.6	2.5	17.9	17.6	17.7	14.6%	14.7%	14.1%
Canada	0.3	0.3	0.3	2.0	2.1	2.0	15.4	14.9	14.7
Mexico	0.1	0.1	0.1	1.6	1.6	1.5	6.2	5.3	4.8
North America	3.0	3.0	2.9	21.8	21.5	21.5	13.9	13.9	13.4
Brazil	0.2	0.2	0.2	2.1	2.2	2.6	9.2 %	9.6 %	9.2 %
Argentina	0.1	0.1	0.1	0.7	0.9	0.8	13.6	12.9	12.1
South America	0.3	0.4	0.4	3.7	4.2	4.5	8.8	8.9	8.3
United Kingdom	0.4	0.4	0.4	3.1	3.0	2.8	14.0%	13.8%	13.7%
Germany	0.3	0.3	0.3	3.7	3.8	3.8	7.6	7.7	7.9
EU21 (d)	1.4	1.4	1.4	18.6	19.3	19.6	7.5	7.3	7.2
Russia	0.0	0.1	0.1	1.5	1.6	1.8	2.9	3.1	2.9
Turkey	0.1	0.1	0.1	1.0	1.0	0.6	11.4	11.9	10.9
Europe	1.5	1.6	1.5	20.1	20.9	20.9	7.7	7.5	7.2
Middle East & Africa	0.2	0.1	0.1	3.7	3.6	3.8	4.4 %	3.8 %	3.0 %
China (e)	1.3	1.2	0.8	27.5	28.2	26.2	4.6 %	4.2 %	2.9 %
Australia	0.1	0.1	0.1	1.2	1.2	1.2	6.9	6.6	6.0
India	0.1	0.1	0.1	3.7	4.1	4.4	2.4	2.2	2.2
ASEAN (f)	0.1	0.1	0.1	1.5	1.6	1.7	7.0	7.5	6.6
Asia Pacific (e)	1.6	1.5	1.1	43.4	44.8	43.5	3.7	3.4	2.5
Global	N/A	N/A	N/A	92.8	95.0	94.2	7.2 %	7.0 %	6.3 %
Total Company	6.7	6.6	6.0	N/A	N/A	N/A	N/A	N/A	N/A

(a) Retail sales represents primarily sales by dealers and is based, in part, on estimated vehicle registrations; includes medium and heavy trucks.

(b) Industry volume is an internal estimate based on publicly-available data collected from various government, private, and public sources around the globe; includes medium and heavy trucks.

(c) Market share represents reported retail sales of our brands as a percent of total industry volume in the relevant market or region.

EU21 markets are United Kingdom, Germany, France, Italy, Spain, Austria, Belgium, Czech Republic, Denmark, (d) Finland, Greece, Hungary, Ireland, Netherlands, Norway, Poland, Portugal, Romania, Russia, Sweden, and Switzerland.

(e) China and Asia Pacific market share includes Ford brand and JMC brand vehicles produced and sold by our unconsolidated affiliates.

(f) ASEAN includes Philippines, Thailand, and Vietnam.

## U.S. Sales by Type

The following table shows 2018 U.S. retail sales volume and U.S. wholesales segregated by truck, SUV, and car sales. U.S. retail sales volume reflects transactions with (i) retail and fleet customers (as reported by dealers), (ii) government, and (iii) Ford management. U.S. wholesales reflect sales to dealers.

	U.S. Retail Sales	U.S. Wholesales
Trucks	1,139,079	1,156,022
SUVs	872,215	937,845
Cars	486,024	445,999
Total Vehicles	2,497,318	2,539,866

6

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## Item 1. Business (Continued)

## MOBILITY SEGMENT

Our Mobility segment primarily includes development costs related to our autonomous vehicles and our investment in mobility through FSM. Autonomous vehicles includes self-driving systems development and vehicle integration, autonomous vehicle research and advanced engineering, autonomous vehicle transportation-as-a-service network development, user experience, and business strategy and business development teams. FSM designs and builds mobility services on its own, and collaborates with start-ups and technology companies.

## FORD CREDIT SEGMENT

Our wholly-owned subsidiary Ford Credit offers a wide variety of automotive financing products to and through automotive dealers throughout the world. The predominant share of Ford Credit's business consists of financing our vehicles and supporting our dealers. Ford Credit earns its revenue primarily from payments made under retail installment sale and lease contracts that it originates and purchases; interest rate supplements and other support payments from us and our subsidiaries; and payments made under dealer financing programs.

As a result of these financing activities, Ford Credit has a large portfolio of finance receivables and operating leases which it classifies into two portfolios—"consumer" and "non-consumer." Finance receivables and operating leases in the consumer portfolio include products offered to individuals and businesses that finance the acquisition of our vehicles from dealers for personal and commercial use. Retail financing includes retail installment sale contracts for new and used vehicles and direct financing leases for new vehicles to retail and commercial customers, including leasing companies, government entities, daily rental companies, and fleet customers. Finance receivables in the non-consumer portfolio include products offered to automotive dealers. Ford Credit makes wholesale loans to dealers to finance the purchase of vehicle inventory, also known as floorplan financing, as well as loans to dealers to finance working capital and improvements to dealership facilities, finance the purchase of dealership real estate, and finance other dealer vehicle programs. Ford Credit also purchases receivables generated by us and our subsidiaries, primarily related to the sale of parts and accessories to dealers and certain used vehicles from daily rental fleet companies. Ford Credit also provides financing to us for vehicles that we lease to our employees.

Ford Credit does business in the United States and Canada through business centers. Outside of the United States, Europe is Ford Credit's largest operation. Ford Credit's European operations are managed primarily through its United Kingdom-based subsidiary, FCE Bank plc ("FCE"). Within Europe, FCE's largest markets are the United Kingdom and Germany, representing 58% of FCE's finance receivables and operating leases at year-end 2018.

The following table shows Ford Credit's financing and lease shares of new Ford and Lincoln vehicle retail sales in the United States and new Ford vehicles sold in Europe, as well as its wholesale financing shares of new Ford and Lincoln vehicles acquired by dealers in the United States and new Ford vehicles acquired by dealers in Europe:

	Years Ended December 31,		
	2016	2017	2018
United States - Financing Share			
Retail installment and lease share of Ford retail sales (excl. Fleet)	56%	55%	58%
Wholesale	76	76	76
Europe - Financing Share (incl. Fleet)			
Retail installment and lease share of total Ford sales	37%	37%	38%
Wholesale	98	98	98



See Item 7 and Notes 10, 11, and 13 of the Notes to the Financial Statements for a detailed discussion of Ford Credit's receivables, credit losses, allowance for credit losses, loss-to-receivables ratios, funding sources, and funding strategies. See Item 7A for discussion of how Ford Credit manages its financial market risks.

We routinely sponsor special retail and lease incentives to dealers' customers who choose to finance or lease our vehicles from Ford Credit. In order to compensate Ford Credit for the lower interest or lease payments offered to the retail customer, we pay the discounted value of the incentive directly to Ford Credit when it originates the retail finance or lease contract with the dealer's customer. These programs increase Ford Credit's financing volume and share. See Note 2 of the Notes to the Financial Statements for information about our accounting for these programs.

Item 1. Business (Continued)

We have an Amended and Restated Relationship Agreement with Ford Credit, pursuant to which, if Ford Credit's managed leverage for a calendar quarter were to be higher than 11.5:1 (as reported in its most recent periodic report), Ford Credit could require us to make or cause to be made a capital contribution to it in an amount sufficient to have caused such managed leverage to have been 11.5:1. No capital contributions have been made pursuant to this agreement. The agreement also allocates to Ford Credit \$3 billion of commitments under our corporate credit facility. In a separate agreement with FCE, Ford Credit has agreed to maintain FCE's net worth in excess of \$500 million. No payments have been made pursuant to that agreement.

## GOVERNMENTAL STANDARDS

Many governmental standards and regulations relating to safety, fuel economy, emissions control, noise control, vehicle recycling, substances of concern, vehicle damage, and theft prevention are applicable to new motor vehicles, engines, and equipment manufactured for sale. In addition, manufacturing and other automotive assembly facilities are subject to stringent standards regulating air emissions, water discharges, and the handling and disposal of hazardous substances. The most significant of the standards and regulations affecting us are discussed below:

### Vehicle Emissions Control

**U.S. Requirements – Federal and California Emission Standards.** The federal Clean Air Act imposes stringent limits on the amount of regulated pollutants that lawfully may be emitted by new vehicles and engines produced for sale in the United States. Pursuant to the Clean Air Act, California may establish its own vehicle emission standards, which can then be adopted by other states. Both the U.S. Environmental Protection Agency ("EPA") and the California Air Resources Board ("CARB") have established tailpipe and evaporative emissions standards for light and medium duty vehicles that become increasingly stringent through the 2025 model year. Thirteen states, primarily located in the Northeast and Northwest, have adopted the California standards. Compliance with both the federal and California standards can, in some cases, be challenging.

Both federal and California regulations require motor vehicles to be equipped with on-board diagnostic ("OBD") systems that monitor emission-related systems and components. As OBD requirements become more complex and challenging over time, they could lead to increased vehicle recalls and warranty costs. Compliance with automobile emission standards depends in part on the widespread availability of high-quality and consistent automotive fuels that the vehicles were designed to use. Fuel variables that can affect vehicle emissions include ethanol content, octane ratings, and the use of metallic-based fuel additives, among other things. Legislative, regulatory, and judicial developments related to fuel quality at both the national and state levels could affect vehicle manufacturers' warranty costs as well as their ability to comply with vehicle emission standards.

The California vehicle emissions program also includes requirements for manufacturers to produce and deliver for sale zero-emission vehicles ("ZEVs"). The current ZEV regulations mandate substantial annual increases in the production and sale of battery-electric, fuel cell, and plug-in hybrid vehicles through the 2025 model year. By the 2025 model year, approximately 15% of a manufacturer's total California sales volume will need to be made up of such vehicles. Compliance with ZEV rules could have a substantial adverse effect on our sales volumes and profits. We are concerned that the market and infrastructure in California may not support the large volume of advanced-technology vehicles that manufacturers will be required to produce, especially if gasoline prices remain relatively low. We also are concerned about enforcement of the ZEV mandate in other states that have adopted California's ZEV program, where the existence of a market for such vehicles is even less certain. California is now in the process of promulgating new ZEV regulations aimed at medium- and heavy-duty vehicles, effective no earlier than the 2024 model year. These rules, which could entail significant costs and compliance challenges, are also expected to include burdensome warranty and recall requirements.



## Item 1. Business (Continued)

European Requirements. European Union (“EU”) directives and related legislation limit the amount of regulated pollutants that may be emitted by new motor vehicles and engines sold in the EU. Stringent new Stage 6 emission standards took effect for vehicle registrations starting in September 2014, and a second phase introduced a new laboratory test cycle for CO<sub>2</sub> and emissions in September 2017. These standards drive the need for additional diesel exhaust after-treatment, which adds cost to, and potentially impacts, the diesel CO<sub>2</sub> advantage. The mandatory Real Driving Emission (“RDE”) rules require manufacturers to conduct on-road emission tests using portable emission analyzers. These on-road emission tests complement the laboratory-based tests. In 2017, manufacturers began to reduce the divergence between the regulatory limit that is tested in laboratory conditions and the values of RDE tests (“conformity factors”). The costs associated with conducting the RDE tests and complying with the conformity factors are significant. In December 2018, the European Court of First Instance ruled that the EU Commission must decrease this divergence to zero within the next 12 months. Such a short lead time may result in our inability to sell products in the EU if we are unable to timely satisfy any new requirements. It is unclear whether the European Commission will appeal the court’s decision or change the base regulation. Regardless of the ultimate resolution before the court, a second step for RDE to further reduce the conformity factors becomes mandatory for new vehicle type approvals by authorities starting in January 2020. The RDE in-use surveillance rules were published in November 2018, and they further increase the stringency of emission requirements by allowing third parties to conduct testing and defining a process by which those third parties may challenge a product’s compliance with authorities. The WVTA (Whole Vehicle Type Approval) Regulations are being adapted to cover increased market surveillance, and the EU Commission announced that in 2018 it will begin to discuss air quality modeling scenarios for the next steps of emission standards post Stage 6.

There is an increasing trend of city access restrictions for internal combustion engine powered vehicles, in particular in European cities that do not meet air quality limits. Depending on city and country, the conditions for access will vary (e.g., different emission limits or vehicle requirements), which indirectly impact residual values and sales of internal combustion powered vehicles prior to restrictions being agreed. There might also be a need to retrofit emission after-treatment of vehicles. There are also discussions in several European countries to ban the registration of internal combustion powered vehicles in the future as a part of their plan to meet their country specific targets as part of the Paris Accord.

Other National Requirements. Many countries, in an effort to address air quality and climate change concerns, are adopting previous versions of European or United Nations Economic Commission for Europe (“UN-ECE”) mobile source emission regulations. Some countries have adopted more advanced regulations based on the most recent version of European or U.S. regulations; for example, in December 2016, the China Ministry of Environmental Protection (“MEP”) finalized emission regulations based on European Stage VI emission standards for light duty vehicles and U.S. evaporative emissions and OBD requirements. The China Stage VI standards incorporate two levels of stringency. Stage one is slated for implementation by July 1, 2020, and the more stringent stage two level is slated for implementation by July 1, 2023; however, the government has encouraged the more developed cities to pull-ahead implementation. The earliest implementation is expected as early as July 2019.

Canadian criteria emissions regulations are largely aligned with U.S. requirements. In October 2016, the Canadian Province of Quebec passed legislation enabling regulation of a ZEV mandate as part of its climate change plan. Final regulations were published in December 2017, and came into effect in January 2018. Quebec’s final regulations are more stringent than those in place in California and the other U.S. ZEV mandate states. In November 2018, the Province of British Columbia announced plans to introduce legislation for a ZEV mandate in the spring of 2019.

In South America, there is a mix of regulations and processes based on U.S. and EU standards. Brazil has specific regulations for light vehicle emissions (PROCONVE) and OBD based on U.S. standards and heavy vehicle emissions based on Euro V.

Not all countries have adopted appropriate fuel quality standards to accompany the stringent emission standards adopted. This could lead to compliance problems, particularly if OBD or in-use surveillance requirements are implemented.

9

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Item 1. Business (Continued)

Global Developments. In recent years, EPA and CARB have increased their focus on the use of “defeat devices.” Defeat devices are elements of design (typically embedded in software) that improperly cause the emission control system to function less effectively during normal on-road driving than during an official laboratory emissions test, without justification. They are prohibited by law in many jurisdictions, and we do not use defeat devices in our vehicles.

Regulators around the world have increased scrutiny of automakers’ emission testing, which has led to a number of defeat device settlements by various manufacturers. EPA is carrying out additional non-standard tests as part of its vehicle certification program. CARB has also been conducting extensive non-standard emission tests, which in some cases have resulted in certification delays for diesel vehicles. The EU’s accelerated efforts to finalize its RDE testing program are described above. In 2016, several European countries, including France and Germany, conducted non-standard emission tests and published the results. In some cases, this supplemental testing has triggered investigations of manufacturers for possible defeat devices. Testing is expected to continue on an ongoing basis. In addition, plaintiffs’ attorneys are pursuing consumer class action lawsuits based on alleged excessive emissions from cars and trucks, which could, in turn, prompt further investigations by regulators.

Vehicle Fuel Economy and Greenhouse Gas Standards

U.S. Requirements – Light Duty Vehicles. Federal law requires that light duty vehicles meet minimum corporate average fuel economy (“CAFE”) standards set by the National Highway Traffic Safety Administration (“NHTSA”). Manufacturers are subject to substantial civil penalties if they fail to meet the CAFE standard in any model year, after taking into account all available credits for the preceding three model years and expected credits for the five succeeding model years. The law requires NHTSA to promulgate and enforce separate CAFE standards applicable to each manufacturer’s fleet of domestic passenger cars, imported passenger cars, and light duty trucks.

EPA also regulates vehicle greenhouse gas (“GHG”) emissions under the Clean Air Act. Because the vast majority of GHGs emitted by a vehicle are the result of fuel combustion, GHG emission standards effectively are fuel economy standards. Thus, it is necessary for NHTSA and EPA to coordinate with each other on their fuel economy and GHG standards, respectively, to avoid potential inconsistencies.

In 2010, EPA and NHTSA jointly promulgated regulations establishing the “One National Program” of CAFE and GHG regulations for light duty vehicles for the 2012-2016 model years. In 2012, EPA and NHTSA jointly promulgated regulations extending the One National Program framework through the 2025 model year. These rules require manufacturers to achieve increasingly stringent standards reaching approximately 50 mpg by the 2025 model year. Each manufacturer’s specific task depends on the mix of vehicles it sells. The rules include the opportunity for manufacturers to earn credits for technologies that achieve real-world CO<sub>2</sub> reductions and fuel economy improvements that are not captured by the EPA fuel economy test procedures. Manufacturers also can earn credits for GHG reductions not specifically tied to fuel economy, such as improvements in air conditioning systems.

The existing One National Program standards will be difficult to meet if fuel prices remain relatively low and market conditions do not drive consumers to purchase electric vehicles and other highly fuel-efficient vehicles in large numbers. We are concerned about the commercial feasibility of meeting future model year GHG and CAFE standards, particularly the 2022-2025 standards, because of the many unknowns regarding technology development, market conditions, and other factors so far into the future.

The One National Program rules provided for a midterm evaluation process under which, by April 2018, EPA and NHTSA would re-evaluate their standards for model years 2022-2025 in order to ensure that those standards are feasible and optimal in light of intervening events. In April 2018, EPA announced its intention to reconsider the GHG standards originally set for those model years, reversing a prior decision. In August 2018, the federal government issued a proposed rule to reduce the stringency of future GHG standards, identifying eight potential scenarios of

alternate standards beginning with the 2021 model year. It is expected that by the second quarter of 2019, EPA and NHTSA will finalize their rulemaking for future GHG and fuel economy standards.

## Item 1. Business (Continued)

California has asserted the right to regulate motor vehicle GHG emissions, and other states have asserted the right to adopt the California standards. Under the One National Program framework discussed above, California and the other states had agreed that compliance with the federal program would satisfy compliance with any purported state GHG requirements for the 2012-2025 model years, thereby avoiding a patchwork of potentially conflicting federal and state GHG standards. In the wake of the federal government's decision to reconsider the model year 2022-2025 standards, California has taken the position that if there are any changes to the federal standards, it will return to enforcing its own state-specific GHG standards. In contrast, the federal government has taken the position that state GHG standards are preempted by federal law. Should California and the federal government remain at odds over GHG standards, there is significant potential for litigation, which, in turn, would give rise to regulatory uncertainty about future GHG and fuel economy standards. Such uncertainty would make it difficult for automobile manufacturers to engage in future product planning with confidence. Should California and other states be successful in enforcing state-specific motor vehicle GHG rules, the existence of separate state and federal GHG and fuel economy standards would impose significant costs on automobile manufacturers.

If any federal or state agency seeks to impose and enforce fuel economy and GHG standards that are misaligned with market conditions, we likely would be forced to take various actions that could have substantial adverse effects on our sales volumes and profits. Such actions likely would include restricting offerings of selected engines and popular options; increasing market support programs for our most fuel-efficient vehicles; and ultimately curtailing the production and sale of certain vehicles such as high-performance cars, utilities, and/or full-size light trucks in order to maintain compliance.

**U.S. Requirements – Heavy Duty Vehicles.** EPA and NHTSA have jointly promulgated GHG and fuel economy standards for heavy duty vehicles (generally, vehicles over 8,500 pounds gross vehicle weight rating) through the 2027 model year. In our case, the standards primarily affect our heavy duty pickup trucks and vans, plus vocational vehicles such as shuttle buses and delivery trucks. As the heavy duty standards increase in stringency, it may become more difficult to comply while continuing to offer a full lineup of heavy duty trucks.

**European Requirements.** In December 2008, the EU approved regulation of passenger car CO<sub>2</sub> emissions, with a 2012-2015 phase-in period, that limits the industry fleet average to a maximum of 130 grams per kilometer (“g/km”), using a sliding scale (the EU target slope) based on vehicle weight. This regulation provides different CO<sub>2</sub> targets for each manufacturer based on the respective average vehicle weight for its fleet of vehicles initially registered in a calendar year. Limited credits are available for CO<sub>2</sub> off-cycle technologies (“eco-innovations”), certain alternative fuels, and vehicles with CO<sub>2</sub> emissions below 50 g/km for a period of time. A penalty system applies to manufacturers failing to meet the individual CO<sub>2</sub> targets. Pooling agreements between manufacturers are possible under certain conditions. Starting in 2020, an EU industry target of 95 g/km has been set, for which 95% of a manufacturer's fleet has to comply; by 2021, 100% of a manufacturer's fleet has to comply. Outside of the EU, Switzerland, for example, has introduced similar rules, which began phasing-in in July 2012, although the stringency of the industry average emission target is significantly higher in a volatile market. We face the risk of advance premium payment requirements if, for example, unexpected market fluctuation within a quarter negatively impacts our average fleet performance.

In separate legislation, “complementary measures” have been mandated, including requirements related to fuel economy indicators, gear shift indicators, tire pressure monitoring systems, low rolling resistance tires, and more-efficient low-CO<sub>2</sub> mobile air conditioning systems. The EU Commission introduced in 2011 a CO<sub>2</sub> target for commercial light duty vehicles to be at an EU industry average of 175 g/km starting in 2014 and 147 g/km starting in 2020 (with a similar 2020 ruling in Switzerland). For “multi-stage vehicles” (e.g., our Transit chassis cabs), the base manufacturer (e.g., Ford) is fully responsible for the CO<sub>2</sub> performance of the final up-fitted vehicles. The EU legislation for light commercial vehicles also includes a penalty system, super-credits for vehicles below 50 g/km (granted between 2014 and 2017), and limited credits for CO<sub>2</sub> off-cycle eco-innovations, pooling, etc., similar to the passenger car CO<sub>2</sub>



regulation.

The EU is preparing to publish rules that require a reduction of CO<sub>2</sub> by 15% for passenger cars and light commercial vans in 2025 compared to 2021, and, in 2030, by 31% for light commercial vans and 37.5% for passenger cars compared to 2021. The EU Commission will investigate the introduction of Real Driving CO<sub>2</sub> and Life Cycle Assessment elements. Heavy duty vehicles will be addressed in a separate regulation.

11

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Item 1. Business (Continued)

The United Nations developed a new technical regulation for passenger car emissions and CO<sub>2</sub>. This new world light duty test procedure (“WLTP”) is focused primarily on better aligning laboratory CO<sub>2</sub> and fuel consumption figures with customer-reported figures. The introduction of WLTP in Europe started in September 2017 and is likely to require updates to CO<sub>2</sub> labeling, thereby impacting taxes in countries with a CO<sub>2</sub> tax scheme as well as the above-mentioned CO<sub>2</sub> fleet regulations for passenger cars and light commercial vehicles. Costs associated with new or incremental testing for WLTP could be significant.

Some European countries have implemented or are considering other initiatives for reducing CO<sub>2</sub> vehicle emissions, including fiscal measures and CO<sub>2</sub> labeling to address country targets associated with the Paris Accord. For example, the United Kingdom, France, Germany, Spain, Portugal, and the Netherlands, among others, have introduced taxation based on CO<sub>2</sub> emissions. The EU CO<sub>2</sub> requirements are likely to trigger further measures. Other countries are considering bans on internal combustion engine vehicle registrations in the future.

**Other National Requirements.** The Canadian federal government has regulated vehicle GHG emissions under the Canadian Environmental Protection Act, beginning with the 2011 model year. In October 2014, the Canadian federal government published the final changes to the regulation for light duty vehicles, which maintain alignment with U.S. EPA vehicle GHG standards for the 2017–2025 model years. The final regulation for 2014–2018 heavy duty vehicles was published in February 2013. The 2018 model year standards hold through the 2020 model year. Final regulations for the 2021 model year and beyond were published in May 2018 and are in line with U.S. requirements.

The China fuel consumption requirement uses a weight-based approach to establish targets, specifies year-over-year target reductions, and requires New Energy Vehicle (“NEV”) mandated volumes of plug-in hybrids, battery electric vehicles, or fuel cell vehicles to generate credits equivalent to 10% in 2019 and 12% in 2020. China has set the 2020 fuel consumption fleet average at 5.0L/100km and 4.0L/100km in 2025. The government is projecting further fuel consumption reductions in 2030 and is targeting 3.2L/100km. The fuel efficiency targets and NEV mandate will impact the costs of vehicle technology in the future.

In South America, Brazil was the first country to establish a GHG reduction policy for light duty vehicles with a spark ignition engine. Targets had to be achieved for 2017 and must be maintained through 2020. Additional tax reductions are available if further fuel efficiency targets are achieved, and penalties may be applied if the efficiency levels are not maintained. In December 2018, the next phase of the fuel efficiency program was published and it includes light duty diesel and heavy duty vehicles. Other countries in the region are considering a similar approach with the inclusion of a fuel efficiency labeling program in Argentina and Chile initiating discussions around GHG reduction.

Item 1. Business (Continued)

Vehicle Safety

**U.S. Requirements.** The National Traffic and Motor Vehicle Safety Act of 1966 (the “Safety Act”) regulates vehicles and vehicle equipment in two primary ways. First, the Safety Act prohibits the sale in the United States of any new vehicle or equipment that does not conform to applicable vehicle safety standards established by NHTSA. Meeting or exceeding many safety standards is costly, in part because the standards tend to conflict with the need to reduce vehicle weight in order to meet emission and fuel economy standards. Second, the Safety Act requires that defects related to motor vehicle safety be remedied through safety recall campaigns. A manufacturer is obligated to recall vehicles if it determines the vehicles do not comply with a safety standard. Should we or NHTSA determine that either a safety defect or noncompliance issue exists with respect to any of our vehicles, the cost of such recall campaigns could be substantial.

**Other National Requirements.** The EU and many countries have established vehicle safety standards and regulations, and are likely to adopt additional or more stringent requirements in the future. The European General Safety Regulation introduced UN-ECE regulations, which will be required for the European Type Approval process and will require the mandatory introduction of multiple active and passive safety features with limited lead time. EU regulators also are focusing on active safety features such as lane departure warning systems, electronic stability control, and automatic brake assist. Globally, governments generally have been adopting UN-ECE based regulations with minor variations to address local concerns. Any difference between North American and UN-ECE based regulations can add complexity and costs to the development of global platform vehicles, and we continue to support efforts to harmonize regulations to reduce vehicle design complexity while providing a common level of safety performance; several recently launched bilateral negotiations on free trade can potentially contribute to this goal. New safety and recall requirements in China, India, and Gulf Cooperation Council countries also may add substantial costs and complexity to our global recall practice. Brazil has set mandatory safety targets and penalties are applied if these levels are not maintained, while a tax reduction may be available for over performance. In Canada, regulatory requirements are currently aligned with U.S. regulations. However, under the Canadian Motor Vehicle Safety Act the Minister of Transport has broad powers to order manufacturers to submit a notice of defect or non-compliance when the Minister considers it would be in the interest of safety. In China, a new mandatory Event Data Recorder regulation is under development that is more complex than U.S. requirements, and in China, Malaysia, and South Korea, mandatory e-Call requirements have been drafted.

**New Car Assessment Programs.** Organizations around the globe rate and compare motor vehicles in New Car Assessment Programs (“NCAPs”) to provide consumers with additional information about the safety of new vehicles. NCAPs use crash tests and other evaluations that are different than what is required by applicable regulations, and use stars to rate vehicle safety, with five stars awarded for the highest rating and one for the lowest. Achieving high NCAP ratings, which may vary by country or region, can add complexity and cost to vehicles.

## Item 1. Business (Continued)

## EMPLOYMENT DATA

The approximate number of individuals employed by us and entities that we consolidated as of December 31, 2017 and 2018 was as follows (in thousands):

	2017	2018
North America	100	100
South America	14	12
Europe	54	53
Middle East & Africa	3	4
Asia Pacific	23	22
Total Automotive	194	191
Ford Credit	7	7
Mobility	1	1
Total Company	202	199

Substantially all of the hourly employees in our Automotive operations are represented by unions and covered by collective bargaining agreements. In the United States, approximately 99% of these unionized hourly employees in our Automotive segment are represented by the International Union, United Automobile, Aerospace and Agricultural Implement Workers of America (“UAW” or “United Auto Workers”). At December 31, 2018, approximately 55,400 hourly employees in the United States were represented by the UAW. Approximately 1% of our U.S. salaried employees are represented by unions. Many non-management salaried employees at our operations outside of the United States also are represented by unions.

In 2018, we entered into collective bargaining agreements (covering wages, benefits, and/or other employment provisions) with unions in Argentina, Brazil, Germany, India, Mexico, Russia, Spain, and Thailand.

In 2019, we will negotiate collective bargaining agreements (covering wages, benefits, and/or other employment provisions) with unions in Brazil, France, India, Mexico, Russia, Romania, South Africa, Thailand, the United Kingdom, and the United States.

## ITEM 1A. Risk Factors.

We have listed below (not necessarily in order of importance or probability of occurrence) the most significant risk factors applicable to us:

Ford’s long-term competitiveness depends on the successful execution of fitness actions. We have announced fitness redesign plans to transform the operational fitness of our business by becoming more customer centric and adopting processes that emphasize simplicity, speed and agility, efficiency, and accountability. We are working on 18 major initiatives as part of our fitness redesign efforts. In addition, to further improve our fitness and overall competitiveness, we are leveraging relationships with third parties, including the recently announced alliance with Volkswagen AG to develop commercial vans and medium-sized pickups for global markets beginning as early as 2022. The goal of the alliance is to drive scale and efficiencies and enable both companies to share investments in vehicle architectures. If our fitness actions are not successful or are delayed, we may not be able to materially lower costs in the near term or improve our competitiveness in the long term, which could have an adverse effect on our profitability.

Industry sales volume, particularly in the United States, Europe, or China, can be volatile and could decline if there is a financial crisis, recession, or significant geopolitical event. Because we, like other manufacturers, have a high proportion of relatively fixed structural costs, relatively small changes in industry sales volume can have a substantial

effect on our cash flow and profitability. Industry vehicle sales are affected by overall economic and market conditions. If industry vehicle sales were to decline to levels significantly below our planning assumption, particularly in the United States, Europe, or China, the decline could have a substantial adverse effect on our financial condition, results of operations, and cash flow. For a discussion of economic trends, see the “Overview” section of Item 7.

## Item 1A. Risk Factors (Continued)

Ford's new and existing products and mobility services are subject to market acceptance. Although we conduct extensive market research before launching new or refreshed vehicles and introducing new services, many factors both within and outside our control affect the success of new or existing products and services in the marketplace. It takes years to design and develop a new vehicle or change an existing vehicle. Because customers' preferences may change quickly, our new and existing products may not generate sales in sufficient quantities and at high enough prices to be profitable. Offering vehicles and services that customers want and value can mitigate the risks of increasing price competition and declining demand, but products and services that are perceived to be less desirable (whether in terms of price, quality, styling, safety, overall value, fuel efficiency, or other attributes) can exacerbate these risks. With increased consumer interconnectedness through the internet, social media, and other media, mere allegations relating to quality, safety, fuel efficiency, corporate social responsibility, or other key attributes can negatively impact our reputation or market acceptance of our products or services, even where such allegations prove to be inaccurate or unfounded. Further, our ability to successfully grow through investments in the area of mobility and electrification depends on many factors, including advancements in technology, regulatory changes, and other factors that are difficult to predict, that may significantly affect the future of autonomous vehicles and mobility services. Rapid changes to our industry, including the introduction of new types of competitors who may possess technological innovations, increase the significance that we are able to anticipate, develop, and deliver products and services that customers desire.

Ford's results are dependent on sales of larger, more profitable vehicles, particularly in the United States. A shift in consumer preferences away from larger, more profitable vehicles (including trucks and utilities) at levels beyond our current planning assumption—whether because of spiking fuel prices, a decline in the construction industry, government actions or incentives, or other reasons—could result in an immediate and substantial adverse effect on our results and financial condition.

Ford may face increased price competition resulting from industry excess capacity, currency fluctuations, or other factors. The global automotive industry is intensely competitive, with manufacturing capacity far exceeding current demand. According to the December 2018 report issued by IHS Automotive, the global automotive industry is estimated to have had excess capacity of about 42 million units in 2018, an increase of about 7 million units from the prior year. Industry overcapacity has resulted in many manufacturers offering marketing incentives on vehicles in an attempt to maintain and grow market share; these incentives historically have included a combination of subsidized financing or leasing programs, price rebates, and other incentives. As a result, we are not necessarily able to set our prices to offset higher costs of marketing incentives, commodity or other cost increases, or the impact of adverse currency fluctuations, including pricing advantages foreign competitors may have because of their weaker home market currencies. Continuation of or increased excess capacity, particularly for trucks and utilities, could have a substantial adverse effect on our financial condition and results of operations.

Fluctuations in commodity prices, foreign currency exchange rates, and interest rates can have a significant effect on results. As a resource-intensive manufacturing operation, we are exposed to a variety of market risks, including the effects of changes in commodity prices, foreign currency exchange rates, and interest rates. We monitor and manage these exposures as an integral part of our overall risk management program, which recognizes the unpredictability of markets and seeks to reduce potentially adverse effects on our business. Changes in commodity prices (from tariffs or otherwise), currency exchange rates, and interest rates cannot always be predicted, hedged, or offset with price increases to eliminate earnings volatility. As a result, significant changes in commodity prices, foreign currency exchange rates, or interest rates could have a substantial adverse effect on our financial condition and results of operations. See the "Overview" section of Item 7 and Item 7A for additional discussion of currency, commodity price, and interest rate risks.

With a global footprint, Ford's results could be adversely affected by economic, geopolitical, protectionist trade policies, or other events, including Brexit. With the increasing interconnectedness of global economic and financial

systems, a financial crisis, natural disaster, geopolitical crisis, or other significant event in one area of the world can have an immediate and material adverse impact on markets around the world. Recent steps taken by the U.S. government to apply and consider applying tariffs on automobiles, parts, and other products and materials have the potential to disrupt existing supply chains and impose additional costs on our business. Further, other countries could attempt to retaliate by imposing tariffs that would increase the cost for us to import our vehicles into such countries.

15

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Item 1A. Risk Factors (Continued)

Concerns persist regarding the overall stability of the European Union, given the diverse economic and political circumstances of individual European countries. These concerns have been exacerbated by Brexit. A hard Brexit, which would result in the United Kingdom losing access to free trade agreements for goods and services with the European Union and other countries, would likely result in a significant reduction in industry volumes in the United Kingdom, increased tariffs on U.K. imports and exports, and delays at the U.K. border. The total cost to us of a hard Brexit, not including currency exchange related effects, could be \$500 million to \$1 billion in 2019.

We have operations in various markets with volatile economic or political environments and are pursuing growth opportunities in a number of newly developed and emerging markets. These investments may expose us to heightened risks of economic, geopolitical, or other events, including governmental takeover (i.e., nationalization) of our manufacturing facilities or intellectual property, restrictive exchange or import controls, disruption of operations as a result of systemic political or economic instability, outbreak of war or expansion of hostilities, and acts of terrorism, each of which could have a substantial adverse effect on our financial condition and results of operations. Further, the U.S. government, other governments, and international organizations could impose additional sanctions that could restrict us from doing business directly or indirectly in or with certain countries or parties, which could include affiliates.

Ford's production, as well as Ford's suppliers' production, could be disrupted by labor disputes, natural or man-made disasters, financial distress, production difficulties, or other factors. A work stoppage or other limitation on production could occur at Ford's or its suppliers' facilities for any number of reasons, including as a result of disputes under existing collective bargaining agreements with labor unions or in connection with negotiation of new collective bargaining agreements, as a result of labor disputes in response to potential restructuring actions (e.g., plant closures), as a result of supplier financial distress or other production constraints or difficulties, or for other reasons. Many components used in our vehicles are available only from a single supplier and therefore cannot be re-sourced quickly or inexpensively to another supplier (due to long lead times, new contractual commitments that may be required by another supplier before ramping up to provide the components or materials, etc.). Such single-source suppliers also could threaten to disrupt our production as leverage in negotiations. A significant disruption to our production schedule could have a substantial adverse effect on our financial condition and results of operations.

Ford's ability to maintain a competitive cost structure could be affected by labor or other constraints. Substantially all of the hourly employees in our Automotive operations in the United States and Canada are represented by unions and covered by collective bargaining agreements. These agreements provide guaranteed wage and benefit levels throughout the contract term and some degree of income security, subject to certain conditions. As a practical matter, these agreements may restrict our ability to close plants and divest businesses. A substantial number of our employees in other regions are represented by unions or government councils, and legislation or custom promoting retention of manufacturing or other employment in the state, country, or region may constrain as a practical matter our ability to sell or close manufacturing or other facilities.

Pension and other postretirement liabilities could adversely affect Ford's liquidity and financial condition. We have defined benefit retirement plans in the United States that cover many of our hourly and salaried employees. We also provide pension benefits to non-U.S. employees and retirees, primarily in Europe. In addition, we and certain of our subsidiaries sponsor plans to provide other postretirement benefits ("OPEB") for retired employees (primarily health care and life insurance benefits). See Note 17 of the Notes to the Financial Statements for more information about these plans. These benefit plans impose significant liabilities on us and could require us to make additional cash contributions, which could impair our liquidity. If our cash flows and capital resources were insufficient to meet any pension or OPEB obligations, we could be forced to reduce or delay investments and capital expenditures, suspend dividend payments, seek additional capital, or restructure or refinance our indebtedness.



Economic and demographic experience for pension and other postretirement benefit plans (e.g., discount rates or investment returns) could be worse than Ford has assumed. The measurement of our obligations, costs, and liabilities associated with benefits pursuant to our pension and other postretirement benefit plans requires that we estimate the present value of projected future payments to all participants. We use many assumptions in calculating these estimates, including assumptions related to discount rates, investment returns on designated plan assets, and demographic experience (e.g., mortality and retirement rates). We generally remeasure these estimates at each year end and recognize any gains or losses associated with changes to our plan assets and liabilities in the year incurred. To the extent actual results are less favorable than our assumptions, we may recognize a substantial remeasurement loss in our results. For discussion of our assumptions, see “Critical Accounting Estimates” in Item 7 and Note 17 of the Notes to the Financial Statements.

## Item 1A. Risk Factors (Continued)

Ford's vehicles could be affected by defects that result in delays in new model launches, recall campaigns, or increased warranty costs. Government safety standards require manufacturers to remedy defects related to vehicle safety through safety recall campaigns, and a manufacturer is obligated to recall vehicles if it determines that the vehicles do not comply with a safety standard. NHTSA's enforcement strategy has shifted to a significant increase in civil penalties levied and the use of consent orders requiring direct oversight by NHTSA of certain manufacturers' safety processes, a trend that could continue. Should we or government safety regulators determine that a safety or other defect or a noncompliance exists with respect to certain of our vehicles prior to the start of production, the launch of such vehicle could be delayed until such defect is remedied. The cost of recall and customer satisfaction actions to remedy defects in vehicles that have been sold could be substantial, particularly if the actions relate to global platforms or involve defects that are identified years after production (e.g., Takata airbag inflators). Such recall and customer satisfaction actions may relate to defective components we receive from suppliers, and our ability to recover from the suppliers may be limited by the suppliers' financial condition. Furthermore, launch delays, recall actions, and increased warranty costs could adversely affect our reputation or market acceptance of our products as discussed above under "Ford's new and existing products and mobility services are subject to market acceptance."

Ford may need to substantially modify its product plans to comply with safety, emissions, fuel economy, and other regulations that may change in the future. The worldwide automotive industry is governed by a substantial amount of government regulation, which often differs by state, region, and country. Government regulation has increased, and proposals for additional regulation are advanced, primarily out of concern for the environment (including concerns about global climate change and its impact), vehicle safety, and energy independence. For example, as discussed above under "Item 1. Business - Governmental Standards," in the United States the CAFE standards for light duty vehicles increase sharply to approximately 50 mpg by the 2025 model year; EPA's parallel CO<sub>2</sub> emission regulations impose similar standards. California's ZEV rules also mandate steep increases in the sale of electric vehicles and other advanced technology vehicles through the 2025 model year; the ZEV mandate is now being expanded to include medium- and heavy-duty vehicles, and even more burdensome regulations are likely to follow. In addition, many governments regulate local product content and/or impose import requirements as a means of creating jobs, protecting domestic producers, and influencing the balance of payments.

We are continuing to make changes to our product cycle plan to improve the fuel economy of our petroleum-powered vehicles and to offer more electrified vehicles with lower GHG emissions. There are limits on our ability to achieve fuel economy improvements over a given time frame, however, primarily relating to the cost and effectiveness of available technologies, consumer acceptance of new technologies and changes in vehicle mix, willingness of consumers to absorb the additional costs of new technologies, the appropriateness (or lack thereof) of certain technologies for use in particular vehicles, the widespread availability (or lack thereof) of supporting infrastructure for new technologies, and the human, engineering, and financial resources necessary to deploy new technologies across a wide range of products and powertrains in a short time. The current fuel economy, CO<sub>2</sub>, and ZEV standards will be difficult to meet if fuel prices remain relatively low and market conditions do not drive consumers to purchase electric vehicles and other highly fuel-efficient vehicles in large numbers.

Increased scrutiny of automaker emission testing by regulators around the world has led to new regulations, more stringent enforcement programs, requests for field actions, and/or delays in regulatory approvals. The cost to comply with existing government regulations is substantial and additional regulations or changes in consumer preferences that affect vehicle mix could have a substantial adverse impact on our financial condition and results of operations. In addition, a number of governments, as well as non-governmental organizations, publicly assess vehicles to their own protocols. The protocols could change aggressively, and any negative perception regarding the performance of our vehicles subjected to such tests could reduce future sales. Court decisions arising out of consumer and investor litigation could give rise to de facto changes in the interpretation of existing emission laws and regulations, thereby imposing new burdens on manufacturers. For more discussion of the impact of standards on our global business, see the "Governmental Standards" discussion in "Item 1. Business" above.



## Item 1A. Risk Factors (Continued)

Ford could experience unusual or significant litigation, governmental investigations, or adverse publicity arising out of alleged defects in products, perceived environmental impacts, or otherwise. We spend substantial resources ensuring that we comply with governmental safety regulations, mobile and stationary source emissions regulations, and other standards. Compliance with governmental standards, however, does not necessarily prevent individual or class actions, which can entail significant cost and risk. In certain circumstances, courts may permit tort claims even where our vehicles comply with federal and/or other applicable law. Furthermore, simply responding to actual or threatened litigation or government investigations of our compliance with regulatory standards, whether related to our products or business or commercial relationships, may require significant expenditures of time and other resources. Litigation also is inherently uncertain, and we could experience significant adverse results. In addition, adverse publicity surrounding an allegation may cause significant reputational harm that could have a significant adverse effect on our sales.

Ford's receipt of government incentives could be subject to reduction, termination, or clawback. We receive economic benefits from national, state, and local governments in various regions of the world in the form of incentives designed to encourage manufacturers to establish, maintain, or increase investment, workforce, or production. These incentives may take various forms, including grants, loan subsidies, and tax abatements or credits. The impact of these incentives can be significant in a particular market during a reporting period. For example, most of our manufacturing facilities in South America are located in Brazil, where the state or federal governments have historically offered, and continue to offer, significant incentives to manufacturers to encourage capital investment, increase manufacturing production, and create jobs. As a result, the performance of our South American operations has been impacted favorably by government incentives to a substantial extent. In Brazil, however, the federal government has levied assessments against us concerning our calculation of federal incentives we received, and certain states have challenged the grant to us of tax incentives by the State of Bahia. A decrease in, expiration without renewal of, or other cessation or clawback of government incentives for any of our business units, as a result of administrative decision or otherwise, could have a substantial adverse impact on our financial condition and results of operations. See Note 2 of the Notes to the Financial Statements for discussion of our accounting for government incentives, and "Item 3. Legal Proceedings" for a discussion of tax proceedings in Brazil and the potential requirement for us to post collateral.

Operational systems, security systems, and vehicles could be affected by cyber incidents. We rely on information technology networks and systems, including in-vehicle systems and mobile devices, some of which are managed by suppliers, to process, transmit, and store electronic information that is important to the operation of our business and our vehicles. Despite security measures, we are at risk for interruptions, outages, and breaches of: (i) operational systems (including business, financial, accounting, product development, consumer receivables, data processing, or manufacturing processes); (ii) facility security systems; and/or (iii) in-vehicle systems or mobile devices. Such cyber incidents could materially disrupt operational systems; result in loss of trade secrets or other proprietary or competitively sensitive information; compromise the privacy of personal information of customers, employees, or others; jeopardize the security of our facilities; affect the performance of in-vehicle systems; and/or impact the safety of our vehicles. A cyber incident could be caused by malicious third parties using sophisticated, targeted methods to circumvent firewalls, encryption, and other security defenses, including hacking, fraud, trickery, or other forms of deception. We, our suppliers, and our dealers have been the target of these types of attacks in the past and such attacks are likely to occur in the future. The techniques used for attacks by third parties change frequently and may become more sophisticated, which may cause cyber incidents to be difficult to detect for long periods of time. Our networks and in-vehicle systems may also be affected by computer viruses or breaches due to the negligence or misconduct of employees, contractors, and/or others who have access to our networks and systems. A significant cyber incident could harm our reputation and/or subject us to regulatory actions or litigation, and a significant cyber incident involving us or one of our suppliers could impact our production capability.

We are subject to laws, rules, and regulations in the United States and other countries relating to the collection, use, and security of personal information of customers, employees, or others, including laws that may require us to notify

regulators and affected individuals of a data security breach. Regulatory actions seeking to impose significant penalties and/or legal actions could be brought against us in the event of a data breach or perceived or actual non-compliance with data protection or privacy requirements. Among these requirements is the European Union's General Data Protection Regulation ("GDPR"), which came into effect on May 25, 2018.

## Item 1A. Risk Factors (Continued)

Ford Credit's access to debt, securitization, or derivative markets around the world at competitive rates or in sufficient amounts could be affected by credit rating downgrades, market volatility, market disruption, regulatory requirements, or other factors. Ford Credit's ability to obtain unsecured funding at a reasonable cost is dependent on its credit ratings or its perceived creditworthiness. Ford Credit's ability to obtain securitized funding under its committed asset-backed liquidity programs and certain other asset-backed securitization transactions is subject to having a sufficient amount of assets eligible for these programs, as well as Ford Credit's ability to obtain appropriate credit ratings and, for certain committed programs, derivatives to manage the interest rate risk. Over time, and particularly in the event of any credit rating downgrades, market volatility, market disruption, or other factors, Ford Credit may reduce the amount of receivables it purchases or originates because of funding constraints. The potential phase out of LIBOR is one such risk that could cause market volatility or disruption. In July 2017 the chief executive of the United Kingdom Financial Conduct Authority (the "FCA"), which regulates LIBOR, announced that the FCA intends to stop compelling banks to submit rates for the calculation of LIBOR after 2021. It is unknown whether any banks will continue to voluntarily submit rates for the calculation of LIBOR after 2021 or whether LIBOR will continue to be published by its administrator based on these submissions or on any other basis. It is not possible to predict the effect of these changes, other reforms, or the establishment of alternative reference rates, but the potential phase out of LIBOR could adversely affect Ford Credit's access to the capital markets and cost of funding. In addition, Ford Credit may be limited in the amount of receivables it purchases or originates in certain countries or regions if the local capital markets, particularly in developing countries, do not exist or are not adequately developed. Similarly, Ford Credit may reduce the amount of receivables it purchases or originates if there is a significant decline in the demand for the types of securities it offers or Ford Credit is unable to obtain derivatives to manage the interest rate risk associated with its securitization transactions. A significant reduction in the amount of receivables Ford Credit purchases or originates would significantly reduce its ongoing profits and could adversely affect its ability to support the sale of Ford vehicles.

Ford Credit could experience higher-than-expected credit losses, lower-than-anticipated residual values, or higher-than-expected return volumes for leased vehicles. Credit risk is the possibility of loss from a customer's or dealer's failure to make payments according to contract terms. Credit risk (which is heavily dependent upon economic factors including unemployment, consumer debt service burden, personal income growth, dealer profitability, and used car prices) has a significant impact on Ford Credit's business. The level of credit losses Ford Credit may experience could exceed its expectations and adversely affect its financial condition and results of operations. In addition, Ford Credit projects expected residual values (including residual value support payments from Ford) and return volumes for the vehicles it leases. Actual proceeds realized by Ford Credit upon the sale of returned leased vehicles at lease termination may be lower than the amount projected, which would reduce the profitability of the lease transaction. Among the factors that can affect the value of returned lease vehicles are the volume of vehicles returned, economic conditions, marketing programs, and quality or perceived quality, safety, fuel efficiency, or reliability of the vehicles. Actual return volumes may be influenced by these factors, as well as by contractual lease-end values relative to auction values. Each of these factors, alone or in combination, has the potential to adversely affect Ford Credit's profitability if actual results were to differ significantly from Ford Credit's projections. See "Critical Accounting Estimates" in Item 7 for additional discussion.

Ford Credit could face increased competition from banks, financial institutions, or other third parties seeking to increase their share of financing Ford vehicles. No single company is a dominant force in the automotive finance industry. Most of Ford Credit's competitors in the United States use credit aggregation systems that permit dealers to send, through standardized systems, retail credit applications to multiple finance sources to evaluate financing options offered by these sources. Also, direct on-line or large dealer group financing options provide consumers with alternative finance sources and/or increased pricing transparency. All of these financing alternatives drive greater competition based on financing rates and terms. Competition from such institutions and alternative finance sources could adversely affect Ford Credit's profitability and the volume of its retail business. In addition, Ford Credit may face increased competition on wholesale financing for Ford dealers.

Ford Credit could be subject to new or increased credit regulations, consumer or data protection regulations, or other regulations. As a finance company, Ford Credit is highly regulated by governmental authorities in the locations in which it operates, which can impose significant additional costs and/or restrictions on its business. In the United States, for example, Ford Credit's operations are subject to regulation and supervision under various federal, state, and local laws, including the federal Truth-in-Lending Act, Consumer Leasing Act, Equal Credit Opportunity Act, and Fair Credit Reporting Act.

## Item 1A. Risk Factors (Continued)

The Dodd-Frank Act directs federal agencies to adopt rules to regulate the finance industry and the capital markets and gives the Consumer Financial Protection Bureau (“CFPB”) broad rule-making and enforcement authority for a wide range of consumer financial protection laws that regulate consumer finance businesses, such as Ford Credit’s automotive financing business. Exercise of these powers by the CFPB may increase the costs of, impose additional restrictions on, or otherwise adversely affect companies in the automotive finance business. The CFPB has authority to supervise and examine the largest nonbank automotive finance companies, such as Ford Credit, for compliance with consumer financial protection laws.

## ITEM 1B. Unresolved Staff Comments.

None.

## ITEM 2. Properties.

Our principal properties include manufacturing and assembly facilities, distribution centers, warehouses, sales or administrative offices, and engineering centers.

We own substantially all of our U.S. manufacturing and assembly facilities. Our facilities are situated in various sections of the country and include assembly plants, engine plants, casting plants, metal stamping plants, transmission plants, and other component plants. Most of our distribution centers are leased (we own approximately 40% of the total square footage, and lease the balance). The majority of the warehouses that we operate are leased, although many of our manufacturing and assembly facilities contain some warehousing space. Substantially all of our sales offices are leased space. Approximately 90% of the total square footage of our engineering centers and our supplementary research and development space is owned by us.

In addition, we maintain and operate manufacturing plants, assembly facilities, parts distribution centers, and engineering centers outside of the United States. We own substantially all of our non-U.S. manufacturing plants, assembly facilities, and engineering centers. The majority of our parts distribution centers outside of the United States are either leased or provided by vendors under service contracts.

We and the entities that we consolidated as of December 31, 2018 use eight regional engineering, research, and development centers, and 61 manufacturing and assembly plants as shown in the table below:

Automotive Business Units	Plants
North America	32
South America	8
Europe	15
Middle East & Africa	2
Asia Pacific	4
Total	61

Included in the number of plants shown above are plants that are operated by us or our consolidated joint ventures that support our Automotive segment. The significant consolidated joint ventures and the number of plants each owns are as follows:

Ford Lio Ho Motor Company Ltd. (“FLH”) — a joint venture in Taiwan among Ford (70% partner), the Lio Ho Group (25% partner), and individual shareholders (5% ownership in aggregate) that assembles a variety of Ford vehicles sourced from Ford. In addition to domestic assembly, FLH imports Ford brand built-up vehicles from the Asia Pacific region, Europe, and the United States. The joint venture operates one plant in Taiwan.



Ford Sollers Netherlands B.V. (“Ford Sollers”) — a 50/50 joint venture between Ford and Sollers PJSC (“Sollers”), in which Ford has control. The joint venture primarily is engaged in manufacturing a range of Ford passenger cars and light commercial vehicles for sale in Russia, and has an exclusive right to manufacture, assemble, and distribute certain Ford vehicles in Russia through the licensing of certain trademarks and intellectual property rights. The joint venture operates three manufacturing facilities and one engine plant in Russia. We have begun a strategic review of the joint venture with our joint venture partner to evaluate options regarding the joint venture.

Item 2. Properties (Continued)

Ford Vietnam Limited — a joint venture between Ford (75% partner) and Diesel Song Cong One Member Limited Liability Company (a subsidiary of the Vietnam Engine and Agricultural Machinery Corporation, which in turn is majority owned (87.43%) by the State of Vietnam represented by the Ministry of Industry and Trade) (25% partner). Ford Vietnam Limited assembles and distributes a variety of Ford passenger and commercial vehicle models. The joint venture operates one plant in Vietnam.

In addition to the plants that we operate directly or that are operated by our consolidated joint ventures, additional plants that support our Automotive segment are operated by unconsolidated joint ventures of which we are a partner. These plants are not included in the number of plants shown in the table above. The most significant of the automotive unconsolidated joint ventures are as follows:

AutoAlliance (Thailand) Co., Ltd. (“AAT”) — a 50/50 joint venture between Ford and Mazda that owns and operates a manufacturing plant in Rayong, Thailand. AAT produces Ford and Mazda products for domestic and export sales.

- Changan Ford Automobile Corporation, Ltd. (“CAF”) — a 50/50 joint venture between Ford and Chongqing Changan Automobile Co., Ltd. (“Changan”). CAF operates five assembly plants, an engine plant, and a transmission plant in China where it produces and distributes an expanding variety of Ford passenger vehicle models.

Changan Ford Mazda Engine Company, Ltd. (“CFME”) — a joint venture among Ford (25% partner), Mazda (25% partner), and Changan (50% partner). CFME is located in Nanjing, and produced engines for Ford until November 2018 and continues to produce engines for Mazda vehicles manufactured in China. Ford and Mazda entered into an equity transfer agreement pursuant to which Ford sold its interest in CFME to Mazda effective as of January 29, 2019.

Ford Otomotiv Sanayi Anonim Sirketi (“Ford Otosan”) — a joint venture in Turkey among Ford (41% partner), the Koc Group of Turkey (41% partner), and public investors (18%) that is the sole supplier to us of the Transit, Transit Custom, and Transit Courier commercial vehicles for Europe and is our sole distributor of Ford vehicles in Turkey. Ford Otosan also manufactures the Cargo truck for the Turkish and certain export markets and certain engines and transmissions, as well as certain components mainly for the Transit for supply to other regions. The joint venture owns three plants, a parts distribution depot, and a research and development center in Turkey.

Getrag Ford Transmissions GmbH (“GFT”) — a 50/50 joint venture with Magna PT International GmbH (formerly Getrag International GmbH), a German company belonging to Magna Powertrain GmbH. GFT operates plants in Halewood, England; Cologne, Germany; Bordeaux, France; and Kechnec, Slovakia to produce, among other things, manual transmissions for our Europe business unit.

JMC — a publicly-traded company in China with Ford (32% shareholder) and Jiangling Holdings, Ltd. (41% shareholder) as its controlling shareholders. Jiangling Holdings, Ltd. is a 50/50 joint venture between Changan and Jiangling Motors Company Group. The public investors in JMC own 27% of its total outstanding shares. JMC assembles Ford Transit, Ford Everest, Ford Territory, Ford engines, and non-Ford vehicles and engines for distribution in China and in other export markets. JMC operates two assembly plants and one engine plant in Nanchang, and is constructing a new passenger vehicle assembly plant in Nanchang. JMC also operates a plant in Taiyuan that assembles heavy duty trucks and engines.

The facilities described above are, in the opinion of management, suitable and adequate for the manufacture and assembly of our and our joint ventures’ products.

The furniture, equipment, and other physical property owned by our Ford Credit operations are not material in relation to the operations' total assets.

### ITEM 3. Legal Proceedings.

The litigation process is subject to many uncertainties, and the outcome of individual matters is not predictable with assurance. See Note 23 of the Notes to the Financial Statements for a discussion of loss contingencies. Following is a discussion of our significant pending legal proceedings:

#### PRODUCT LIABILITY MATTERS

We are a defendant in numerous actions in state and federal courts within and outside of the United States alleging damages from injuries resulting from (or aggravated by) alleged defects in our vehicles. In many, no monetary amount of damages is specified or the specific amount alleged is the jurisdictional minimum. Our experience with litigation alleging a specific amount of damages suggests that such amounts, on average, bear little relation to the actual amount of damages, if any, that we will pay in resolving such matters.

In addition to pending actions, we assess the likelihood of incidents that likely have occurred but not yet been reported to us. We also take into consideration specific matters that have been raised as claims but have not yet proceeded to litigation. Individual product liability matters which, if resolved unfavorably to the Company, likely would involve a significant cost would be described herein. Currently there are no such matters to report.

#### ASBESTOS MATTERS

Asbestos was used in some brakes, clutches, and other automotive components from the early 1900s. Along with other vehicle manufacturers, we have been the target of asbestos litigation and, as a result, are a defendant in various actions for injuries claimed to have resulted from alleged exposure to Ford parts and other products containing asbestos. Plaintiffs in these personal injury cases allege various health problems as a result of asbestos exposure, either from component parts found in older vehicles, insulation or other asbestos products in our facilities, or asbestos aboard our former maritime fleet. We believe that we are targeted more aggressively in asbestos suits because many previously-targeted companies have filed for bankruptcy, or emerged from bankruptcy relieved of liability for such claims.

Most of the asbestos litigation we face involves individuals who claim to have worked on the brakes of our vehicles. We are prepared to defend these cases and believe that the scientific evidence confirms our long-standing position that there is no increased risk of asbestos-related disease as a result of exposure to the type of asbestos formerly used in the brakes on our vehicles. The extent of our financial exposure to asbestos litigation remains very difficult to estimate and could include both compensatory and punitive damage awards. The majority of our asbestos cases do not specify a dollar amount for damages; in many of the other cases the dollar amount specified is the jurisdictional minimum, and the vast majority of these cases involve multiple defendants, sometimes more than one hundred. Many of these cases also involve multiple plaintiffs, and often we are unable to tell from the pleadings which plaintiffs are making claims against us (as opposed to other defendants). Annual payout and defense costs may become significant in the future. Our accrual for asbestos matters includes probable losses for both asserted and unasserted claims.

#### ENVIRONMENTAL MATTERS

We have received notices under various federal and state environmental laws that we (along with others) are or may be a potentially responsible party for the costs associated with remediating numerous hazardous substance storage, recycling, or disposal sites in many states and, in some instances, for natural resource damages. We also may have been a generator of hazardous substances at a number of other sites. The amount of any such costs or damages for which we may be held responsible could be significant.

We have one environmental legal proceeding to which a governmental authority is a party and in which we believe there is the possibility of monetary sanctions in excess of \$100,000:

Notice of Violation to Ford Chicago Assembly Plant. On August 17, 2015, U.S. EPA issued a notice of violation to our Chicago Assembly Plant. EPA alleges that the plant violated several requirements related to its air permit. Monetary sanctions, if any, have not yet been determined.

22

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Item 3. Legal Proceedings (Continued)

CLASS ACTIONS

In light of the fact that very few of the purported class actions filed against us in the past have ever been certified by the courts as class actions, in general we list those actions that (i) have been certified as a class action by a court of competent jurisdiction (and any additional purported class actions that raise allegations substantially similar to an existing and certified class), and (ii) likely would involve a significant cost if resolved unfavorably to the Company. At this time, other than as described below, we have no such purported class actions filed against us.

In re: Takata Airbag Product Liability Litigation; Economic Loss Track Cases Against Ford Motor Company. On July 16, 2018, Ford entered into a settlement agreement related to a consumer economic loss class action pending before the U.S. District Court for the Southern District of Florida. The first case was originally filed on October 27, 2014, against Ford, Takata, and several other automotive manufacturers, and was brought by consumers who own or owned vehicles equipped with Takata airbag inflators. Additional cases were subsequently filed in courts throughout the United States and consolidated into a multidistrict case before the Florida court, which also included personal injury claims and claims by automotive recyclers. Ford's July 16 settlement relates only to the consumer economic loss matters. In these cases, Plaintiffs allege that Ford vehicles equipped with Takata airbags are defective and that Ford did not disclose this defect to consumers. Plaintiffs allege that they suffered several forms of economic damages as a result of purchasing vehicles with defective airbags. The settlement is for \$299 million, which is subject to certain discounts, and court approval. On December 20, 2018, the court overruled all objections and entered a final order approving the settlement. Several objectors have filed notices of appeal of the trial court's order.

OTHER MATTERS

Brazilian Tax Matters. Two Brazilian states and the Brazilian federal tax authority currently have outstanding substantial tax assessments against Ford Brazil related to state and federal tax incentives Ford Brazil receives for its operations in the Brazilian state of Bahia. All assessments have been appealed to the relevant administrative court of each jurisdiction. Our appeals with the State of São Paulo and the federal tax authority remain at the administrative level. In the State of Minas Gerais, where three cases are pending, one remains at the administrative level and two have been appealed to the judicial court. To proceed with an appeal within the judicial court system, an appellant may be required to post collateral. To date we have not been required to post any collateral.

The state assessments are part of a broader conflict among various states in Brazil. The federal legislature enacted laws designed to encourage the states to end that conflict, and in 2017 the states reached an agreement on a framework for resolution. Ford Brazil continues to pursue a resolution under the framework and expects the amount of any remaining assessments by the states to be resolved under that framework. The federal assessments are outside the scope of the legislation.

Transit Connect Customs Ruling. On March 8, 2013, U.S. Customs and Border Protection ("CBP") ruled that Transit Connects imported as passenger wagons and later converted into cargo vans are subject to the 25% duty applicable to cargo vehicles, rather than the 2.5% duty applicable to passenger vehicles. As a result of the ruling, CBP is requiring Ford to pay the 25% duty upon importation of Transit Connects that will be converted to cargo vehicles, and is seeking the difference in duty rates for prior imports. Our protest of the ruling within CBP was denied, and we filed a challenge in the U.S. Court of International Trade ("CIT"). On August 9, 2017, the CIT ruled in our favor. On October 6, 2017, CBP filed a notice of appeal to the U.S. Court of Appeals for the Federal Circuit. If we prevail on appeal, we will receive a refund of the contested amounts paid, plus interest.

European Competition Law Matter. On October 5, 2018, FCE Bank plc received a notice from the Italian Competition Authority (the "ICA") concerning an alleged violation of Article 101 of the Treaty on the Functioning of the European Union. The ICA alleges that FCE Bank plc and other parties engaged in anti-competitive practices in

relation to the automotive finance market in Italy. On January 9, 2019, FCE Bank plc received a decision from the ICA, which included an assessment of a fine against FCE Bank plc in the amount of about \$50 million. FCE Bank plc plans to appeal the decision and the fine, with the ultimate resolution of the matter potentially taking several years.

Emissions Certification. The Company has become aware of a potential concern involving its U.S. emissions certification process. The potential concern does not involve the use of defeat devices in our products. On February 18, 2019, we voluntarily disclosed this matter to the Environmental Protection Agency, and we will fully cooperate with any inquiries. Because this matter is preliminary, we cannot predict the outcome, and cannot provide assurance that it will not have a material adverse effect on us.

## ITEM 4. Mine Safety Disclosures.

Not applicable.

## ITEM 4A. Executive Officers of Ford.

Our executive officers are as follows, along with each executive officer's position and age at February 1, 2019:

Name	Position	Position Held Since	Age
William Clay Ford, Jr. (a)	Executive Chairman and Chairman of the Board	September 2006	61
James P. Hackett (b)	President and Chief Executive Officer	May 2017	63
James D. Farley, Jr.	President, Global Markets (c)	June 2017	56
Joseph R. Hinrichs	President, Global Operations (c)	June 2017	52
Marcy Klevorn	President, Mobility (c)	June 2017	59
Bob Shanks	Chief Financial Officer (c)	April 2012	66
Hau Thai-Tang	Chief Product Development and Purchasing Officer (c)	June 2017	52
Bradley M. Gayton	Chief Administrative Officer and General Counsel (c)	June 2017	55
Kiersten Robinson	Chief Human Resources Officer (c)	April 2018	48
Cathy O'Callaghan	Vice President, Controller and Chief Financial Officer, Global Markets	June 2018	50

(a) Also a Director, Chair of the Office of the Chairman and Chief Executive, Chair of the Finance Committee, and a member of the Sustainability Committee of the Board of Directors.

(b) Also a Director and member of the Office of the Chairman and Chief Executive and the Finance Committee of the Board of Directors.

(c) Certain executive officers' titles changed January 1, 2019 without any change in their responsibilities.

Except as noted below, each of the officers listed above has been employed by Ford or its subsidiaries in one or more capacities during the past five years. Prior to becoming President and Chief Executive Officer of Ford, James P. Hackett was the Chief Executive Officer of Steelcase Inc. until March 2014; a member of Ford's Board of Directors from 2013 to 2016; and the chairman of Ford Smart Mobility LLC from March 2016 to May 2017.

Under our by-laws, executive officers are elected by the Board of Directors at an annual meeting of the Board held for this purpose or by a resolution to fill a vacancy. Each officer is elected to hold office until a successor is chosen or as otherwise provided in the by-laws.



## PART II.

## ITEM 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Our Common Stock is listed on the New York Stock Exchange in the United States under the symbol F.

The table below shows the dividends we paid per share of Common and Class B Stock, for each quarterly period in 2017 and 2018:

	2017				2018			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Dividends per share of Ford Common and Class B Stock	\$0.20	\$ 0.15	\$ 0.15	\$ 0.15	\$0.28	\$ 0.15	\$ 0.15	\$ 0.15

As of January 31, 2019, stockholders of record of Ford included approximately 116,764 holders of Common Stock and 3 holders of Class B Stock.

In 2018, we repurchased shares of Ford Common Stock from our employees or directors related to certain exercises of stock options, in accordance with our various compensation plans. We also repurchased shares through a modest anti-dilutive share repurchase program to offset the dilutive effect of share-based compensation granted during 2018 and the shares issued in the Autonomic transaction described in our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018. The program authorized repurchases of up to 28.5 million shares of Ford Common Stock. We repurchased 8,015,658 shares and 8,000,000 shares of Ford Common Stock during the first and third quarters of 2018, respectively.

## ITEM 6. Selected Financial Data.

The following table sets forth selected financial data for each of the last five years (dollar amounts in millions, except for per share amounts):

SUMMARY OF INCOME	2014	2015	2016	2017	2018
Total revenues	\$144,077	\$149,558	\$151,800	\$156,776	\$160,338
Income before income taxes	\$1,280	\$10,179	\$6,784	\$8,159	\$4,345
Provision for/(Benefit from) income taxes	21	2,854	2,184	402	650
Net income	1,259	7,325	4,600	7,757	3,695
Less: Income/(Loss) attributable to noncontrolling interests	(1	) (2	) 11	26	18
Net income attributable to Ford Motor Company	\$1,260	\$7,327	\$4,589	\$7,731	\$3,677
Earnings Per Share Attributable to Ford Motor Company Common and Class B Stock					
Average number of shares of Ford Common and Class B Stock outstanding (in millions)	3,912	3,969	3,973	3,975	3,974
Basic income	\$0.32	\$1.85	\$1.16	\$1.94	\$0.93
Diluted income	0.32	1.83	1.15	1.93	0.92
Cash dividends declared	0.50	0.60	0.85	0.65	0.73
BALANCE SHEET DATA AT YEAR-END					
Total assets	\$209,227	\$225,491	\$238,510	\$258,496	\$256,540
Automotive debt	\$13,824	\$12,839	\$15,907	\$15,931	\$13,547
Ford Credit debt	104,712	119,417	126,464	137,757	140,066
Other debt	635	598	599	599	600
Total equity	\$25,077	\$29,223	\$29,746	\$35,606	\$35,966

ITEM 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

OVERVIEW

Non-GAAP Financial Measures That Supplement GAAP Measures

We use both generally accepted accounting principles ("GAAP") and non-GAAP financial measures for operational and financial decision making, and to assess Company and segment business performance. The non-GAAP measures listed below are intended to be considered by users as supplemental information to their equivalent GAAP measures, to aid investors in better understanding our financial results. We believe that these non-GAAP measures provide useful perspective on underlying business results and trends, and a means to assess our period-over-period results. These non-GAAP measures should not be considered as a substitute for, or superior to, measures of financial performance prepared in accordance with GAAP. These non-GAAP measures may not be the same as similarly titled measures used by other companies due to possible differences in method and in items or events being adjusted.

Company Adjusted EBIT (Most Comparable GAAP Measure: Net Income Attributable to Ford) – Earnings before interest and taxes (EBIT) includes non-controlling interests and excludes interest on debt (excl. Ford Credit Debt), taxes, and pre-tax special items. This non-GAAP measure is useful to management and investors because it allows users to evaluate our operating results relative to other companies in our industry. Pre-tax special items consist of (i) pension and OPEB remeasurement gains and losses, (ii) significant personnel and dealer-related costs stemming from our efforts to match production capacity and cost structure to market demand and changing model mix, and (iii) other items that we do not necessarily consider to be indicative of earnings from ongoing operating activities. When we provide guidance for adjusted EBIT, we do not provide guidance on a net income basis because the GAAP measure will include potentially significant special items that have not yet occurred and are difficult to predict with reasonable certainty prior to year-end, including pension and OPEB remeasurement gains and losses.

Company Adjusted EBIT Margin (Most Comparable GAAP Measure: Company Net Income Margin) – Company Adjusted EBIT margin is Company adjusted EBIT divided by Company revenue. This non-GAAP measure is useful to management and investors because it allows users to evaluate our operating results relative to other companies in our industry.

Adjusted Earnings Per Share (Most Comparable GAAP Measure: Earnings Per Share) – Measure of Company's diluted net earnings per share adjusted for impact of pre-tax special items (described above) and tax special items. The measure provides investors with useful information to evaluate performance of our business excluding items not indicative of the underlying run rate of our business. When we provide guidance for adjusted earnings per share, we do not provide guidance on an earnings per share basis because the GAAP measure will include potentially significant special items that have not yet occurred and are difficult to predict with reasonable certainty prior to year-end, including pension and OPEB remeasurement gains and losses.

Adjusted Effective Tax Rate (Most Comparable GAAP Measure: Effective Tax Rate) – Measure of Company's tax rate excluding pre-tax special items (described above) and tax special items. The measure provides an ongoing effective rate which investors find useful for historical comparisons and for forecasting. When we provide guidance for adjusted effective tax rate, we do not provide guidance on an effective tax rate basis because the GAAP measure will include potentially significant special items that have not yet occurred and are difficult to predict with reasonable certainty prior to year-end, including pension and OPEB remeasurement gains and losses.

Company Adjusted Operating Cash Flow (Most Comparable GAAP Measure: Net Cash Provided By / (Used In) Operating Activities) – Measure of Company's operating cash flow excluding Ford Credit's operating cash flows. The measure contains elements management considers operating activities, including Automotive and Mobility capital spending, Ford Credit distributions to its parent, and settlement of derivatives. The measure excludes cash outflows

for funded pension contributions, separation payments, and other items that are considered operating cash outflows under U.S. GAAP. This measure is useful to management and investors because it is consistent with management's assessment of the Company's operating cash flow performance. When we provide guidance for Company adjusted operating cash flow, we do not provide guidance for net cash provided by/(used in) operating activities because the GAAP measure will include items that are difficult to quantify or predict with reasonable certainty, including cash flows related to the Company's exposures to foreign currency exchange rates and certain commodity prices (separate from any related hedges), Ford Credit's operating cash flows, and cash flows related to special items, including separation payments, each of which individually or in the aggregate could have a significant impact to our net cash provided by/(used in) our operating activities.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Adjusted Cash Conversion (Most Comparable GAAP Measure: Net Cash Provided By / (Used In) Operating Activities divided by Net Income Attributable to Ford ("cash conversion")) – Company Adjusted Cash Conversion is Company adjusted operating cash flow divided by Adjusted EBIT. This non-GAAP measure is useful to management and investors because it allows users to evaluate how much of Ford's Adjusted EBIT is converted into cash flow.

Adjusted Debt to EBITDA (Most Comparable GAAP Measure: Total Company Debt to Net income attributable to Ford) – This financial leverage ratio is commonly used to assess a company's ability to repay its debt. This measure is useful to management and investors because it helps to assess how long we would need to operate at our current level to repay our debt (excl. Ford Credit's debt). When we provide guidance for adjusted debt to EBITDA, we do not provide guidance for the most comparable GAAP measure because the GAAP measure will include potentially significant special items that have not yet occurred and are difficult to predict with reasonable certainty prior to year-end, including pension and OPEB remeasurement gains and losses. For more information, see the definitions of Adjusted Debt and Adjusted EBITDA.

Adjusted Debt (Most Comparable GAAP Measure: Total Company Debt) – Measure of total company debt (excl. Ford Credit), adjusted to include unamortized discount/premium and issuance costs (excl. Ford Credit), operating lease minimum commitments, and net pension liabilities excluding prepaid assets.

Adjusted EBITDA (Most Comparable GAAP Measure: Net income attributable to Ford) – Measure of Company Adjusted EBIT (see definition), excluding Ford Credit EBT and equity in net income/(loss) of affiliated companies, and further adjusted to include certain non-pension related special items, depreciation and tooling amortization (excl. Ford Credit), operating lease expense, and certain pension costs.

Adjusted ROIC – Adjusted Return on Invested Capital ("ROIC") provides management and investors with useful information to evaluate the Company's after-cash tax operating return on its invested capital for the period presented. Adjusted net operating profit after cash tax measures operating results less special items, interest on debt (excl. Ford Credit Debt), and certain pension/OPEB costs. Average invested capital is the sum of average balance sheet equity, debt (excl. Ford Credit Debt), and net pension/OPEB liability. When we provide guidance for adjusted ROIC, we do not provide guidance on an unadjusted ROIC basis because it will include potentially significant special items that have not yet occurred and are difficult to predict with reasonable certainty prior to year-end.

Ford Credit Managed Receivables (Most Comparable GAAP Measure: Net Finance Receivables plus Net Investment in Operating Leases) – Measure of Ford Credit's total net receivables, excluding unearned interest supplements and residual support, allowance for credit losses, and other (primarily accumulated supplemental depreciation). The measure is useful to management and investors as it closely approximates the customer's outstanding balance on the receivables, which is the basis for earning revenue.

Ford Credit Managed Leverage (Most Comparable GAAP Measure: Financial Statement Leverage) – Ford Credit's debt-to-equity ratio adjusted (i) to exclude cash, cash equivalents, and marketable securities (other than amounts related to insurance activities), and (ii) for derivative accounting. The measure is useful to investors because it reflects the way Ford Credit manages its business. Cash, cash equivalents, and marketable securities are deducted because they generally correspond to excess debt beyond the amount required to support operations and on-balance sheet securitization transactions. Derivative accounting adjustments are made to asset, debt, and equity positions to reflect the impact of interest rate instruments used with Ford Credit's term-debt issuances and securitization transactions. Ford Credit generally repays its debt obligations as they mature, so the interim effects of changes in market interest rates are excluded in the calculation of managed leverage.

Revenue

Our Automotive segment revenue is generated primarily by sales of vehicles, parts, and accessories. Revenue is recorded when control is transferred to our customers (generally, our dealers and distributors). For the majority of sales, this occurs when products are shipped from our manufacturing facilities. This is not the case, however, with respect to vehicles produced for sale to daily rental car companies with an obligation to repurchase the vehicle for a guaranteed amount, exercisable at the option of the customer. These vehicles are accounted for as operating leases, with lease revenue and profits recognized over the term of the lease. Proceeds from the sale of vehicles at auction are recognized in revenue upon transfer of control of the vehicle to the buyer.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Most of the vehicles sold by us to our dealers and distributors are financed at wholesale by Ford Credit. Upon Ford Credit originating the wholesale receivable related to a dealer's purchase of a vehicle, Ford Credit pays cash to the relevant Automotive legal entity in payment of the dealer's obligation for the purchase price of the vehicle. The dealer then pays the wholesale finance receivable to Ford Credit when it sells the vehicle to a retail customer.

Our Ford Credit segment revenue is generated primarily from interest on finance receivables, net of certain deferred origination costs that are included as a reduction of financing revenue, and such revenue is recognized over the term of the receivable using the interest method. Also, revenue from operating leases is recognized on a straight-line basis over the term of the lease. Income is generated to the extent revenues exceed expenses, most of which are interest, depreciation, and operating expenses.

Transactions between our Automotive and Ford Credit segments occur in the ordinary course of business. For example, we offer special retail financing and lease incentives to dealers' customers who choose to finance or lease our vehicles from Ford Credit. The cost for these incentives is included in our estimate of variable consideration at the later of the date the related vehicle sales to our dealers are recorded or the date the incentive program is both approved and communicated. In order to compensate Ford Credit for the lower interest or lease payments offered to the retail customer, we pay the discounted value of the incentive directly to Ford Credit when it originates the retail finance or lease contract with the dealer's customer. Ford Credit recognizes the incentive amount over the life of retail finance contracts as an element of financing revenue and over the life of lease contracts as a reduction to depreciation. See Note 1 of the Notes to the Financial Statements for a more detailed discussion of transactions between our Automotive and Ford Credit segments.

#### Costs and Expenses

Our income statement classifies our Automotive segment total costs and expenses into two categories: (i) cost of sales, and (ii) selling, administrative, and other expenses. We include within cost of sales those costs related to the development, manufacture, and distribution of our vehicles, parts, and accessories. Specifically, we include in cost of sales each of the following: material costs (including commodity costs); freight costs; warranty, including product recall costs; labor and other costs related to the development and manufacture of our products; depreciation and amortization; and other associated costs. We include within selling, administrative, and other expenses labor and other costs not directly related to the development and manufacture of our products, including such expenses as advertising and sales promotion costs.

Certain of our costs, such as material costs, generally vary directly with changes in volume and mix of production. In our industry, production volume often varies significantly from quarter to quarter and year to year. Quarterly production volumes experience seasonal shifts throughout the year (including peak retail sales seasons and the impact on production of model changeover and new product launches). Annual production volumes are heavily impacted by external economic factors, including the pace of economic growth and factors such as the availability of consumer credit and cost of fuel.

As a result, we analyze the profit impact of certain cost changes holding constant present-year volume and mix and currency exchange, in order to evaluate our cost trends absent the impact of varying production and currency exchange levels. We analyze these cost changes in the following categories:

• **Contribution Costs** – these costs typically vary with production volume. These costs include material, commodity, warranty, and freight and duty costs.

• **Structural Costs** – these costs typically do not have a directly proportionate relationship to production volume. These costs include manufacturing, engineering, spending-related, advertising and sales promotion, administrative and

selling, and pension and OPEB costs.

While contribution costs generally vary directly in proportion to production volume, elements within our structural costs category are impacted to differing degrees by changes in production volume. We also have varying degrees of discretion when it comes to controlling the different elements within our structural costs. For example, depreciation and amortization expense largely is associated with prior capital spending decisions. On the other hand, while labor costs do not vary directly with production volume, manufacturing labor costs may be impacted by changes in volume, for example when we increase overtime, add a production shift, or add personnel to support volume increases. Other structural costs, such as advertising or engineering costs, do not necessarily have a directly proportionate relationship to production volume. Our structural costs generally are within our discretion, although to varying degrees, and can be adjusted over time in response to external factors.



Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

We consider certain structural costs to be a direct investment in future growth and revenue. For example, increases in structural costs are necessary to grow our business and improve profitability, invest in new products and technologies, respond to increasing industry sales volume, and grow our market share.

Cost of sales and Selling, administrative, and other expenses for full-year 2018 were \$147.7 billion. Our Automotive segment's material and commodity costs make up the largest portion of these costs and expenses, representing in 2018 about two-thirds of the total amount. Structural costs are the largest piece of the remaining balance. Although material costs are our largest absolute cost, our margins can be affected significantly by changes in any category of costs.

Key Economic Factors and Trends Affecting the Automotive Industry

**Currency Exchange Rate Volatility.** The U.S. Federal Reserve raised its policy interest rate four times in 2018, for a total of nine increases since the tightening cycle began in late 2015. Central banks in other developed markets have also initiated or signaled the end of an extended period of monetary policy easing. The related shifts in capital flows have contributed to increased volatility for both developed and emerging market currencies globally. Emerging markets also face differing inflation backdrops and, in some cases, political instability, contributing to unpredictable movements in the value of their exchange rates. This condition was demonstrated by significant devaluations of currency values in Turkey and Argentina in 2018. In addition to direct impacts on the financial flows of global automotive companies, currency movements can also impact pricing of vehicles exported to overseas markets, most notably in the case of the Japanese yen. In most markets, exchange rates are market-determined, and all are impacted by many different macroeconomic and policy factors, and thus likely to remain volatile. However, in some markets, exchange rates are heavily influenced or controlled by governments.

**Excess Capacity.** According to IHS Automotive, an automotive research firm, the estimated automotive industry global production capacity for light vehicles of about 137 million units exceeded global production by about 42 million units in 2018. In North America and Europe, two regions where a significant share of industry revenue is earned, excess capacity as a percent of production was an estimated 22% and 24%, respectively, in 2018. In China, the auto industry also witnessed excess capacity at 78% of production in 2018, as manufacturers compete to capitalize on China's future market potential. According to production capacity data projected by IHS Automotive, global excess capacity conditions could continue for several years at an average of about 47 million units per year during the period from 2019 to 2024.

**Pricing Pressure.** Excess capacity, coupled with a proliferation of new products being introduced in key segments, will keep pressure on manufacturers' ability to increase prices. In North America, the industry restructuring of the past few years has allowed manufacturers to better match production with demand, although Japanese and Korean manufacturers also have capacity located outside of the region directed to North America. In the future, Chinese and Indian manufacturers are expected to enter U.S. and European markets, further intensifying competition. Over the long term, intense competition and excess capacity will continue to put downward pressure on inflation-adjusted prices for similarly-contented vehicles in the United States and contribute to a challenging pricing environment for the automotive industry. In Europe, the excess capacity situation has been exacerbated by the lack of reductions in existing capacity, such that negative pricing pressure is expected to continue for the foreseeable future.

**Commodity and Energy Price Changes.** The price of oil declined since late 2018, driven by reduced expectations for near-term demand growth in China and continued robust supply despite an extended agreement among oil-producing nations to maintain modest output reductions. Oil prices are expected to remain volatile, and on a lower long-term trend than in prior cycles. Prices for other commodities have been similarly volatile, with some retreat from recent peaks for many commodities used in the manufacturing of our vehicles, while steel and aluminum have seen additional upward pressure related to the imposition of tariffs, which affected domestic prices in 2018 as well.

Vehicle Profitability. Our financial results depend on the profitability of the vehicles we sell, which may vary significantly by vehicle line. In general, larger vehicles tend to command higher prices and be more profitable than smaller vehicles, both across and within vehicle segments. For example, in North America, our larger, more profitable vehicles had an average contribution margin that was about 140% of our total average contribution margin across all vehicles, whereas our smaller vehicles had significantly lower contribution margins. In addition, government regulations aimed at reducing emissions and increasing fuel efficiency (e.g., ZEV mandates and low emission zones) may increase the cost of vehicles by more than the perceived benefit to the consumer. Given the backdrop of excess capacity, these regulations could dampen contribution margins.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Trade Policy. To the extent governments in various regions erect or intensify barriers to imports, or implement currency policy that advantages local exporters selling into the global marketplace, there can be a significant negative impact on manufacturers based in other markets. While we believe the long-term trend will support the growth of free trade, we have noted with concern recent developments in a number of regions. The imposition of tariffs on steel and aluminum coming into the United States in 2018 had a direct negative impact on costs for manufacturers in the U.S. market. In Asia Pacific, a weak yen significantly reduces the cost of exports into the United States, Europe, and other global markets by Japanese manufacturers, and, over a period of time, contribute to other countries pursuing weak currency policies by intervening in the exchange rate markets. This is particularly likely in other Asian countries, such as South Korea. We will continue to monitor and address developing issues around trade policy.

Other Economic Factors. Although in recent months interest rates have risen, mature market government bond yields and inflation have remained lower than expected. At the same time, government deficits and debt remain at high levels in many major markets. The eventual implications of higher government deficits and debt, with potentially higher long-term interest rates, may drive a higher cost of capital over our planning period. Higher interest rates and/or taxes to address the higher deficits also may impede real growth in gross domestic product and, therefore, vehicle sales over our planning period.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

RESULTS OF OPERATIONS - 2018

COMPANY

The chart below shows our full year 2018 net income attributable to Ford and Company adjusted EBIT by segment.

Net income attributable to Ford and Company adjusted EBIT were driven by our Automotive and Ford Credit segments. Mobility and Corporate Other, as expected, were losses.

The year-over-year decline in net income was primarily due to the lower Automotive EBIT, the larger mark-to-market adjustment for global pension and OPEB plans due to adverse financial market conditions that occurred late in 2018, and personnel separation-related actions in North America, South America, and Europe.

The lower Automotive EBIT fully explains the \$2.6 billion decline in Company adjusted EBIT, compared with 2017. Ford Credit generated a full year 2018 EBT of \$2.6 billion, \$317 million higher than a year ago, and its best EBT in eight years. Ford Credit's EBT improvement was led by favorable lease residual performance and favorable volume and mix. This was offset by unfavorable derivatives market valuation.

The chart below shows our full year 2018 key metrics for the Company compared to a year ago.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

For full year 2018, revenue grew 2% to \$160.3 billion.

Net income attributable to Ford for full year 2018 was \$3.7 billion or \$0.92 diluted earnings per share of Common and Class B stock, a decrease of \$4.1 billion or \$1.01 per share compared with 2017. Company adjusted EBIT for full year 2018 was \$7 billion or \$1.30 diluted adjusted earnings per share, down \$2.6 billion or \$0.48 per share compared with 2017.

Net income margin was 2.3% and Company adjusted EBIT margin was 4.4% for full year 2018, down 2.6 percentage points and 1.7 percentage points, respectively, from 2017.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

AUTOMOTIVE SEGMENT

In general, we measure year-over-year change in Automotive segment EBIT using the causal factors listed below, with net pricing and cost variances calculated at present-year volume and mix and exchange:

Market Factors (exclude the impact of unconsolidated affiliate wholesales):

Volume and Mix – primarily measures EBIT variance from changes in wholesale volumes (at prior-year average contribution margin per unit) driven by changes in industry volume, market share, and dealer stocks, as well as the EBIT variance resulting from changes in product mix, including mix among vehicle lines and mix of trim levels and options within a vehicle line

Net Pricing – primarily measures EBIT variance driven by changes in wholesale prices to dealers and marketing incentive programs such as rebate programs, low-rate financing offers, special lease offers, and stock adjustments on dealer inventory

Cost:

Contribution Costs – primarily measures EBIT variance driven by per-unit changes in cost categories that typically vary with volume, such as material costs (including commodity and component costs), warranty expense, and freight and duty costs

Structural Costs – primarily measures EBIT variance driven by absolute change in cost categories that typically do not have a directly proportionate relationship to production volume. Structural costs include the following cost categories: Manufacturing, Including Volume-Related – consists primarily of costs for hourly and salaried manufacturing personnel, plant overhead (such as utilities and taxes), and new product launch expense.

These costs could be affected by volume for operating pattern actions such as overtime, line-speed, and shift schedules  
Engineering – consists primarily of costs for engineering personnel, prototype materials, testing, and outside engineering services

Spending-Related – consists primarily of depreciation and amortization of our manufacturing and engineering assets, but also includes asset retirements and operating leases

Advertising and Sales Promotions – includes costs for advertising, marketing programs, brand promotions, customer mailings and promotional events, and auto shows

Administrative and Selling – includes primarily costs for salaried personnel and purchased services related to our staff activities and selling functions, as well as associated information technology costs

Pension and OPEB – consists primarily of past service pension costs and other postretirement employee benefit costs

Other – includes a variety of items, such as parts and services profits, royalties, government incentives, and compensation-related changes. Other also includes:

Exchange – primarily measures EBIT variance driven by one or more of the following: (i) transactions denominated in currencies other than the functional currencies of the relevant entities, (ii) effects of converting functional currency income to U.S. dollars, (iii) effects of remeasuring monetary assets and liabilities of the relevant entities in currencies other than their functional currency, or (iv) results of our foreign currency hedging

Beginning in 2018, in our discussion of Asia Pacific EBIT, Other includes the equity income from our China JVs. In prior periods, the impact of our equity income from our China JVs was spread across each causal factor

In addition, definitions and calculations used in this Report include:

Wholesales and Revenue – wholesale unit volumes include all Ford and Lincoln badged units (whether produced by Ford or by an unconsolidated affiliate) that are sold to dealerships, units manufactured by Ford that are sold to other manufacturers, units distributed by Ford for other manufacturers, and local brand units produced by our China joint venture, Jiangling Motors Corporation, Ltd. (“JMC”), that are sold to dealerships. Vehicles sold to daily rental car companies that are subject to a guaranteed repurchase option (i.e., rental repurchase), as well as other sales of finished

vehicles for which the recognition of revenue is deferred (e.g., consignments), also are included in wholesale unit volumes. Revenue from certain vehicles in wholesale unit volumes (specifically, Ford badged vehicles produced and distributed by our unconsolidated affiliates, as well as JMC brand vehicles) are not included in our revenue

• Industry Volume and Market Share – based, in part, on estimated vehicle registrations; includes medium and heavy duty trucks

• SAAR – seasonally adjusted annual rate

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

The chart below shows our full year 2018 Automotive segment EBIT by region.

North America more than explained the Automotive segment's full year 2018 profitability. Automotive EBIT benefited from the largest improvement in market factors since 2015. This benefit was more than offset by commodity and currency headwinds, higher net product costs as we enter a major product refresh cycle, higher warranty costs, and Ford-specific challenges in China and Europe. Compared to 2017, the decline in Automotive EBIT was essentially due to China and Europe.

In 2018, we incurred headwinds of about \$3.3 billion in four areas. These impacts are not indicative, for the most part, of the ongoing run rate of the business. Our full year 2018 results reflect (i) about \$750 million in tariff-related effects, (ii) about \$1.1 billion of increased commodity cost unrelated to tariff effects, (iii) about \$750 million of unfavorable exchange net of pricing, and (iv) about \$775 million of cost related to the Takata recalls announced last year in North America.

About \$1.9 billion of the headwinds described above was reflected in North America's full year 2018 EBIT, which declined \$450 million year over year. This reflects the strong improvements we delivered in North America resulting from the continued focus on high-margin products.

South America was affected by about \$400 million of these headwinds, which excludes other inflationary effects, yet it delivered a full year EBIT improvement of \$75 million compared to 2017.

Asia Pacific was affected by about \$400 million of the headwinds described above, yet the region delivered a much deeper EBIT decline of \$1.8 billion compared to 2017 primarily due to lower JV income in China.

Europe was affected by about \$600 million of the headwinds, yet saw a year-over-year EBIT decline of \$765 million despite the strongest product refresh among all our regions in 2018.



Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

The charts on the following pages provide full year 2018 key metrics and the change in full year 2018 EBIT compared with full year 2017 by causal factor for our Automotive segment and its regional business units: North America, South America, Europe, Middle East & Africa, and Asia Pacific (including China).

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

37

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Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

38

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Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

39

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Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

40

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Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

41

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Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

42

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Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

MOBILITY SEGMENT

Our Mobility segment primarily includes development costs related to our autonomous vehicles and our investment in mobility through Ford Smart Mobility LLC ("FSM"). Autonomous vehicles includes self-driving systems development and vehicle integration, autonomous vehicle research and advanced engineering, autonomous vehicle transportation-as-a-service network development, user experience, and business strategy and business development teams. FSM designs and builds mobility services on its own, and collaborates with start-ups and technology companies.

The chart below shows the Mobility segment's full year 2018 EBIT compared with a year ago.



Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

FORD CREDIT SEGMENT

In general, we measure year-over-year changes in Ford Credit's EBT using the causal factors listed below:

Volume and Mix:

Volume primarily measures changes in net financing margin driven by changes in average managed receivables at prior period financing margin yield (defined below in financing margin) at prior period exchange rates. Volume changes are primarily driven by the volume of new and used vehicle sales and leases, the extent to which Ford Credit purchases retail installment sale and lease contracts, the extent to which Ford Credit provides wholesale financing, the sales price of the vehicles financed, the level of dealer inventories, Ford-sponsored special financing programs available exclusively through Ford Credit, and the availability of cost-effective funding

Mix primarily measures changes in net financing margin driven by period over period changes in the composition of Ford Credit's average managed receivables by product and by country or region

Financing Margin:

Financing margin variance is the period-to-period change in financing margin yield multiplied by the present period average managed receivables at prior period exchange rates. This calculation is performed at the product and country level and then aggregated. Financing margin yield equals revenue, less interest expense and scheduled depreciation for the period, divided by average managed receivables for the same period

Financing margin changes are driven by changes in revenue and interest expense. Changes in revenue are primarily driven by the level of market interest rates, cost assumptions in pricing, mix of business, and competitive environment. Changes in interest expense are primarily driven by the level of market interest rates, borrowing spreads, and asset-liability management

Credit Loss:

Credit loss is the change in the provision for credit losses at prior period exchange rates. For analysis purposes, management splits the provision for credit losses into net charge-offs and the change in the allowance for credit losses. Net charge-off changes are primarily driven by the number of repossessions, severity per repossession, and recoveries. Changes in the allowance for credit losses are primarily driven by changes in historical trends in credit losses and recoveries, changes in the composition and size of Ford Credit's present portfolio, changes in trends in historical used vehicle values, and changes in economic conditions. For additional information, refer to the "Critical Accounting Estimates - Allowance for Credit Losses" section of Item 7 of Part II of our 2018 Form 10-K Report

Lease Residual:

Lease residual measures changes to residual performance at prior period exchange rates. For analysis purposes, management splits residual performance primarily into residual gains and losses, and the change in accumulated supplemental depreciation

Residual gain and loss changes are primarily driven by the number of vehicles returned to Ford Credit and sold, and the difference between the auction value and the depreciated value (which includes both base and accumulated supplemental depreciation) of the vehicles sold. Changes in accumulated supplemental depreciation are primarily driven by changes in Ford Credit's estimate of the expected auction value at the end of the lease term, and changes in Ford Credit's estimate of the number of vehicles that will be returned to it and sold. For additional information, refer to the "Critical Accounting Estimates - Accumulated Depreciation on Vehicles Subject to Operating Leases" section of Item 7 of Part II of our 2018 Form 10-K Report

Exchange:

Reflects changes in EBT driven by the effects of converting functional currency income to U.S. dollars

Other:

Primarily includes operating expenses, other revenue, insurance expenses, and other income at prior period exchange rates

Changes in operating expenses are primarily driven by salaried personnel costs, facilities costs, and costs associated with the origination and servicing of customer contracts

In general, other income changes are primarily driven by changes in earnings related to market valuation adjustments to derivatives (primarily related to movements in interest rates) and other miscellaneous items

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

In addition, the following definitions and calculations apply to Ford Credit when used in this Report:

• Cash (as shown on the Funding Structure, Liquidity Sources, and Leverage charts) – Cash, cash equivalents, and marketable securities, excluding amounts related to insurance activities

• Earnings Before Taxes (EBT) – Reflects Ford Credit's income before income taxes

• Return on Equity (ROE) (as shown on the Key Metrics chart) – Reflects return on equity calculated by annualizing net income for the period and dividing by monthly average equity for the period

• Securitizations (as shown on the Public Term Funding Plan chart) – Public securitization transactions, Rule 144A offerings sponsored by Ford Credit, and widely distributed offerings by Ford Credit Canada

• Term Asset-Backed Securities (as shown on the Funding Structure chart) – Obligations issued in securitization transactions that are payable only out of collections on the underlying securitized assets and related enhancements

• Total Debt (as shown on the Leverage chart) – Debt on Ford Credit's balance sheet. Includes debt issued in securitizations and payable only out of collections on the underlying securitized assets and related enhancements. Ford Credit holds the right to receive the excess cash flows not needed to pay the debt issued by, and other obligations of, the securitization entities that are parties to those securitization transactions

• Total Net Receivables (as shown on the Total Net Receivables Reconciliation To Managed Receivables chart) – Includes finance receivables (retail and wholesale) sold for legal purposes and net investment in operating leases included in securitization transactions that do not satisfy the requirements for accounting sale treatment. These receivables and operating leases are reported on Ford Credit's balance sheet and are available only for payment of the debt issued by, and other obligations of, the securitization entities that are parties to those securitization transactions; they are not available to pay the other obligations of Ford Credit or the claims of Ford Credit's other creditors

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

The charts below provide full year 2018 key metrics and the change in full year 2018 EBT compared with full year 2017 by causal factor for the Ford Credit segment.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

**CORPORATE OTHER**

Corporate Other primarily includes corporate governance expenses, interest income (excluding interest earned on our extended service contract portfolio that is included in our Automotive segment) and portfolio gains and losses from our cash, cash equivalents, and marketable securities, and foreign exchange derivatives gains and losses associated with intercompany lending. Corporate governance expenses are primarily administrative, delivering benefit on behalf of the global enterprise and are not allocated to specific Automotive business units or operating segments. These include expenses related to setting and directing global policy, providing oversight and stewardship, and promoting the Company's interests. Our full year 2018 Corporate Other results were a \$373 million loss, compared with a \$457 million loss a year ago. The year-over-year improvement was driven by higher interest income and net gains on cash equivalents and marketable securities, offset partially by an increase in corporate governance costs.

**INTEREST ON DEBT**

Interest on Debt consists of interest expense on Automotive and Other debt. Full year 2018 interest expense on Automotive and Other debt was \$1.2 billion, \$38 million higher than a year ago, reflecting primarily higher foreign debt interest expense.

**SPECIAL ITEMS**

In Note 24 of the Notes to the Financial Statements, special items are reflected as a separate reconciling item, as opposed to being allocated among the Automotive, Mobility, and Ford Credit segments. This reflects the fact that management excludes these items from its review of operating segment results for purposes of measuring segment profitability and allocating resources.

Our pre-tax and tax special items were as follows:

**TAXES**

Our provision for income taxes for full year 2018 was \$650 million, resulting in an effective tax rate of 15.0%. Our full year 2018 adjusted effective tax rate, which excludes special items, was 9.7%.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

RESULTS OF OPERATIONS - 2017

COMPANY

The chart below shows our full year 2017 net income attributable to Ford and Company adjusted EBIT by segment.

In 2017, net income attributable to Ford and Company adjusted EBIT were driven by our Automotive and Ford Credit segments. Mobility and Corporate Other, as expected, were losses.

Company adjusted EBIT consisted of Automotive EBIT of \$8.1 billion, a strong EBT of \$2.3 billion in the Ford Credit segment, a loss of \$299 million in the Mobility segment, and a loss of \$457 million in Corporate Other.

Ford Credit's full year 2017 EBT was \$431 million higher than 2016, led primarily by receivables growth, lease residual performance, and financing margin. The improvement in lease residual performance was driven by higher than expected auction values.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

The chart below shows our full year 2017 key metrics for the Company compared with full year 2016.

Company revenue for full year 2017 was \$156.8 billion, \$5 billion higher than 2016.

Net income attributable to Ford for full year 2017 was \$7.7 billion or \$1.93 diluted earnings per share of Common and Class B stock, an increase of \$3.1 billion or \$0.78 per share compared with 2016, due to the significantly lower remeasurement loss on pension and OPEB plans and favorable tax planning actions.

Company adjusted EBIT for full year 2017 was \$9.6 billion, a decrease of \$1.7 billion from 2016, more than explained by North America and Europe.

Our diluted adjusted earnings per share of Common and Class B Stock was \$1.78, up \$0.02 per share compared with 2016 due to favorable tax planning actions.

Net income margin was 4.9% and Company adjusted EBIT margin was 6.1% for full year 2017, up 1.9 percentage points and down 1.4 percentage points, respectively, from 2016.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

AUTOMOTIVE SEGMENT

The chart below shows our full year 2017 Automotive segment EBIT by region.

Full year 2017 Automotive EBIT was driven by North America. In total, our Automotive operations outside North America were slightly profitable and \$641 million lower than in 2016 driven largely by expected Brexit effects in Europe.

The \$2 billion year-over-year decline in full year 2017 Automotive segment EBIT was primarily explained by higher commodities and adverse exchange. All other factors about offset. Higher commodities were driven by metals, primarily steel, and adverse exchange was driven by the sterling, reflecting Brexit effects of about \$600 million, along with the Canadian dollar, Chinese renminbi, and Argentine peso. Favorable market factors were driven by improved mix in all regions, excluding South America, and higher net pricing in all regions, except Asia Pacific, reflecting negative industry pricing in China.

North America's full year 2017 EBIT was \$1.3 billion lower than 2016. The decrease was driven by higher commodities, mainly steel and other metals; Expedition/Navigator launch effects, reflecting lower volume and higher costs, both product and structural costs, offset partially by favorable net pricing; and adverse exchange driven primarily by the Canadian dollar.

South America's full year 2017 EBIT improved \$324 million compared to 2016 due to higher industry volume and favorable net pricing. This was partially offset by unfavorable cost performance due to the effects of high inflation and higher product costs net of efficiencies, driven by the all-new EcoSport.

Europe's full year 2017 EBIT was \$951 million lower than in 2016 driven by Brexit effects, reflecting the weaker sterling and lower U.K. industry, offset partially by favorable net pricing in the United Kingdom; higher commodities, mainly steel and other metals; Fiesta launch effects, reflecting lower volume and higher costs, both product and structural costs, offset partially by favorable net pricing; and higher warranty costs.

Middle East & Africa's full year 2017 EBIT improved \$39 million compared to 2016. Favorable cost performance and exchange, reflecting the stronger South African rand and euro, offset lower volume.

Asia Pacific's full year 2017 EBIT was \$53 million lower than in 2016 due to market performance in China and unfavorable exchange.



Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

51

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Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

53

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Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

54

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Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

55

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Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

56

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Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

MOBILITY SEGMENT

The chart below shows the Mobility segment's full year 2017 EBIT compared with full year 2016.

57

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Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

FORD CREDIT SEGMENT

The charts below provide full year 2017 key metrics and the change in full year 2017 EBT compared with full year 2016 by causal factor for the Ford Credit segment.



Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

CORPORATE OTHER

Our full year 2017 Corporate Other results were a \$457 million loss, a \$41 million lower loss compared with 2016. This year-over-year improvement was driven by higher interest income, offset partially by higher corporate governance expenses.

INTEREST ON DEBT

Our full year 2017 interest expense on Automotive and Other debt was \$1.2 billion, \$239 million higher than in 2016, reflecting primarily higher average U.S. and foreign debt balances.

SPECIAL ITEMS

Our pre-tax and tax special items were as follows:

TAXES

Our provision for income taxes for full year 2017 was \$402 million, resulting in an effective tax rate of 4.9%, both lower than 2016, reflecting benefits for foreign tax credits expected to be realized in the foreseeable future, non-U.S. restructuring, and the impact of the Tax Cuts and Jobs Act of 2017.

Our full year 2017 adjusted effective tax rate, which excludes special items, was 15.4%, reflecting the same benefits from foreign tax credits mentioned above.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

LIQUIDITY AND CAPITAL RESOURCES

At December 31, 2018, total balance sheet cash, cash equivalents, marketable securities, and restricted cash (including Ford Credit) was \$34.1 billion.

We analyze our balance sheet on a "Company" basis which excludes Ford Credit. The key balance sheet metrics that we consider are: (i) Company cash, which includes cash equivalents, marketable securities, and restricted cash, excluding Ford Credit's cash, cash equivalents, marketable securities, and restricted cash; and (ii) Company liquidity, which includes Company cash, less restricted cash, and total available committed credit lines.

Company excluding Ford Credit

Liquidity. One of our key priorities is to maintain a strong balance sheet, while at the same time having resources available to invest in and grow our business. Based on our planning assumptions, we believe we have sufficient liquidity and capital resources to continue to invest in new products and services, pay our debts and obligations as and when they come due, pay a regular dividend, and provide protection within an uncertain global economic environment.

At December 31, 2018, we had \$23.1 billion of Company cash, with 90% held by consolidated entities domiciled in the United States. To be prepared for an economic downturn, we target to have an ongoing Company cash balance at or above \$20 billion. We expect to have periods when we will be above or below this amount due to: (i) future cash flow expectations, such as for investments in future opportunities, capital investments, debt maturities, pension contributions, or restructuring requirements, (ii) short-term timing differences, and (iii) changes in the global economic environment.

Our Company cash investments primarily include U.S. Department of Treasury obligations, federal agency securities, bank time deposits with investment-grade institutions, investment-grade corporate securities, investment-grade commercial paper, and debt obligations of a select group of non-U.S. governments, non-U.S. governmental agencies, and supranational institutions. The average maturity of these investments is approximately one year and adjusted based on market conditions and liquidity needs. We monitor our Company cash levels and average maturity on a daily basis.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

In addition to our target for Company cash, we also target to maintain a corporate credit facility, discussed below, for our Automotive business of about \$10 billion to protect against exogenous shocks. We assess the appropriate long-term target for total Company liquidity, which includes Company cash and the Automotive portion of the corporate credit facility, to be at or above \$30 billion, which is an amount we believe is sufficient to support our business priorities and to protect our business. At December 31, 2018, we had \$34.2 billion of Company liquidity. We may reduce our Company cash and liquidity targets over time, based on improved operating performance and changes in our risk profile.

**Changes in Company Cash.** In 2018, we began reporting Company adjusted operating cash flow, which includes Automotive, Mobility, Corporate Other, and Interest on Debt cash flows, as well as Ford Credit distributions. Prior to 2018, Ford Credit distributions were reported as a non-operating cash flow.

In managing our business, we classify changes in Company cash into operating and other items. Operating items include: Company adjusted EBIT excluding Ford Credit, capital spending, depreciation and tooling amortization, changes in working capital, Ford Credit distributions, and all other and timing differences. Non-operating items include: separation payments, other transactions with Ford Credit, acquisitions and divestitures, changes in Automotive and Other debt, contributions to funded pension plans, and shareholder distributions.

With respect to "Changes in working capital," in general we carry relatively low Automotive segment trade receivables compared with our trade payables because the majority of our Automotive wholesales are financed (primarily by Ford Credit) immediately upon sale of vehicles to dealers, which generally occurs shortly after being produced. In addition, our inventories are lean because we build to order, not for inventory. In contrast, our Automotive trade payables are based primarily on industry-standard production supplier payment terms generally ranging between 30 days to 45 days. As a result, our cash flow tends to improve as wholesale volumes increase, but can deteriorate significantly when wholesale volumes drop sharply. These working capital balances generally are subject to seasonal changes that can impact cash flow. For example, we typically experience cash flow timing differences associated with inventories and payables due to our annual summer and December shutdown periods when production, and therefore inventories and wholesale volumes, are usually at their lowest levels, while payables continue to come due and be paid. The net impact of this typically results in cash outflows from changes in our working capital balances during these shutdown periods.

In 2018, our cash flow was lower than 2017 primarily driven by lower EBIT. In 2019, we expect improved cash flow versus 2018.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Changes in Company cash excluding Ford Credit are summarized below:

Capital spending was \$7.7 billion in 2018 and is projected to be about the same in 2019. As we redesign our business, the ongoing amount of capital spending to support product development, growth, and infrastructure is expected to be about \$7 billion annually through 2022.

Full year 2018 working capital was about \$900 million negative, reflecting primarily higher inventory.

All other and timing differences were negative \$1.1 billion, reflecting primarily interest payments on Automotive and Other debt, cash taxes, and assorted timing differences.

Shareholder distributions were about \$3.1 billion in 2018.

At December 31, 2018, our cash conversion rate was 409%, and our adjusted cash conversion rate was 40%.

Available Credit Lines. Total committed Company credit lines excluding Ford Credit at December 31, 2018 were \$11.9 billion, consisting of \$10.4 billion of our corporate credit facility and \$1.5 billion of local credit facilities. At December 31, 2018, the utilized portion of the corporate credit facility was \$27 million, representing amounts utilized for letters of credit. At December 31, 2018, the utilized portion of the local credit facilities was \$735 million.

Lenders under our corporate credit facility have commitments to us totaling \$13.4 billion, with 75% of the commitments maturing on April 30, 2023 and 25% of the commitments maturing on April 30, 2021. We have allocated \$3 billion of commitments to Ford Credit on an irrevocable and exclusive basis to support its liquidity. We would guarantee any borrowings by Ford Credit under the corporate credit facility.

The corporate credit facility is unsecured and free of material adverse change conditions to borrowing, restrictive financial covenants (for example, interest or fixed-charge coverage ratio, debt-to-equity ratio, and minimum net worth requirements), and credit rating triggers that could limit our ability to obtain funding. The corporate credit facility contains a liquidity covenant that requires us to maintain a minimum of \$4 billion in aggregate of domestic cash, cash equivalents, and loaned and marketable securities and/or availability under the facility. If our senior, unsecured, long-term debt does not maintain at least two investment grade ratings from Fitch, Moody's, and S&P, the guarantees of certain subsidiaries will be required.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Debt. As shown in Note 18 of the Notes to the Financial Statements, at December 31, 2018, Company debt excluding Ford Credit was \$14.1 billion, including Automotive debt of \$13.5 billion. Both balances were about \$2.4 billion lower than at December 31, 2017, reflecting primarily foreign and U.S. debt repayments and exchange.

U.S. Department of Energy ("DOE") Advanced Technology Vehicle Manufacturer ("ATVM") Incentive Program. See Note 18 of the Notes to the Financial Statements for information regarding the ATVM loan.

Leverage. We manage Company debt (excluding Ford Credit) levels with a leverage framework to maintain investment grade credit ratings through a normal business cycle. The leverage framework includes a ratio of total company debt (excluding Ford Credit) adjusted to include unamortized discount/premium and issuance costs (excluding Ford Credit), operating lease minimum commitments and net pension liabilities excluding prepaid assets, divided by Company Adjusted EBIT, excluding Ford Credit EBT, and further adjusted to include depreciation and tooling amortization (excluding Ford Credit), operating lease expense, and certain pension costs. At December 31, 2018, our ratio of Company debt to net income attributable to Ford was 41.9:1, and our ratio of adjusted debt to EBITDA was 3.2:1.

Ford Credit's leverage is calculated as a separate business as described in the Liquidity - Ford Credit Segment section of Item 2. Ford Credit is self-funding and its debt, which is used to fund its operations, is separate from our Automotive and Other debt.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Ford Credit Segment

**Funding Overview.** Ford Credit's primary funding objective is to be well capitalized with a strong balance sheet and ample liquidity to support its financing activities and growth under a variety of market conditions, including short-term and long-term market disruptions. Ford Credit's funding strategy remains focused on diversification, and it plans to continue accessing a variety of markets, channels, and investors.

Ford Credit's liquidity profile continues to be diverse, robust, and focused on maintaining liquidity levels that meet its business and funding requirements. Ford Credit annually stress tests its balance sheet and liquidity to ensure that it continues to meet its financial obligations through economic cycles.

**Funding Sources.** Ford Credit's funding sources include primarily unsecured debt and securitization transactions (including other structured financings). Ford Credit issues both short-term and long-term debt that is held by both institutional and retail investors, with long-term debt having an original maturity of more than 12 months. Ford Credit sponsors a number of securitization programs that can be structured to provide both short-term and long-term funding through institutional investors in the United States and international capital markets.

Ford Credit obtains short-term unsecured funding from the sale of demand notes under its Ford Interest Advantage program, through its Retail Deposit program at FCE Bank plc ("FCE"), and by issuing unsecured commercial paper in the United States and other international markets. At December 31, 2018, the principal amount outstanding of Ford Interest Advantage notes, which may be redeemed at any time at the option of the holders thereof without restriction, and FCE Deposits was \$6 billion. At December 31, 2018, the principal amount outstanding of Ford Credit's unsecured commercial paper was \$4 billion, which primarily represents issuance under its commercial paper program in the United States. Ford Credit maintains multiple sources of readily available liquidity to fund the payment of its unsecured short-term debt obligations.

**Funding Portfolio.** The chart below shows the trends in funding for Ford Credit's managed receivables:

Managed receivables of \$155 billion as of December 31, 2018 were funded primarily with term debt and term asset-backed securities. Securitized funding as a percent of managed receivables was 39%. Ford Credit targets a mix of securitized funding between 35% and 40%. The calendarization of the funding plan will result in quarterly fluctuations of the securitized funding percentage.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Public Term Funding Plan. The chart below shows Ford Credit's issuances for full-year 2016, 2017, and 2018, and its planned issuances for full-year 2019, excluding short-term funding programs:

Ford Credit's total unsecured public term funding plan is categorized by currency of issuance.

In 2018, Ford Credit completed \$27 billion of public term funding. For 2019, Ford Credit projects full-year public term funding in the range of \$27 billion to \$33 billion. Ford Credit plans to continue issuing its eurocurrency-denominated (e.g., euro and sterling) public unsecured debt from the United States.

Through February 15, 2019, Ford Credit has completed \$4 billion of public term issuances.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Liquidity. The chart below shows Ford Credit's liquidity sources and utilization:

Ford Credit's liquidity available for use will fluctuate quarterly based on factors including near-term debt maturities, receivable growth, and timing of funding transactions. Ford Credit targets liquidity of about \$25 billion. At December 31, 2018, Ford Credit's liquidity available for use was \$27.3 billion, \$2.2 billion lower than year-end 2017.

Ford Credit's sources of liquidity include cash, committed asset-backed facilities, unsecured credit facilities, and the corporate credit facility allocation.

Ford Credit's balance sheet is inherently liquid because of the short-term nature of its finance receivables, investment in operating leases, and cash. Ford Credit ensures its cumulative debt maturities have a longer tenor than its cumulative asset maturities. This positive maturity profile is intended to provide Ford Credit with additional liquidity after all of its assets have been funded.



Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Leverage. Ford Credit uses leverage, or the debt-to-equity ratio, to make various business decisions, including evaluating and establishing pricing for finance receivable and operating lease financing, and assessing its capital structure.

The chart below shows the calculation of Ford Credit's financial statement leverage and managed leverage:

Ford Credit believes that managed leverage is useful to its investors because it reflects the way Ford Credit manages its business. Ford Credit deducts cash, cash equivalents, and marketable securities (excluding amounts related to insurance activities) because they generally correspond to excess debt beyond the amount required to support its operations and amounts to support on-balance sheet securitization transactions. Ford Credit makes derivative accounting adjustments to its assets, debt, and equity positions to reflect the impact of interest rate instruments Ford Credit uses in connection with its term-debt issuances and securitization transactions. The derivative accounting adjustments related to these instruments vary over the term of the underlying debt and securitized funding obligations based on changes in market interest rates. Ford Credit generally repays its debt obligations as they mature. As a result, Ford Credit excludes the impact of these derivative accounting adjustments on both the numerator and denominator in order to exclude the interim effects of changes in market interest rates.

Ford Credit plans its managed leverage by considering prevailing market conditions and the risk characteristics of its business. At December 31, 2018, Ford Credit's financial statement leverage was 9.4:1, and managed leverage was 8.8:1. Ford Credit targets managed leverage in the range of 8:1 to 9:1.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Total Company

**Pension Plan Contributions and Strategy.** Our strategy is to reduce the risk of our funded defined benefit pension plans, including minimizing the volatility of the value of our pension assets relative to pension liabilities and the need for unplanned use of capital resources to fund the plans. The strategy reduces balance sheet, cash flow, and income exposures and, in turn, reduces our risk profile. We have made significant progress in implementing this strategy over the last several years. For example, we have limited liability growth by closing our funded plans to new participants and have reduced plan deficits through discretionary contributions. Going forward, we expect to:

- Limit our pension contributions to offset ongoing service cost or meet regulatory requirements, if any;
- Continue progressively re-balancing assets to more fixed income investments, with a target asset allocation of about 80% fixed income investments and 20% growth assets, which will provide a better matching of plan assets to the characteristics of the liabilities, thereby reducing our net exposure; and
- Evaluate strategic actions to reduce pension liabilities, such as plan design changes, curtailments, or settlements

Worldwide, our defined benefit pension plans were underfunded by \$6.3 billion at December 31, 2018, an improvement of \$300 million from December 31, 2017, primarily as a result of higher discount rates, demographics, and contributions offsetting lower asset returns. Of the \$6.3 billion underfunded status at year-end 2018, about \$6 billion is associated with our unfunded plans. These are “pay as you go,” with benefits paid from general Company cash. These unfunded plans primarily include certain plans in Germany, and U.S. defined benefit plans for senior management.

The U.S. weighted-average discount rate increased 69 basis points to 4.29% at year-end 2018 from 3.60% at year-end 2017. The non-U.S. weighted average discount rate increased 15 basis points to 2.48% at year-end 2018 from 2.33% at year-end 2017.

Asset returns in 2018 for our U.S. plans were negative 3.7%, reflecting fixed income losses as long-term interest rates increased. The fixed income mix in our U.S. plans at year-end 2018 was 78%, two percentage points higher than year-end 2017. Asset returns for our non-U.S. plans were negative 0.1%, reflecting varied results by market. The fixed income mix in our non-U.S. plans at year-end 2018 was 83%, three percentage points higher than year-end 2017.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

In 2018, we contributed about \$400 million (most of which were mandatory contributions) to our global funded pension plans, a decrease of about \$1 billion compared with 2017. The contributions in 2017 included a pull-ahead of about \$500 million of 2018 planned funding into the fourth quarter of 2017 to achieve a cash tax benefit. During 2019, we expect to contribute about \$650 million (including \$140 million in discretionary contributions in the United States) from Company cash to our global funded pension plans. We also expect to make about \$350 million of benefit payments to participants in unfunded plans, for a combined total of about \$1 billion. Based on current assumptions and regulations, we do not expect to have a legal requirement to fund our major U.S. plans in 2019. After 2019, we expect contributions to our global funded plans of about \$500 million to \$650 million per year, limited to ongoing service cost. Our global funded plans are now fully funded in aggregate, which is an important milestone demonstrating the effectiveness of our de-risking strategy and our commitment to a strong balance sheet.

For a detailed discussion of our pension plans, see Note 17 of the Notes to the Financial Statements.

**Return on Invested Capital.** We analyze total Company performance using an adjusted Return on Invested Capital ("ROIC") financial metric based on an after-tax rolling five-year average, which we believe is appropriate given our industry's product and investment cycles. The following table contains the calculation of our ROIC for the years shown:

## Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

## CREDIT RATINGS

Our short-term and long-term debt is rated by four credit rating agencies designated as nationally recognized statistical rating organizations ("NRSROs") by the U.S. Securities and Exchange Commission: DBRS, Fitch, Moody's, and S&P.

In several markets, locally-recognized rating agencies also rate us. A credit rating reflects an assessment by the rating agency of the credit risk associated with a corporate entity or particular securities issued by that entity. Rating agencies' ratings of us are based on information provided by us and other sources. Credit ratings are not recommendations to buy, sell, or hold securities, and are subject to revision or withdrawal at any time by the assigning rating agency. Each rating agency may have different criteria for evaluating company risk and, therefore, ratings should be evaluated independently for each rating agency.

There have been no rating actions taken by these NRSROs since the filing of our Quarterly Report on Form 10-Q for the quarter ended September 30, 2018.

The following chart summarizes certain of the credit ratings and outlook presently assigned by these four NRSROs:

NRSRO RATINGS							
Ford Issuer Default / Corporate / Issuer Rating	Ford Credit			NRSROs			
	Long-Term Senior Unsecured	Outlook / Trend	Long-Term Senior Unsecured	Short-Term Unsecured	Outlook / Trend	Minimum Long-Term Investment Grade Rating	
DBRS	BBB	Stable	BBB	R-2M	Stable	BBB (low)	
Fitch	BBB	Stable	BBB	F2	Stable	BBB-	
Moody's	N/A	Negative	Baa3	P-3	Negative	Baa3	
S&P	BBB	Negative	BBB	A-2	Negative	BBB-	

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

2019 EXTERNAL FACTORS ASSUMPTIONS

Based on the current environment, we have assumed the following for 2019:

For 2019 GDP, we project continued growth globally and across our major markets. Relative to 2018, we expect a deterioration in the rate of growth in the United States, Europe, and China, but we do not expect a recession to occur in the United States during the year.

We expect global industry volume in 2019 to be about flat compared with 2018. This includes a decline in the United States, although industry sales will still be strong on an absolute basis, with retail down slightly and fleet down more (mainly rentals). We expect Europe industry volume to be about flat, and, in China, we expect industry volume to be down modestly with a strong second half of the year.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

OUTLOOK

Based on our current assumptions, our Company guidance for 2019 includes the following:

For 2019, we see the potential for year-over-year improvement in the key metrics shown above, including our revenue to be greater than \$160.3 billion, adjusted EBIT margin to be greater than 4.4%, adjusted ROIC to be greater than 7.1%, adjusted cash conversion to be greater than 40%, and adjusted debt to EBITDA to be lower than 3.2:1.

We also expect Company adjusted operating cash flow to be stronger and Automotive EBIT to improve. From a business unit perspective, we expect North America, China, and Europe, where results were lower in 2018, to lead the potential EBIT improvement. Drivers of this would be the favorable effects of new products, fitness initiatives as they gain greater traction, and a turnaround, at least in part, of the major factors that led to our lower China performance in 2018.

Offsetting these positive effects, in part, will be higher investments in Mobility – both for our autonomous vehicle business and mobility services development – as well as lower, though still strong, EBT at Ford Credit, reflecting lower volume and financing margin and higher operating costs.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Cautionary Note on Forward-Looking Statements

Statements included or incorporated by reference herein may constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are based on expectations, forecasts, and assumptions by our management and involve a number of risks, uncertainties, and other factors that could cause actual results to differ materially from those stated, including, without limitation:

- Ford's long-term competitiveness depends on the successful execution of fitness actions;
- Industry sales volume, particularly in the United States, Europe, or China, can be volatile and could decline if there is a financial crisis, recession, or significant geopolitical event;
- Ford's new and existing products and mobility services are subject to market acceptance;
- Ford's results are dependent on sales of larger, more profitable vehicles, particularly in the United States;
- Ford may face increased price competition resulting from industry excess capacity, currency fluctuations, or other factors;
- Fluctuations in commodity prices, foreign currency exchange rates, and interest rates can have a significant effect on results;
- With a global footprint, Ford's results could be adversely affected by economic, geopolitical, protectionist trade policies, or other events, including Brexit;
- Ford's production, as well as Ford's suppliers' production, could be disrupted by labor disputes, natural or man-made disasters, financial distress, production difficulties, or other factors;
  - Ford's ability to maintain a competitive cost structure could be affected by labor or other constraints;
- Pension and other postretirement liabilities could adversely affect Ford's liquidity and financial condition;
- Economic and demographic experience for pension and other postretirement benefit plans (e.g., discount rates or investment returns) could be worse than Ford has assumed;
- Ford's vehicles could be affected by defects that result in delays in new model launches, recall campaigns, or increased warranty costs;
- Ford may need to substantially modify its product plans to comply with safety, emissions, fuel economy, and other regulations that may change in the future;
- Ford could experience unusual or significant litigation, governmental investigations, or adverse publicity arising out of alleged defects in products, perceived environmental impacts, or otherwise;
- Ford's receipt of government incentives could be subject to reduction, termination, or clawback;
- Operational systems, security systems, and vehicles could be affected by cyber incidents;
- Ford Credit's access to debt, securitization, or derivative markets around the world at competitive rates or in sufficient amounts could be affected by credit rating downgrades, market volatility, market disruption, regulatory requirements, or other factors;
- Ford Credit could experience higher-than-expected credit losses, lower-than-anticipated residual values, or higher-than-expected return volumes for leased vehicles;
- Ford Credit could face increased competition from banks, financial institutions, or other third parties seeking to increase their share of financing Ford vehicles; and
- Ford Credit could be subject to new or increased credit regulations, consumer or data protection regulations, or other regulations.

We cannot be certain that any expectation, forecast, or assumption made in preparing forward-looking statements will prove accurate, or that any projection will be realized. It is to be expected that there may be differences between projected and actual results. Our forward-looking statements speak only as of the date of their initial issuance, and we do not undertake any obligation to update or revise publicly any forward-looking statement, whether as a result of new information, future events, or otherwise. For additional discussion, see "Item 1A. Risk Factors" above.





Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

NON-GAAP FINANCIAL MEASURE RECONCILIATIONS

The following charts show our Non-GAAP financial measure reconciliations for: Adjusted EBIT, Adjusted Earnings Per Share, Adjusted Effective Tax Rate, Adjusted Operating Cash Flow, Adjusted Cash Conversion, Adjusted Debt to EBITDA, and Ford Credit Managed Receivables. The GAAP reconciliation for Ford Credit Managed Leverage can be found in the Ford Credit Segment section of "Liquidity and Capital Resources."

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

75

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Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

76

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## Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

## 2018 SUPPLEMENTAL FINANCIAL INFORMATION

The tables below provide supplemental consolidating financial information and other financial information. Company excluding Ford Credit includes our Automotive and Mobility reportable segments, Corporate Other, Interest on Debt, and Special Items. Eliminations, where presented, primarily represent eliminations of intersegment transactions and deferred tax netting.

Selected Income Statement Information. The following table provides supplemental income statement information (in millions):

	For the year ended December 31, 2018				Ford Credit	Consolidated
	Company excluding Ford Credit					
	Automotive	Mobility	Other (a)	Subtotal		
Revenues	\$ 148,294	\$ 26	\$—	\$ 148,320	\$ 12,018	\$ 160,338
Total costs and expenses	145,691	758	1,223	147,672	9,463	157,135
Interest expense on Automotive debt	—	—	1,171	1,171	—	1,171
Interest expense on Other debt	—	—	57	57	—	57
Other income/(loss), net	2,724	58	(579 )	2,203	44	2,247
Equity in net income of affiliated companies	95	—	—	95	28	123
Income/(loss) before income taxes	5,422	(674 )	(3,030 )	1,718	2,627	4,345
Provision for/(Benefit from) income taxes	705	(162 )	(296 )	247	403	650
Net income/(Loss)	4,717	(512 )	(2,734 )	1,471	2,224	3,695
Less: Income/(Loss) attributable to noncontrolling interests	18	—	—	18	—	18
Net income/(Loss) attributable to Ford Motor Company	\$ 4,699	\$ (512 )	\$ (2,734 )	\$ 1,453	\$ 2,224	\$ 3,677

(a) Other includes Corporate Other, Interest on Debt, and Special Items

## Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Selected Balance Sheet Information. The following tables provide supplemental balance sheet information (in millions):

Assets	December 31, 2018			
	Company excluding Ford Ford Credit Credit		Eliminations	Consolidated
Cash and cash equivalents	\$7,111	\$9,607	\$ —	\$ 16,718
Marketable securities	15,925	1,308	—	17,233
Ford Credit finance receivables, net	—	54,353	—	54,353
Trade and other receivables, less allowances	3,698	7,497	—	11,195
Inventories	11,220	—	—	11,220
Other assets	2,567	1,363	—	3,930
Receivable from other segments	1,054	2,470	(3,524 )	—
Total current assets	41,575	76,598	(3,524 )	114,649
Ford Credit finance receivables, net	—	55,544	—	55,544
Net investment in operating leases	1,705	27,414	—	29,119
Net property	35,986	192	—	36,178
Equity in net assets of affiliated companies	2,595	114	—	2,709
Deferred income taxes	12,293	216	(2,097 )	10,412
Other assets	6,343	1,586	—	7,929
Receivable from other segments	166	14	(180 )	—
Total assets	\$100,663	\$161,678	\$(5,801 )	\$256,540
Liabilities				
Payables	\$20,426	\$1,094	\$—	\$21,520
Other liabilities and deferred revenue	18,868	1,688	—	20,556
Automotive debt payable within one year	2,314	—	—	2,314
Ford Credit debt payable within one year	—	51,179	—	51,179
Payable to other segments	3,524	—	(3,524 )	—
Total current liabilities	45,132	53,961	(3,524 )	95,569
Other liabilities and deferred revenue	22,491	1,097	—	23,588
Automotive long-term debt	11,233	—	—	11,233
Ford Credit long-term debt	—	88,887	—	88,887
Other long-term debt	600	—	—	600
Deferred income taxes	99	2,595	(2,097 )	597
Payable to other segments	17	163	(180 )	—
Total liabilities	\$79,572	\$146,703	\$(5,801)	\$220,474

## Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Selected Cash Flow Information. The following tables provide supplemental cash flow information (in millions):

Cash flows from operating activities	For the year ended December 31, 2018			
	Company excluding Ford Credit	Ford Credit	Eliminations	Consolidated
Net income	\$ 1,471	\$ 2,224	\$ —	—\$ 3,695
Depreciation and tooling amortization	5,384	3,896	—	9,280
Other amortization	100	(1,072 )	—	(972 )
Provision for credit and insurance losses	—	609	—	609
Pension and OPEB expense/(income)	400	—	—	400
Equity investment (earnings)/losses in excess of dividends received	231	(25 )	—	206
Foreign currency adjustments	528	1	—	529
Net (gain)/loss on changes in investments in affiliates	(39 )	(3 )	—	(42 )
Stock compensation	183	8	—	191
Net change in wholesale and other receivables	—	(2,408 )	—	(2,408 )
Provision for deferred income taxes	573	(770 )	—	(197 )
Decrease/(Increase) in intersegment receivables/payables	(558 )	558	—	—
Decrease/(Increase) in accounts receivable and other assets	(1,999 )	(240 )	—	(2,239 )
Decrease/(Increase) in inventory	(828 )	—	—	(828 )
Increase/(Decrease) in accounts payable and accrued and other liabilities	6,521	260	—	6,781
Other	89	(72 )	—	17
Interest supplements and residual value support to Ford Credit	(5,205 )	5,205	—	—
Net cash provided by/(used in) operating activities	\$ 6,851	\$ 8,171	\$ —	—\$ 15,022
Cash flows from investing activities				
Capital spending	\$(7,737)	\$(48 )	\$—	\$(7,785 )
Acquisitions of finance receivables and operating leases	—	(62,924 )	—	(62,924 )
Collections of finance receivables and operating leases	—	50,880	—	50,880
Purchases of marketable and other securities	(13,508 )	(3,632 )	—	(17,140 )
Sales and maturities of marketable and other securities	15,356	5,171	—	20,527
Settlements of derivatives	132	226	—	358
Other	(174 )	(3 )	—	(177 )
Investing activity (to)/from other segments	2,711	154	(2,865 )	—
Net cash provided by/(used in) investing activities	\$(3,220)	\$(10,176)	\$(2,865)	\$(16,261)
Cash flows from financing activities				
Cash dividends	\$(2,905)	\$—	\$—	\$(2,905)
Purchases of common stock	(164 )	—	—	(164 )
Net changes in short-term debt	(543 )	(2,276 )	—	(2,819 )
Proceeds from issuance of long-term debt	176	49,954	—	50,130
Principal payments on long-term debt	(1,642 )	(42,530)	—	(44,172 )
Other	(42 )	(150 )	—	(192 )
Financing activity to/(from) other segments	(154 )	(2,711 )	2,865	—
Net cash provided by/(used in) financing activities	\$(5,274)	\$ 2,287	\$ 2,865	\$(122 )
Effect of exchange rate changes on cash, cash equivalents, and restricted cash	\$(153 )	\$(217 )	\$—	\$(370 )



## Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

## Selected Other Information.

Cost of sales and Selling, administrative, and other expenses for full year 2017 were \$142.8 billion, an increase of \$5.7 billion compared with 2016. Cost of sales and Selling, administrative, and other expenses for full year 2018 were \$147.7 billion, an increase of \$4.8 billion compared with 2017. The detail for the changes is shown below (in billions):

	2017 Lower/(Higher) 2016	2018 Lower/(Higher) 2017
Volume and mix, exchange, and other	\$ (3.9 )	\$ (0.5 )
Contribution costs		
Material excluding commodities	(0.1 )	(0.8 )
Commodities	(1.2 )	(1.6 )
Warranty	0.1	(1.1 )
Freight and other	—	(0.4 )
Structural costs	(0.7 )	(0.4 )
Special items	0.1	—
Total	\$ (5.7 )	\$ (4.8 )

Equity. At December 31, 2017, total equity attributable to Ford was \$35.6 billion, an increase of \$5.8 billion compared with December 31, 2016. At December 31, 2018, total equity attributable to Ford was \$35.9 billion, an increase of about \$400 million compared with December 31, 2017. The detail for the changes is shown below (in billions):

	2017 vs 2016 Increase/ (Decrease)	2018 vs 2017 Increase/ (Decrease)
Net income	\$ 7.7	\$ 3.7
Shareholder distributions	(2.7 )	(3.1 )
Other comprehensive income	—	(0.4 )
Adoption of accounting standards	0.6	—
Common Stock issued (including share-based compensation impacts)	0.2	0.2
Total	\$ 5.8	\$ 0.4



Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

CRITICAL ACCOUNTING ESTIMATES

We consider an accounting estimate to be critical if: 1) the accounting estimate requires us to make assumptions about matters that were highly uncertain at the time the accounting estimate was made, and 2) changes in the estimate that are reasonably likely to occur from period to period, or use of different estimates that we reasonably could have used in the current period, would have a material impact on our financial condition or results of operations.

Management has discussed the development and selection of these critical accounting estimates with the Audit Committee of our Board of Directors. In addition, there are other items within our financial statements that require estimation, but are not deemed critical as defined above. Changes in estimates used in these and other items could have a material impact on our financial statements.

Warranty and Field Service Actions

**Nature of Estimates Required.** We provide warranties on the products we sell. Separately, we also periodically perform field service actions related to safety recalls, emission recalls, and other product campaigns. Pursuant to these warranties and field service actions, we will repair, replace, or adjust all parts on a vehicle that are defective in factory-supplied materials or workmanship. We accrue the estimated cost of both basic warranty coverages and field service actions at the time of sale.

**Assumptions and Approach Used.** We establish estimates for warranty and field service action obligations using a patterned estimation model. We use historical information regarding the nature, frequency, and average cost of claims for each vehicle line by model year. We reevaluate our estimate of warranty and field service obligations on a regular basis. Experience has shown that initial data for any given model year may be volatile; therefore, our process relies on long-term historical averages until sufficient data are available. As actual experience becomes available, we use the data to modify the historical averages in order to ensure that the estimate is within the range of likely outcomes. We then compare the resulting accruals with present spending rates to ensure that the balances are adequate to meet expected future obligations. Based on this data, we revise our estimates as necessary. Warranty coverages vary; therefore, our warranty accruals vary depending upon the type of product and the geographic location of its sale for specific periods of time and/or mileage. Field service actions are distinguishable from warranties in that they may occur in periods beyond the basic warranty coverage period. Our best estimate of the obligation related to field service actions includes expected future payments.

Due to the uncertainty and potential volatility of these factors, changes in our assumptions could materially affect our financial condition and results of operations. See Note 23 of the Notes to the Financial Statements for information regarding warranty and product recall related costs.

Pensions and Other Postretirement Employee Benefits

**Nature of Estimates Required.** The estimation of our defined benefit pension and OPEB plan obligations and expenses requires that we make use of estimates of the present value of the projected future payments to all participants, taking into consideration the likelihood of potential future events such as demographic experience and health care cost increases. Plan obligations and expenses are based on existing retirement plan provisions. No assumption is made regarding any potential future changes to benefit provisions beyond those to which we are presently committed (e.g., in existing labor contracts).

**Assumptions and Approach Used.** The assumptions used in developing the required estimates include the following key factors:

- Discount rates. Our discount rate assumption is based primarily on the results of a cash flow matching analysis, which matches the future cash outflows for each major plan to a yield curve based on high-quality bonds specific to the country of the plan. Benefit payments are discounted at the rates on the curve to determine the year-end obligations.

Expected long-term rate of return on plan assets. Our expected long-term rate of return considers various sources, primarily inputs from a range of advisors for capital market returns, inflation, bond yields, and other variables, adjusted for specific aspects of our investment strategy by plan. Historical returns also are considered where appropriate. The assumption is based on consideration of all inputs, with a focus on long-term trends to avoid short-term market influences.

- Salary growth. Our salary growth assumption reflects our actual experience, long-term outlook, and assumed inflation.

- Inflation. Our inflation assumption is based on an evaluation of external market indicators, including real gross domestic product growth and central bank inflation targets.

Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations (Continued)

**Expected contributions.** Our expected amount and timing of contributions are based on an assessment of minimum requirements, cash availability, and other considerations (e.g., funded status, avoidance of regulatory premiums and levies, and tax efficiency).

**Retirement rates.** Retirement rates are developed to reflect actual and projected plan experience.

**Mortality rates.** Mortality rates are developed to reflect actual and projected plan experience.

**Health care cost trends.** Our health care cost trend assumptions are developed based on historical cost data, the near-term outlook, and an assessment of likely long-term trends.

Assumptions are set at each year-end and are generally not changed during the year unless there is a major plan event such as a significant curtailment or settlement that would trigger a plan remeasurement.

See Note 17 of the Notes to the Financial Statements for more information regarding pension and OPEB costs and assumptions.

**Pension Plans**

**Effect of Actual Results.** The year-end 2018 weighted average discount rate was 4.29% for U.S. plans and 2.48% for non-U.S. plans, reflecting increases of 69 and 15 basis points, respectively, compared with year-end 2017. In 2018, the U.S. actual return on assets was negative 3.7%, which was lower than the expected long-term rate of return of 6.75%. Non-U.S. actual return on assets was negative 0.1%, which was lower than the expected long-term rate of return of 4.51%. In total, these differences, in addition to demographic and other updates, resulted in a net loss of \$1.2 billion which has been recognized within net periodic benefit cost and reported as a special item.

For 2019, the expected long-term rate of return on assets is 6.75% for U.S. plans, unchanged from 2018, and 4.18% for non-U.S. plans, down about 33 basis points compared with a year ago, primarily reflecting an increased allocation to fixed income assets and a lower consensus on capital market return expectations from advisors.

**De-risking Strategy.** We employ a broad global de-risking strategy which increases the matching characteristics of our assets relative to our obligation as funded status improves. Changes in interest rates (which directly influence changes in discount rates), in addition to other factors, have a significant impact on the value of our pension obligation and fixed income asset portfolio. As we continue to de-risk our plans and increase the allocation to fixed income investments over time, our funded status sensitivity to changes in interest rates will continue to be reduced. Changes in interest rates should result in offsetting effects in the value of our pension obligation and the value of the fixed income asset portfolio.

**Sensitivity Analysis.** The December 31, 2018 pension funded status and 2019 expense are affected by year-end 2018 assumptions. Sensitivities to these assumptions may be asymmetric and are specific to the time periods noted. The effects of changes in the factors which generally have the largest impact on year-end funded status and pension expense are discussed below.

Discount rates and interest rates have the largest impact on our obligations and fixed income assets. The table below estimates the impact on our funded status of an increase/decrease in discount rates and interest rates (in millions):

Factor	Basis Point Change	Increase/(Decrease) in December 31, 2018 Funded Status	
		U.S. Plans	Non-U.S. Plans
		Discount rate - obligation	+/- 100 bps

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Interest rate - fixed income assets	+/- 100	(4,100)/4,950	(2,900)/3,750
Net impact on funded status		\$150/\$200	\$1,550/\$2,050

The fixed income asset sensitivity shown excludes other fixed income return components (e.g., changes in credit spreads, bond coupon and active management excess returns), and growth asset returns. Other factors that impact net funded status (e.g., contributions) are not reflected.

## Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Interest rates and the expected long-term rate of return on assets have the largest impact on pension expense. These assumptions are generally set at each year-end for expense recorded throughout the following year. The table below estimates the impact on pension expense of a higher/lower assumption for these factors (in millions):

Factor	Basis Point Change	Increase/(Decrease) in December 31, 2018 Funded Status	
		U.S. Plans	Non-U.S. Plans
Interest rate - service cost and interest cost	+/- 25 bps	\$30/\$(30)	\$15/\$(15)
Expected long-term rate of return on assets	+/- 25	(100)/100	(70)/70

The impact of changing multiple factors simultaneously cannot be calculated by combining the individual sensitivities. The sensitivity of pension expense to an increase in discount rates assumptions may not be linear.

## Other Postretirement Employee Benefits

Effect of Actual Results. The weighted average discount rate used to determine the benefit obligation for worldwide OPEB plans at December 31, 2017 was 3.61%, compared with 4.08% at December 31, 2018, resulting in a worldwide gain of about \$366 million which has been recognized within net periodic benefit cost and reported as a special item.

Sensitivity Analysis. Discount rates and interest rates have the largest impact on our OPEB obligation and expense. The table below estimates the impact on 2019 OPEB expense of higher/lower assumptions for these factors (in millions):

Factor	Basis Point Change	Worldwide OPEB	
		(Increase)/Decrease 2018 YE Obligation	Increase/(Decrease) 2019 Expense
Discount rate - obligation	+/- 100 bps	\$600/\$(700)	N/A
Interest rate - service cost and interest cost	+/- 25	N/A	\$5/\$(5)

## Income Taxes

Nature of Estimates Required. We must make estimates and apply judgment in determining the provision for income taxes for financial reporting purposes. We make these estimates and judgments primarily in the following areas: (i) the calculation of tax credits, (ii) the calculation of differences in the timing of recognition of revenue and expense for tax and financial statement purposes that will ultimately be reported in tax returns, as well as (iii) the calculation of interest and penalties related to uncertain tax positions. Changes in these estimates and judgments may result in a material increase or decrease to our tax provision, which would be recorded in the period in which the change occurs.

Assumptions and Approach Used. We are subject to the income tax laws and regulations of the many jurisdictions in which we operate. These tax laws and regulations are complex and involve uncertainties in the application to our facts and circumstances that may be open to interpretation. We recognize benefits for these uncertain tax positions based upon a process that requires judgment regarding the technical application of the laws, regulations, and various related judicial opinions. If, in our judgment, it is more likely than not that the uncertain tax position will be settled favorably to us, we estimate an amount that ultimately will be realized. This process is inherently subjective, since it requires our assessment of the probability of future outcomes. We evaluate these uncertain tax positions on a quarterly basis, including consideration of changes in facts and circumstances, such as new regulations or recent judicial opinions, as well as the status of audit activities by taxing authorities. Changes to our estimate of the amount to be realized are recorded in our provision for income taxes during the period in which the change occurred.

We must also assess the likelihood that we will be able to recover our deferred tax assets against future sources of taxable income. GAAP requires a reduction of the carrying amount of deferred tax assets by recording a valuation allowance if, based on all available evidence, it is more likely than not (defined as a likelihood of more than 50%) that all or a portion of such assets will not be realized.

We presently believe that a valuation allowance of \$973 million is required, primarily related to deferred tax assets in various non-U.S. operations. We believe that we ultimately will recover the remaining \$9.8 billion of deferred tax assets. We have assessed recoverability of these assets and concluded that no valuation allowance is required for these assets.

For additional information regarding income taxes, see Note 7 of the Notes to the Financial Statements.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Impairment of Goodwill and Long-Lived Assets

**Nature of Estimates Required - Goodwill.** Goodwill is subject to periodic assessments of impairment. We test goodwill for impairment annually during the fourth quarter, or when an event occurs or circumstances change that indicate the asset may be impaired. We assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount, including goodwill. If a qualitative assessment indicates an impairment or we impair the assets of a reporting unit, then a quantitative goodwill impairment test is performed. If the carrying value of the reporting unit is above fair value, an impairment loss is recognized in an amount equal to the excess.

**Nature of Estimates Required - Long-Lived Assets.** We test our long-lived asset groups when changes in circumstances indicate their carrying value may not be recoverable. Events that trigger a test for recoverability include material adverse changes in projected revenues and expenses, significant underperformance relative to historical and projected future operating results, and significant negative industry or economic trends or when there is a change in the asset grouping. When a triggering event occurs, we measure recoverability using our internal assumptions, comparing projected undiscounted future cash flows to the carrying value of the asset group. If the test for recoverability identifies a possible impairment, the asset group's fair value is measured relying primarily on a discounted cash flow method. An impairment charge is recognized for the amount by which the carrying value of the asset group exceeds its estimated fair value. A test for recoverability also is performed when management has committed to a plan to sell or otherwise dispose of an asset group and the plan is expected to be completed within a year. When an impairment loss is recognized for assets to be held and used, the adjusted carrying amount of those assets is depreciated over their remaining useful life.

**Assumptions and Approach Used - Goodwill and Long-Lived Assets.** We measure the fair value of a reporting unit or asset group based on market prices (i.e., the amount for which the asset could be sold to a third party) when available. When market prices are not available, we estimate the fair value of the reporting unit or asset group using the income approach and/or the market approach. The income approach uses cash flow projections. Inherent in our development of cash flow projections are assumptions and estimates derived from a review of our operating results, business plan forecasts, expected growth rates, and cost of capital, similar to those a market participant would use to assess fair value. We also make certain assumptions about future economic conditions and other data. Many of the factors used in assessing fair value are outside the control of management, and these assumptions and estimates may change in future periods.

Changes in assumptions or estimates can materially affect the fair value measurement of a reporting unit or asset group, and therefore can affect the test results. The following are key assumptions we use in making cash flow projections:

**Business projections.** We make assumptions about the demand for our products in the marketplace. These assumptions drive our planning assumptions for volume, mix, and pricing. We also make assumptions about our cost levels (e.g., capacity utilization, cost performance, etc.). These projections are derived using our internal business plan forecasts that are updated at least annually and reviewed by our Board of Directors.

**Long-term growth rate.** A growth rate is used to calculate the terminal value of the business and is added to the present value of the debt-free interim cash flows. The growth rate is the expected rate at which a business unit's earnings stream is projected to grow beyond the planning period.

**Discount rate.** When measuring possible impairment, future cash flows are discounted at a rate that is consistent with a weighted-average cost of capital that we anticipate a potential market participant would use. Weighted-average cost of capital is an estimate of the overall risk-adjusted pre-tax rate of return expected by equity and debt holders of a

business enterprise.

Economic projections. Assumptions regarding general economic conditions are included in and affect our assumptions regarding industry sales and pricing estimates for our vehicles. These macro-economic assumptions include, but are not limited to, industry sales volumes, inflation, interest rates, prices of raw materials (i.e., commodities), and foreign currency exchange rates.

The market approach is another method for measuring the fair value of a reporting unit or asset group. This approach relies on the market value (i.e., market capitalization) of companies that are engaged in the same or similar line of business.

In addition, to the extent available we will also consider third-party valuations of our long-lived assets that were prepared for other business purposes.

84

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Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Goodwill related to our emerging businesses is assessed based on each entity's performance compared to metrics established at the time the entity was purchased. In our Mobility segment, goodwill in our Chariot subsidiary of \$40 million was fully impaired during the fourth quarter of 2018 as a result of the decision to cease operations.

During 2018, we embarked on a comprehensive strategy aimed at strengthening the competitive position and profitability of our operations. As part of this process, we are accelerating several key fitness actions aimed at reducing structural costs while at the same time consulting with our key stakeholders and partners with regard to a fundamental redesign of our operations. This redesign will include changes to the Company's vehicle portfolio, expanding offerings and volumes in its most profitable growth vehicle segments, while improving or exiting less profitable vehicle lines and addressing underperforming markets.

Against this backdrop, we determined that there were triggering events related to our Ford Asia Pacific, China, Europe, and South America business units and tested our long-lived assets for impairment. Using our internal economic and business projections, as well as third-party valuations of certain long-lived assets, we determined that the carrying value of the long-lived assets in these business units was recoverable at December 31, 2018. If in future quarters our economic or business projections were to change as a result of our plans or changes in the business environment, or if there was a significant adverse change in the extent or manner in which a long-lived asset is being used, we would undertake additional testing, as appropriate, which could result in an impairment of long-lived assets.

#### Allowance for Credit Losses

The allowance for credit losses represents Ford Credit's estimate of the probable credit loss inherent in finance receivables and operating leases as of the balance sheet date. The adequacy of Ford Credit's allowance for credit losses is assessed quarterly and the assumptions and models used in establishing the allowance are evaluated regularly. Because credit losses can vary substantially over time, estimating credit losses requires a number of assumptions about matters that are uncertain. See Note 11 of the Notes to the Financial Statements for more information regarding allowance for credit losses.

**Nature of Estimates Required.** Ford Credit estimates the probable credit losses inherent in finance receivables and operating leases based on several factors.

**Consumer Portfolio.** Ford Credit estimates the allowance for credit losses on consumer receivables and on operating leases using a combination of measurement models and management judgment. The models consider factors such as historical trends in credit losses and recoveries (including key metrics such as delinquencies, repossessions, and bankruptcies), the composition of Ford Credit's present portfolio (including vehicle brand, term, risk evaluation, and new/used vehicles), trends in historical used vehicle values, and economic conditions. Estimates from these models rely on historical information and may not fully reflect losses inherent in the present portfolio. Therefore, Ford Credit may adjust the estimate to reflect management judgment regarding observable changes in recent economic trends and conditions, portfolio composition, and other relevant factors.

**Assumptions Used.** Ford Credit's allowance for credit losses is based on its assumptions regarding:

**Frequency.** The number of finance receivables and operating lease contracts that are expected to default over the loss emergence period ("LEP"), measured as repossessions; repossession ratio reflects the number of finance receivables and operating lease contracts that we expect will default over a period of time divided by the average number of contracts outstanding; and

**Loss severity.** The expected difference between the amount a customer owes when the finance contract is charged off and the amount received, net of expenses, from selling the repossessed vehicle.

Collective Allowance for Credit Losses. The collective allowance is evaluated primarily using a collective loss-to-receivables (“LTR”) model that, based on historical experience, indicates credit losses have been incurred in the portfolio even though the particular accounts that are uncollectible cannot be specifically identified. The LTR model is based on the most recent years of history. An LTR for each product is calculated by dividing credit losses (i.e., charge-offs net of recoveries) by average net finance receivables or average net investment in operating leases, excluding unearned interest supplements and residual support, allowance for credit losses, and other (primarily accumulated supplemental depreciation). The average LTR that is calculated for each product is multiplied by the end-of-period balances for that given product.

## Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Ford Credit's largest markets also use a loss projection model to estimate losses inherent in the portfolio. The loss projection model applies recent monthly performance metrics, stratified by contract type (retail or lease), contract term (e.g., 60-month), and risk rating to Ford Credit's active portfolio to estimate the losses that have been incurred.

The LEP is an assumption within Ford Credit's models and represents the average amount of time between when a loss event first occurs to when it is charged off. This time period starts when the consumer begins to experience financial difficulty. It is evidenced, typically through delinquency, before eventually resulting in a charge-off. The LEP is a multiplier in the calculation of the collective consumer allowance for credit losses.

For accounts greater than 120 days past due, the uncollectible portion is charged off, such that the remaining recorded investment is equal to the estimated fair value of the collateral less costs to sell.

**Specific Allowance for Impaired Receivables.** Consumer receivables involved in Troubled Debt Restructurings are specifically assessed for impairment. A specific allowance is estimated based on the present value of the expected future cash flows of the receivable discounted at the contract's original effective interest rate or the fair value of any collateral adjusted for estimated costs to sell.

After establishing the collective and specific allowance for credit losses, if Ford Credit management believes the allowance does not reflect all losses inherent in the portfolio due to changes in recent economic trends and conditions, or other relevant factors, an adjustment is made based on management judgment.

**Sensitivity Analysis.** Changes in the assumptions used to derive frequency and severity would affect the allowance for credit losses. The effect of the indicated increase/decrease in the assumptions for Ford Credit's U.S. Ford and Lincoln retail financing and operating lease portfolio is as follows (in millions):

Assumption	Basis Point Change	Increase/(Decrease)
Frequency - repossession ratio	+/- 10 bps	\$36/\$(36)
Loss severity per unit	+/- 100	4/(4)

**Non-Consumer Portfolio.** Ford Credit estimates the allowance for credit losses for non-consumer receivables based on historical LTR ratios, expected future cash flows, and the fair value of collateral.

**Collective Allowance for Credit Losses.** Ford Credit estimates an allowance for non-consumer receivables that are not specifically identified as impaired using an LTR model for each financing product based on historical experience. This LTR is an average of the most recent historical experience and is calculated consistent with the consumer receivables LTR approach. All accounts that are specifically identified as impaired are excluded from the calculation of the non-specific or collective allowance.

**Specific Allowance for Impaired Receivables.** Dealer financing is evaluated by segmenting individual loans by the risk characteristics of the loan (such as the amount of the loan, the nature of the collateral, and the financial status of the debtor). The loans are analyzed to determine whether individual loans are impaired, and a specific allowance is estimated based on the present value of the expected future cash flows of the receivable discounted at the loan's original effective interest rate or the fair value of the collateral adjusted for estimated costs to sell.

After establishing the collective and specific allowance for credit losses, if Ford Credit management believes the allowance does not reflect all losses inherent in the portfolio due to changes in recent economic trends and conditions, or other relevant factors, an adjustment is made based on management judgment.

Changes in Ford Credit's assumptions affect the Ford Credit interest, operating, and other expenses on our income statement and the allowance for credit losses contained within Ford Credit finance receivables, net and Net investment in operating leases on our balance sheet.

#### Accumulated Depreciation on Vehicles Subject to Operating Leases

Accumulated depreciation on vehicles subject to operating leases reduces the value of the leased vehicles in Ford Credit's operating lease portfolio from their original acquisition value to their expected residual value at the end of the lease term.

## Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Ford Credit monitors residual values each month, and it reviews the adequacy of accumulated depreciation on a quarterly basis. If Ford Credit believes that the expected residual values for its vehicles have changed, it revises depreciation to ensure that net investment in operating leases (equal to the acquisition value of the vehicles less accumulated depreciation) will be adjusted to reflect Ford Credit's revised estimate of the expected residual value at the end of the lease term. Such adjustments to depreciation expense would result in a change in the depreciation rates of the vehicles subject to operating leases and are recorded prospectively on a straight-line basis.

Each lease customer has the option to buy the leased vehicle at the end of the lease or to return the vehicle to the dealer.

**Nature of Estimates Required.** Each operating lease in Ford Credit's portfolio represents a vehicle it owns that has been leased to a customer. At the time Ford Credit purchases a lease, it establishes an expected residual value for the vehicle. Ford Credit estimates the expected residual value by evaluating recent auction values, return volumes for its leased vehicles, industrywide used vehicle prices, marketing incentive plans, and vehicle quality data.

**Assumptions Used.** Ford Credit's accumulated depreciation on vehicles subject to operating leases is based on assumptions regarding:

- **Auction value.** Ford Credit's projection of the market value of the vehicles when sold at the end of the lease; and
- **Return volume.** Ford Credit's projection of the number of vehicles that will be returned at lease-end.

See Note 13 of the Notes to the Financial Statements for more information regarding accumulated depreciation on vehicles subject to operating leases.

**Sensitivity Analysis.** For returned vehicles, Ford Credit faces a risk that the amount it obtains from the vehicle sold at auction will be less than its estimate of the expected residual value for the vehicle. The impact of the change in assumptions on future auction values and return volumes would increase or decrease accumulated supplemental depreciation and depreciation expense over the remaining terms of the operating leases. The effect of the indicated increase/decrease in the assumptions for Ford Credit's U.S. Ford and Lincoln operating lease portfolio is as follows (in millions):

Assumption	Basis Point Change	Increase/(Decrease)
Future auction values	+/- 100 bps	\$(128)/\$128
Return volumes	+/- 100	18/(18)

Adjustments to the amount of accumulated supplemental depreciation on operating leases would be reflected on our balance sheet as Net investment in operating leases and on the income statement in Ford Credit interest, operating, and other expenses.

## Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

## ACCOUNTING STANDARDS ISSUED BUT NOT YET ADOPTED

The Financial Accounting Standards Board ("FASB") has issued the following Accounting Standards Updates ("ASU"). ASU 2016-02 and ASU 2016-13 are expected to have a material impact to our financial statements or financial statement disclosures. For additional information, see Note 3 of the Notes to the Financial Statements.

ASU	Effective Date (a)
2018-16 Inclusion of the Secured Overnight Financing Rate (SOFR) Overnight Index Swap (OIS) Rate as a Benchmark Interest Rate for Hedge Accounting Purposes	January 1, 2019
2018-08 Clarifying the Scope and the Accounting Guidance for Contributions Received and Contributions Made	January 1, 2019
2018-07 Improvements to Nonemployee Share-Based Payment Accounting	January 1, 2019
2018-02 Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income	January 1, 2019
2016-02 Leases	January 1, 2019 (b)
2018-18 Clarifying the Interaction between Collaborative Arrangements and Revenue from Contracts with Customers	January 1, 2020
2018-17 Targeted Improvements to Related Party Guidance for Variable Interest Entities	January 1, 2020
2018-15 Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement that is a Service Contract	January 1, 2020
2018-13 Fair Value Measurement - Changes to the Disclosure Requirement for Fair Value Measurement	January 1, 2020
2016-13 Credit Losses - Measurement of Credit Losses on Financial Instruments	January 1, 2020
2018-14 Changes to the Disclosure Requirements for Defined Benefits Plans	January 1, 2021
2018-12 Targeted Improvements to the Accounting for Long Duration Contracts	January 1, 2021

(a) Early adoption for each of the standards is permitted.

The FASB has issued the following updates to the Leases standard: ASU 2018-01 (Land Easement Practical

(b) Expedient for Transition to Leases), ASU 2018-11 (Targeted Improvements to Leases), and ASU 2018-20

(Narrow-Scope Improvements for Lessors). We will adopt the new Leases standard effective January 1, 2019.

## Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

## AGGREGATE CONTRACTUAL OBLIGATIONS

We are party to many contractual obligations involving commitments to make payments to third parties. Most of these are debt obligations incurred by our Ford Credit segment. Long-term debt may have fixed or variable interest rates. For long-term debt with variable-rate interest, we estimate the future interest payments based on projected market interest rates for various floating-rate benchmarks received from third parties. In addition, as part of our normal business practices, we enter into contracts with suppliers for purchases of certain raw materials, components, and services to facilitate adequate supply of these materials and services. These arrangements may contain fixed or minimum quantity purchase requirements. "Purchase obligations" are defined as off-balance sheet agreements to purchase goods or services that are enforceable and legally binding on the Company and that specify all significant terms.

The table below summarizes our contractual obligations as of December 31, 2018 (in millions):

	Payments Due by Period				Total
	2019	2020 - 2021	2022 - 2023	Thereafter	
Company excluding Ford Credit					
On-balance sheet					
Long-term debt (a)	\$ 1,626	\$ 1,927	\$ 740	\$ 9,395	\$ 13,688
Interest payments relating to long-term debt	721	1,304	1,155	7,420	10,600
Capital leases (b)	95	48	22	7	172
Pension funding (c)	261	374	378	—	1,013
Off-balance sheet					
Purchase obligations	1,357	1,411	682	570	4,020
Operating leases	343	438	226	403	1,410
Total Company excluding Ford Credit	4,403	5,502	3,203	17,795	30,903
Ford Credit					
On-balance sheet					
Long-term debt (a)	36,503	57,230	21,320	10,703	125,756
Interest payments relating to long-term debt	3,189	3,775	1,438	814	9,216
Off-balance sheet					
Purchase obligations	32	44	29	3	108
Operating leases	20	26	21	34	101
Total Ford Credit	39,744	61,075	22,808	11,554	135,181
Total Company	\$44,147	\$66,577	\$26,011	\$ 29,349	\$166,084

(a) Excludes unamortized debt discounts/premiums, unamortized debt issuance costs, and fair value adjustments.

(b) Includes interest payments of \$11 million.

Amounts represent our estimate of contractually obligated deficit contributions to U.K. and Ford-Werke plans. See (c) Note 17 of the Notes to the Financial Statements for further information regarding our expected 2019 pension contributions and funded status.

The amount of unrecognized tax benefits for 2018 of \$2 billion (see Note 7 of the Notes to the Financial Statements for additional discussion) is excluded from the table above. Final settlement of a significant portion of these obligations will require bilateral tax agreements among us and various countries, the timing of which cannot reasonably be estimated.

For additional information regarding operating lease obligations, pension and OPEB obligations, and long-term debt, see Notes 14, 17, and 18, respectively, of the Notes to the Financial Statements.



## ITEM 7A. Quantitative and Qualitative Disclosures About Market Risk

### OVERVIEW

We are exposed to a variety of market and other risks, including the effects of changes in foreign currency exchange rates, commodity prices, and interest rates, as well as risks to availability of funding sources, hazard events, and specific asset risks.

These risks affect our Automotive and Ford Credit segments differently. We monitor and manage these exposures as an integral part of our overall risk management program, which includes regular reports to a central management committee, the Global Risk Management Committee (“GRMC”). The GRMC is chaired by our Chief Financial Officer, and the committee includes our Treasurer, our Corporate Controller, and other members of senior management.

Our Automotive and Ford Credit segments are exposed to liquidity risk, including the possibility of having to curtail business or being unable to meet financial obligations as they come due because funding sources may be reduced or become unavailable. Our plan is to maintain funding sources to ensure liquidity through a variety of economic or business cycles. As discussed in greater detail in Item 7, our funding sources include sales of receivables in securitizations and other structured financings, unsecured debt issuances, equity and equity-linked issuances, and bank borrowings.

We are exposed to a variety of insurable risks, such as loss or damage to property, liability claims, and employee injury. We protect against these risks through the purchase of commercial insurance that is designed to protect us above our self-insured retentions against events that could generate significant losses.

Direct responsibility for the execution of our market risk management strategies resides with our Treasurer’s Office and is governed by written policies and procedures. Separation of duties is maintained between the development and authorization of derivative trades, the transaction of derivatives, and the settlement of cash flows. Regular audits are conducted to ensure that appropriate controls are in place and that they remain effective. In addition, our market risk exposures and our use of derivatives to manage these exposures are approved by the GRMC, and reviewed by the Audit Committee of our Board of Directors.

In accordance with our corporate risk management policies, we use derivative instruments, when available, such as forward contracts, swaps, and options that economically hedge certain exposures (foreign currency, commodity, and interest rates). We do not use derivative contracts for trading, market-making, or speculative purposes. In certain instances, we forgo hedge accounting, and in certain other instances, our derivatives do not qualify for hedge accounting. Either situation results in unrealized gains and losses that are recognized in income. For additional information on our derivatives, see Note 19 of the Notes to the Financial Statements.

The market and counterparty risks of our Automotive and Ford Credit segments are discussed and quantified below.

### AUTOMOTIVE MARKET RISK

Our Automotive segment frequently has expenditures and receipts denominated in foreign currencies, including the following: purchases and sales of finished vehicles and production parts, debt and other payables, subsidiary dividends, and investments in foreign operations. These expenditures and receipts create exposures to changes in exchange rates. We also are exposed to changes in prices of commodities used in the production of our vehicles and changes in interest rates.

Foreign currency risk, commodity risk, and interest rate risk are measured and quantified using a model to evaluate the sensitivity of market value to instantaneous, parallel shifts in rates and/or prices.

Foreign Currency Risk. Foreign currency risk is the possibility that our financial results could be worse than planned because of changes in currency exchange rates. Accordingly, our normal practice is to use derivative instruments, when available, to hedge our economic exposure with respect to forecasted revenues and costs, assets, liabilities, and firm commitments denominated in certain foreign currencies. In our hedging actions, we use derivative instruments commonly used by corporations to reduce foreign exchange risk (e.g., forward contracts).

Item 7A. Quantitative and Qualitative Disclosures About Market Risk (Continued)

The net fair value of foreign exchange forward contracts (including adjustments for credit risk), as of December 31, 2017, was a liability of \$22 million compared with an asset of \$363 million as of December 31, 2018. The potential decrease in fair value from a 10% adverse change in the underlying exchange rates, in U.S. dollar terms, would have been \$2.8 billion at December 31, 2017, compared with \$2.5 billion at December 31, 2018. The sensitivity analysis presented is hypothetical and assumes foreign exchange rate changes are instantaneous and adverse across all currencies. In reality, foreign exchange rates move in different magnitudes and at different times, and any changes in fair value would generally be offset by changes in the underlying exposure. See Note 19 of the Notes to the Financial Statements for more information regarding our foreign currency exchange contracts.

**Commodity Price Risk.** Commodity price risk is the possibility that our financial results could be worse than planned because of changes in the prices of commodities used in the production of motor vehicles, such as base metals (e.g., steel, copper, and aluminum), precious metals (e.g., palladium), energy (e.g., natural gas and electricity), and plastics/resins (e.g., polypropylene). Accordingly, our normal practice is to use derivative instruments, when available, to hedge the price risk with respect to forecasted purchases of certain commodities that we can economically hedge (primarily base metals and precious metals). In our hedging actions, we use derivative instruments commonly used by corporations to reduce commodity price risk (e.g., financially settled forward contracts). The extent to which we hedge is also impacted by our ability to achieve designated hedge accounting.

The net fair value of commodity forward contracts (including adjustments for credit risk) as of December 31, 2017 was an asset of \$33 million compared with a liability of \$62 million as of December 31, 2018. The potential decrease in fair value from a 10% adverse change in the underlying commodity prices, in U.S. dollar terms, would be \$69 million at December 31, 2017, compared with \$90 million at December 31, 2018.

In addition, our purchasing organization (with guidance from the GRMC, as appropriate) negotiates contracts to ensure continuous supply of raw materials. In some cases, these contracts stipulate minimum purchase amounts and specific prices, and, therefore, play a role in managing price risk.

**Interest Rate Risk.** Interest rate risk relates to the loss we could incur in our Automotive segment investment portfolios due to a change in interest rates. Our interest rate sensitivity analysis on the investment portfolios includes cash and cash equivalents and net marketable securities. At December 31, 2017, we had \$26.5 billion in our Automotive segment investment portfolios, compared to \$23 billion at December 31, 2018. We invest the portfolios in securities of various types and maturities, the value of which are subject to fluctuations in interest rates. The investment strategy is based on clearly defined risk and liquidity guidelines to maintain liquidity, minimize risk, and earn a reasonable return on the short-term investments. In investing our Automotive cash, safety of principal is the primary objective and risk-adjusted return is the secondary objective.

At any time, a rise in interest rates could have a material adverse impact on the fair value of our portfolios. Assuming a hypothetical increase in interest rates of one percentage point, the value of our portfolios would be reduced by about \$270 million, as calculated as of December 31, 2017. This compares to \$205 million, as calculated as of December 31, 2018. While these are our best estimates of the impact of the specified interest rate scenario, actual results could differ from those projected. The sensitivity analysis presented assumes interest rate changes are instantaneous, parallel shifts in the yield curve. In reality, interest rate changes of this magnitude are rarely instantaneous or parallel.

## Item 7A. Quantitative and Qualitative Disclosures About Market Risk (Continued)

## FORD CREDIT MARKET RISK

Market risk for Ford Credit is the possibility that changes in interest and currency exchange rates will adversely affect cash flow and economic value.

**Interest Rate Risk.** Generally, Ford Credit's assets and the related debt have different re-pricing periods, and consequently, respond differently to changes in interest rates.

Ford Credit's assets consist primarily of fixed-rate retail installment sale and operating lease contracts and floating-rate wholesale receivables. Fixed-rate retail installment sale and operating lease contracts generally require customers to make equal monthly payments over the life of the contract. Wholesale receivables are originated to finance new and used vehicles held in dealers' inventory and generally require dealers to pay a floating rate.

Debt consists primarily of short- and long-term unsecured and securitized debt. Ford Credit's term debt instruments are principally fixed-rate and require fixed and equal interest payments over the life of the instrument and a single principal payment at maturity.

Ford Credit's interest rate risk management objective is to reduce volatility in its cash flows and volatility in its economic value from changes in interest rates based on an established risk tolerance that may vary by market.

Ford Credit uses economic value sensitivity analysis and re-pricing gap analysis to evaluate potential long-term effects of changes in interest rates. It then enters into interest rate swaps to convert portions of its floating-rate debt to fixed or its fixed-rate debt to floating to ensure that Ford Credit's exposure falls within the established tolerances. Ford Credit also uses pre-tax cash flow sensitivity analysis to monitor the level of near-term cash flow exposure. The pre-tax cash flow sensitivity analysis measures the changes in expected cash flows associated with Ford Credit's interest-rate-sensitive assets, liabilities, and derivative financial instruments from hypothetical changes in interest rates over a twelve-month horizon. Ford Credit's Asset-Liability Committee reviews the re-pricing mismatch and exposure every month and approves interest rate swaps required to maintain exposure within approved thresholds prior to execution.

To provide a quantitative measure of the sensitivity of its pre-tax cash flow to changes in interest rates, Ford Credit uses interest rate scenarios that assume a hypothetical, instantaneous increase or decrease of one percentage point in all interest rates across all maturities (a "parallel shift"), as well as a base case that assumes that all interest rates remain constant at existing levels. In reality, interest rate changes are rarely instantaneous or parallel and rates could move more or less than the one percentage point assumed in Ford Credit's analysis. As a result, the actual impact to pre-tax cash flow could be higher or lower than the results detailed in the table below. These interest rate scenarios are purely hypothetical and do not represent Ford Credit's view of future interest rate movements.

Under these interest rate scenarios, Ford Credit expects more assets than debt and liabilities to re-price in the next twelve months. Other things being equal, this means that during a period of rising interest rates, the interest earned on Ford Credit's assets will increase more than the interest paid on Ford Credit's debt, thereby initially increasing Ford Credit's pre-tax cash flow. During a period of falling interest rates, Ford Credit would expect its pre-tax cash flow to initially decrease. Ford Credit's pre-tax cash flow sensitivity to interest rate movement is highlighted in the table below.

Pre-tax cash flow sensitivity at December 31 was as follows (in millions):

Pre-Tax Cash Flow Sensitivity	2017	2018
One percentage point instantaneous increase in interest rates	\$14	\$51
One percentage point instantaneous decrease in interest rates (a)	(14)	(51)

- 
- (a) Pre-tax cash flow sensitivity given a one percentage point decrease in interest rates requires an assumption of negative interest rates in markets where existing interest rates are below one percent.

While the sensitivity analysis presented is Ford Credit's best estimate of the impacts of the specified assumed interest rate scenarios, its actual results could differ from those projected. The model Ford Credit uses to conduct this analysis is heavily dependent on assumptions. Embedded in the model are assumptions regarding the reinvestment of maturing asset principal, refinancing of maturing debt, replacement of maturing derivatives, exercise of options embedded in debt and derivatives, and predicted repayment of retail installment sale and lease contracts ahead of contractual maturity. Ford Credit's repayment projections ahead of contractual maturity are based on historical experience. If interest rates or other factors change, Ford Credit's actual prepayment experience could be different than projected.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk (Continued)

Foreign Currency Risk. Ford Credit's policy is to minimize exposure to changes in currency exchange rates. To meet funding objectives, Ford Credit borrows in a variety of currencies, principally U.S. dollars, Canadian dollars, euros, sterling, and renminbi. Ford Credit faces exposure to currency exchange rates if a mismatch exists between the currency of receivables and the currency of the debt funding those receivables. When possible, receivables are funded with debt in the same currency, minimizing exposure to exchange rate movements. When a different currency is used, Ford Credit may use foreign currency swaps and foreign currency forwards to convert substantially all of its foreign currency debt obligations to the local country currency of the receivables. As a result of this policy, Ford Credit believes its market risk exposure, relating to changes in currency exchange rates at December 31, 2018, is insignificant.

Derivative Fair Values. The net fair value of Ford Credit's derivative financial instruments at December 31, 2017 was an asset of \$625 million, compared to an asset of \$7 million at December 31, 2018.

COUNTERPARTY RISK

Counterparty risk relates to the loss we could incur if an obligor or counterparty defaulted on an investment or a derivative contract. We enter into master agreements with counterparties that allow netting of certain exposures in order to manage this risk. Exposures primarily relate to investments in fixed income instruments and derivative contracts used for managing interest rate, foreign currency exchange rate, and commodity price risk. We, together with Ford Credit, establish exposure limits for each counterparty to minimize risk and provide counterparty diversification.

Our approach to managing counterparty risk is forward-looking and proactive, allowing us to take risk mitigation actions before risks become losses. Exposure limits are established based on our overall risk tolerance, which is calculated from counterparty credit ratings and market-based credit default ("CDS") spreads. The exposure limits are lower for smaller and lower-rated counterparties, counterparties that have relatively higher CDS spreads, and for longer dated exposures. Our exposures are monitored on a regular basis and included in periodic reports to our Treasurer.

Substantially all of our counterparty exposures are with counterparties that have an investment grade rating. Investment grade is our guideline for minimum counterparty long-term ratings.

ITEM 8. Financial Statements and Supplementary Data.

The Report of Independent Registered Public Accounting Firm, our Financial Statements, the accompanying Notes to the Financial Statements, and the Financial Statement Schedule that are filed as part of this Report are listed under "Item 15. Exhibits and Financial Statement Schedules" and are set forth beginning on page FS-1 immediately following the signature pages of this Report.

Selected quarterly financial data for 2017 and 2018 are provided in Note 25 of the Notes to the Financial Statements.

ITEM 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.

None.

ITEM 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures. James P. Hackett, our Chief Executive Officer (“CEO”), and Bob Shanks, our Chief Financial Officer (“CFO”), have performed an evaluation of the Company’s disclosure controls and procedures, as that term is defined in Rule 13a-15(e) of the Securities Exchange Act of 1934, as amended (“Exchange Act”), as of December 31, 2018, and each has concluded that such disclosure controls and procedures are effective to ensure that information required to be disclosed in our periodic reports filed under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified by SEC rules and forms, and that such information is accumulated and communicated to the CEO and CFO to allow timely decisions regarding required disclosures.

Management’s Report on Internal Control Over Financial Reporting. Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). The Company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions or because the degree of compliance with policies or procedures may deteriorate.

Under the supervision and with the participation of our management, including our CEO and CFO, we conducted an assessment of the effectiveness of our internal control over financial reporting as of December 31, 2018. The assessment was based on criteria established in the framework Internal Control - Integrated Framework (2013), issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this assessment, management concluded that our internal control over financial reporting was effective as of December 31, 2018.

The effectiveness of the Company’s internal control over financial reporting as of December 31, 2018 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in its report included herein.

Changes in Internal Control Over Financial Reporting. There were no changes in internal control over financial reporting during the quarter ended December 31, 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. Other Information.

None.

### PART III.

#### ITEM 10. Directors, Executive Officers of Ford, and Corporate Governance.

The information required by Item 10 regarding our directors is incorporated by reference from the information under the captions “Proposal 1. Election of Directors,” “Section 16(a) Beneficial Ownership Reporting Compliance,” and “Beneficial Stock Ownership” in our Proxy Statement. The information required by Item 10 regarding our executive officers appears as Item 4A under Part I of this Report. The information required by Item 10 regarding an audit committee financial expert is incorporated by reference from the information under the caption “Corporate Governance – Audit Committee Financial Expert and Auditor Rotation” in our Proxy Statement. The information required by Item 10 regarding the members of our Audit Committee of the Board of Directors is incorporated by reference from the information under the captions “Proxy Summary,” “Corporate Governance – Board Committee Functions,” “Corporate Governance – Audit Committee Financial Expert and Auditor Rotation,” and “Proposal 1 – Election of Directors” in our Proxy Statement. The information required by Item 10 regarding the Audit Committee’s review and discussion of the audited financial statements is incorporated by reference from information under the caption “Audit Committee Report” in our Proxy Statement. The information required by Item 10 regarding our codes of ethics is incorporated by reference from the information under the caption “Corporate Governance – Codes of Ethics” in our Proxy Statement. In addition, we have included in Item 1 instructions for how to access our codes of ethics on our website and our Internet address. Amendments to, and waivers granted under, our Code of Ethics for Senior Financial Personnel, if any, will be posted to our website as well.

#### ITEM 11. Executive Compensation.

The information required by Item 11 is incorporated by reference from the information under the following captions in our Proxy Statement: “Director Compensation in 2018,” “Compensation Discussion and Analysis,” “Compensation Committee Report,” “Compensation Committee Interlocks and Insider Participation,” “Compensation of Executive Officers,” “Summary Compensation Table,” “Grants of Plan-Based Awards in 2018,” “Outstanding Equity Awards at 2018 Fiscal Year-End,” “Option Exercises and Stock Vested in 2018,” “Pension Benefits in 2018,” “Nonqualified Deferred Compensation in 2018,” and “Potential Payments Upon Termination or Change in Control.”

#### ITEM 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

The information required by Item 12 is incorporated by reference from the information under the captions “Equity Compensation Plan Information” and “Corporate Governance – Beneficial Stock Ownership” in our Proxy Statement.

#### ITEM 13. Certain Relationships and Related Transactions, and Director Independence.

The information required by Item 13 is incorporated by reference from the information under the captions “Certain Relationships and Related Party Transactions” and “Corporate Governance – Independence of Directors and Relevant Facts and Circumstances” in our Proxy Statement.

#### ITEM 14. Principal Accounting Fees and Services.

The information required by Item 14 is incorporated by reference from the information under the caption “Proposal 2. Ratification of Independent Registered Public Accounting Firm” in our Proxy Statement.



PART IV.

ITEM 15. Exhibits and Financial Statement Schedules.

(a) 1. Financial Statements – Ford Motor Company and Subsidiaries

The following are contained in this 2018 Form 10-K Report:

Report of Independent Registered Public Accounting Firm.

Consolidated Income Statement for the years ended December 31, 2016, 2017, and 2018.

Consolidated Statement of Comprehensive Income for the years ended December 31, 2016, 2017, and 2018.

Consolidated Balance Sheet at December 31, 2017 and 2018.

Consolidated Statement of Cash Flows for the years ended December 31, 2016, 2017, and 2018.

Consolidated Statement of Equity for the years ended December 31, 2016, 2017, and 2018.

Notes to the Financial Statements.

The Report of Independent Registered Public Accounting Firm, the Consolidated Financial Statements, and the Notes to the Financial Statements listed above are filed as part of this Report and are set forth beginning on page FS-1 immediately following the signature pages of this Report.

(a) 2. Financial Statement Schedules

Designation Description

Schedule II Valuation and Qualifying Accounts

Schedule II is filed as part of this Report and is set forth on page FSS-1 immediately following the Notes to the Financial Statements referred to above. The other schedules are omitted because they are not applicable, the information required to be contained in them is disclosed elsewhere on our Consolidated Financial Statements, or the amounts involved are not sufficient to require submission.

(a) 3. Exhibits

Designation	Description	Method of Filing
<u>Exhibit 3-A</u>	Restated Certificate of Incorporation, dated August 2, 2000.	Filed as Exhibit 3-A to our Annual Report on Form 10-K for the year ended December 31, 2000.*
<u>Exhibit 3-A-1</u>	Certificate of Designation of Series A Junior Participating Preferred Stock filed on September 11, 2009.	Filed as Exhibit 3.1 to our Current Report on Form 8-K filed September 11, 2009.*
<u>Exhibit 3-B</u>	By-laws.	Filed as Exhibit 3.2 to our Form 8-A/A filed on September 11, 2015.*
<u>Exhibit 4-A</u>	Tax Benefit Preservation Plan (“TBPP”) dated September 11, 2009 between Ford Motor Company and Computershare Trust Company, N.A.	Filed as Exhibit 4.1 to our Current Report on Form 8-K filed September 11, 2009.*
<u>Exhibit 4-A-1</u>	Amendment No. 1 to TBPP dated September 11, 2012.	Filed as Exhibit 4 to our Current Report on Form 8-K filed September 12, 2012.*

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<u>Exhibit</u> <u>4-A-2</u>	Amendment No. 2 to TBPP dated September 9, 2015.	Filed as Exhibit 4 to our Current Report on Form 8-K filed September 11, 2015.*
<u>Exhibit</u> <u>4-A-3</u>	Amendment No. 3 to TBPP dated September 13, 2018.	Filed as Exhibit 4 to our Current Report on Form 8-K filed September 14, 2018.*
<u>Exhibit</u> <u>10-A</u>	Executive Separation Allowance Plan, as amended and restated effective as of January 1, 2018**	Filed as Exhibit 10.1 to our Current Report on Form 8-K filed February 7, 2018.*
<u>Exhibit</u> <u>10-B</u>	Deferred Compensation Plan for Non-Employee Directors, as amended and restated as of January 1, 2012.**	Filed as Exhibit 10-B to our Annual Report on Form 10-K for the year ended December 31, 2011.*
<u>Exhibit</u> <u>10-C</u>	2014 Stock Plan for Non-Employee Directors**	Filed as Exhibit 10-C to our Annual Report on Form 10-K for the year ended December 31, 2013.*
<u>Exhibit</u> <u>10-D</u>	Benefit Equalization Plan, as amended and restated effective as of January 1, 2018.**	Filed as Exhibit 10.2 to our Current Report on Form 8-K filed February 7, 2018.*

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Designation	Description	Method of Filing
<u>Exhibit 10-E</u>	Description of financial counseling services provided to certain executives.**	Filed as Exhibit 10-F to our Annual Report on Form 10-K for the year ended December 31, 2002.*
<u>Exhibit 10-F</u>	Defined Benefit Supplemental Executive Retirement Plan, as amended and restated effective as of January 1, 2018.**	Filed as Exhibit 10.3 to our Current Report on Form 8-K filed February 7, 2018.*
<u>Exhibit 10-F-1</u>	Defined Contribution Supplemental Executive Retirement Plan, as amended and restated effective as of January 1, 2017.**	Filed as Exhibit 10.4 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2017.*
<u>Exhibit 10-G</u>	Description of Director Compensation as of July 13, 2006.**	Filed as Exhibit 10-G-3 to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2006.*
<u>Exhibit 10-G-1</u>	Amendment to Description of Director Compensation as of February 8, 2012.**	Filed as Exhibit 10-F-3 to our Annual Report on Form 10-K for the year ended December 31, 2011.*
<u>Exhibit 10-G-2</u>	Amendment to Description of Director Compensation as of July 1, 2013.**	Filed as Exhibit 10-G-2 to our Annual Report on Form 10-K for the year ended December 31, 2013.*
<u>Exhibit 10-G-3</u>	Amendment to Description of Director Compensation as of January 1, 2017.**	Filed as Exhibit 10-G-3 to our Annual Report on Form 10-K for the year ended December 31, 2016.*
<u>Exhibit 10-H</u>	2008 Long-Term Incentive Plan.**	Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q for the quarter ended June 30, 2008.*
<u>Exhibit 10-I</u>	Description of Matching Gift Program and Vehicle Evaluation Program for Non-Employee Directors.**	Filed as Exhibit 10-I to our Annual Report on Form 10-K/A for the year ended December 31, 2005.*
<u>Exhibit 10-J</u>	Non-Employee Directors Life Insurance and Optional Retirement Plan as amended and restated as of December 31, 2010.**	Filed as Exhibit 10-I to our Annual Report on Form 10-K for the year ended December 31, 2010.*
<u>Exhibit 10-K</u>	Description of Non-Employee Directors Accidental Death, Dismemberment and Permanent Total Disablement Indemnity.**	Filed as Exhibit 10-S to our Annual Report on Form 10-K for the year ended December 31, 1992.*
<u>Exhibit 10-K-1</u>	Description of Amendment to Basic Life Insurance and Accidental Death & Dismemberment Insurance.**	Filed as Exhibit 10-K-1 to our Annual Report on Form 10-K for the year ended December 31, 2013.*
<u>Exhibit 10-L</u>	Description of Compensation Arrangements for Mark Fields.**	Filed as Exhibit 10-L to our Annual Report on Form 10-K for the year ended December 31, 2014.*
<u>Exhibit 10-L-1</u>	Executive Separation Waiver and Release Agreement between Ford Motor Company and Mark Fields dated May 21, 2017.**	Filed as Exhibit 10 to our Quarterly Report on Form 10-Q for the quarter ended June 30, 2017.*
<u>Exhibit 10-M</u>	Select Retirement Plan, as amended and restated effective as of January 1, 2018.**	Filed as Exhibit 10.4 to our Current Report on Form 8-K filed February 7, 2018.*
<u>Exhibit 10-N</u>	Deferred Compensation Plan, as amended and restated as of December 31, 2010.**	Filed as Exhibit 10-M to our Annual Report on Form 10-K for the year ended December 31, 2010.*
<u>Exhibit 10-N-1</u>	Suspension of Open Enrollment in Deferred Compensation Plan.**	Filed as Exhibit 10-M-1 to our Annual Report on Form 10-K for the year ended

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<u>Exhibit 10-O</u>	Annual Incentive Compensation Plan, as amended and restated effective as of March 1, 2018.**	December 31, 2009.* Filed as Exhibit 10-O-2 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
<u>Exhibit 10-O-1</u>	Annual Incentive Compensation Plan Metrics for 2017.**	Filed as Exhibit 10-O-4 to our Annual Report on Form 10-K for the year ended December 31, 2016.*
<u>Exhibit 10-O-2</u>	Annual Incentive Compensation Plan Metrics for 2018.**	Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018.*
<u>Exhibit 10-O-3</u>	Performance-Based Restricted Stock Unit Metrics for 2015.**	Filed as Exhibit 10-O-11 to our Annual Report on Form 10-K for the year ended December 31, 2014.*
<u>Exhibit 10-O-4</u>	Performance-Based Restricted Stock Unit Metrics for 2016.**	Filed as Exhibit 10-O-9 to our Annual Report on Form 10-K for the year ended December 31, 2015.*
<u>Exhibit 10-O-5</u>	Performance-Based Restricted Stock Unit Metrics for 2017.**	Filed as Exhibit 10-O-10 to our Annual Report on Form 10-K for the year ended December 31, 2016.*
<u>Exhibit 10-O-6</u>	Performance-Based Restricted Stock Unit Metrics for 2018.**	Filed as Exhibit 10.2 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018.*
<u>Exhibit 10-O-7</u>	Executive Compensation Recoupment Policy.**	Filed as Exhibit 10-N-8 to our Annual Report on Form 10-K for the year ended December 31, 2010.*
<u>Exhibit 10-O-8</u>	Incremental Bonus Description.**	Filed as Exhibit 10-N-9 to our Annual Report on Form 10-K for the year ended December 31, 2010.*
<u>Exhibit 10-P</u>	1998 Long-Term Incentive Plan, as amended and restated effective as of January 1, 2003.**	Filed as Exhibit 10-R to our Annual Report on Form 10-K for the year ended December 31, 2002.*
<u>Exhibit 10-P-1</u>	Amendment to Ford Motor Company 1998 Long-Term Incentive Plan (effective as of January 1, 2006).**	Filed as Exhibit 10-P-1 to our Annual Report on Form 10-K/A for the year ended December 31, 2005.*
<u>Exhibit 10-P-2</u>	Form of Stock Option Terms and Conditions for Long-Term Incentive Plan.**	Filed as Exhibit 10-P-2 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
<u>Exhibit 10-P-3</u>	Form of Stock Option Agreement for Long-Term Incentive Plan.**	Filed as Exhibit 10-P-3 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
<u>Exhibit 10-P-4</u>	Form of Stock Option Agreement (ISO) for Long-Term Incentive Plan.**	Filed as Exhibit 10-P-4 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
<u>Exhibit 10-P-5</u>	Form of Stock Option Agreement (U.K. NQO) for Long-Term Incentive Plan.**	Filed as Exhibit 10-P-5 to our Annual Report on Form 10-K for the year ended December 31, 2017.*

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Designation	Description	Method of Filing
<a href="#"><u>Exhibit 10-P-6</u></a>	Form of Stock Option (U.K.) Terms and Conditions for Long-Term Incentive Plan.**	Filed as Exhibit 10-P-6 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
<a href="#"><u>Exhibit 10-P-7</u></a>	Form of Restricted Stock Grant Letter.**	Filed as Exhibit 10-P-7 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
<a href="#"><u>Exhibit 10-P-8</u></a>	Form of Final Award Notification Letter for Performance-Based Restricted Stock Units.**	Filed as Exhibit 10-P-8 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
<a href="#"><u>Exhibit 10-P-9</u></a>	Form of Annual Equity Grant Letter V.1.**	Filed as Exhibit 10-P-9 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
<a href="#"><u>Exhibit 10-P-10</u></a>	Form of Annual Equity Grant Letter V.2.**	Filed as Exhibit 10-P-10 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
<a href="#"><u>Exhibit 10-P-11</u></a>	Long-Term Incentive Plan Restricted Stock Unit Agreement.**	Filed as Exhibit 10-P-11 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
<a href="#"><u>Exhibit 10-P-12</u></a>	Long-Term Incentive Plan Restricted Stock Unit Terms and Conditions.**	Filed as Exhibit 10-P-12 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
<a href="#"><u>Exhibit 10-P-13</u></a>	Form of Final Award Agreement for Performance-Based Restricted Stock Units under Long-Term Incentive Plan.**	Filed as Exhibit 10-P-13 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
<a href="#"><u>Exhibit 10-P-14</u></a>	Form of Final Award Terms and Conditions for Performance-Based Restricted Stock Units under Long-Term Incentive Plan.**	Filed as Exhibit 10-P-14 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
<a href="#"><u>Exhibit 10-P-15</u></a>	Form of Notification Letter for Time-Based Restricted Stock Units.**	Filed as Exhibit 10-P-15 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
<a href="#"><u>Exhibit 10-Q</u></a>	Agreement dated January 13, 1999 between Ford Motor Company and Edsel B. Ford II.**	Filed as Exhibit 10-X to our Annual Report on Form 10-K for the year ended December 31, 1998.*
<a href="#"><u>Exhibit 10-Q-1</u></a>	Amendment dated May 5, 2010 to the Consulting Agreement between Ford Motor Company and Edsel B. Ford II.**	Filed as Exhibit 10.3 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2010.*
<a href="#"><u>Exhibit 10-Q-2</u></a>	Amendment dated January 1, 2012 to the Consulting Agreement between Ford Motor Company and Edsel B. Ford II.**	Filed as Exhibit 10-P-2 to our Annual Report on Form 10-K for the year ended December 31,

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<u>Exhibit 10-R</u>	Amended and Restated Relationship Agreement dated April 30, 2015 between Ford Motor Company and Ford Motor Credit Company LLC.	2011.* Filed as Exhibit 10.2 to our Current Report on Form 8-K filed May 1, 2015.*
<u>Exhibit 10-S</u>	Form of Trade Secrets/Non-Compete Statement between Ford and certain of its Executive Officers.**	Filed as Exhibit 10-V to our Annual Report on Form 10-K for the year ended December 31, 2003.*
<u>Exhibit 10-T</u>	Arrangement between Ford Motor Company and William C. Ford, Jr., dated February 24, 2009.**	Filed as Exhibit 10-V to our Annual Report on Form 10-K for the year ended December 31, 2008.*
<u>Exhibit 10-U</u>	2015 Incentive Compensation Grants - Exclusion of Pension & OPEB Accounting Change.**	Filed as Exhibit 10-U to our Annual Report on Form 10-K for the year ended December 31, 2015.*
<u>Exhibit 10-V</u>	Description of Company Practices regarding Club Memberships for Executives.**	Filed as Exhibit 10-BB to our Annual Report on Form 10-K for the year ended December 31, 2006.*
<u>Exhibit 10-W</u>	Amended and Restated Credit Agreement dated as of November 24, 2009.	Filed as Exhibit 99.2 to our Current Report on Form 8-K filed November 25, 2009.*
<u>Exhibit 10-W-1</u>	Seventh Amendment dated as of March 15, 2012 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, and as further amended.	Filed as Exhibit 99.2 to our Current Report on Form 8-K filed March 15, 2012.*
<u>Exhibit 10-W-2</u>	Ninth Amendment dated as of April 30, 2013 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, and as further amended.	Filed as Exhibit 10 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2013.*
<u>Exhibit 10-W-3</u>	Tenth Amendment dated as of April 30, 2014 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, and as further amended.	Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2014.*
<u>Exhibit 10-W-4</u>	Eleventh Amendment dated as of April 30, 2015 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, as amended and restated as of April 30, 2014, and as further amended, including the Third Amended and Restated Credit Agreement.	Filed as Exhibit 10.1 to our Current Report on Form 8-K filed May 1, 2015.*
<u>Exhibit 10-W-5</u>	Twelfth Amendment dated as of April 29, 2016 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, as amended and restated as of April 30, 2014, and as further amended and restated as of April 30, 2015.	Filed as Exhibit 10 to our Current Report on Form 8-K filed April 29, 2016.*
<u>Exhibit 10-W-6</u>	Thirteenth Amendment dated as of April 28, 2017 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, as amended and restated as of April 30, 2014, and as further amended and restated as of April 30, 2015.	Filed as Exhibit 10 to our Current Report on Form 8-K filed April 28, 2017.*

Designation	Description	Method of Filing
<u>Exhibit 10-W-7</u>	Fourteenth Amendment dated as of April 26, 2018 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, as amended and restated as of April 30, 2014, and as further amended and restated as of April 30, 2015.	Filed as Exhibit 10 to our Current Report on Form 8-K filed April 26, 2018.*
<u>Exhibit 10-X</u>	Loan Arrangement and Reimbursement Agreement between Ford Motor Company and the U.S. Department of Energy dated as of September 16, 2009.	Filed as Exhibit 10.1 to our Current Report on Form 8-K filed September 22, 2009.*
<u>Exhibit 10-Y</u>	Note Purchase Agreement dated as of September 16, 2009 among the Federal Financing Bank, Ford Motor Company, and the U.S. Secretary of Energy.	Filed as Exhibit 10.2 to our Current Report on Form 8-K filed September 22, 2009.*
<u>Exhibit 21</u>	List of Subsidiaries of Ford as of January 31, 2019.	Filed with this Report.
<u>Exhibit 23</u>	Consent of Independent Registered Public Accounting Firm.	Filed with this Report.
<u>Exhibit 24</u>	Powers of Attorney.	Filed with this Report.
<u>Exhibit 31.1</u>	Rule 15d-14(a) Certification of CEO.	Filed with this Report.
<u>Exhibit 31.2</u>	Rule 15d-14(a) Certification of CFO.	Filed with this Report.
<u>Exhibit 32.1</u>	Section 1350 Certification of CEO.	Furnished with this Report.
<u>Exhibit 32.2</u>	Section 1350 Certification of CFO.	Furnished with this Report.
Exhibit 101.INS	XBRL Instance Document.	***
Exhibit 101.SCH	XBRL Taxonomy Extension Schema Document.	***
Exhibit 101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.	***
Exhibit 101.LAB	XBRL Taxonomy Extension Label Linkbase Document.	***
Exhibit 101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.	***
Exhibit 101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.	***

\* Incorporated by reference as an exhibit to this Report (file number reference 1-3950, unless otherwise indicated).

\*\* Management contract or compensatory plan or arrangement.

\*\*\* Submitted electronically with this Report in accordance with the provisions of Regulation S-T.

Instruments defining the rights of holders of certain issues of long-term debt of Ford and of certain consolidated subsidiaries and of any unconsolidated subsidiary, for which financial statements are required to be filed with this Report, have not been filed as exhibits to this Report because the authorized principal amount of any one of such issues does not exceed 10% of the total assets of Ford and our subsidiaries on a consolidated basis. Ford agrees to furnish a copy of each of such instrument to the Securities and Exchange Commission upon request.

ITEM 16. Form 10-K Summary.

None.

## SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, Ford has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized.

## FORD MOTOR COMPANY

By: /s/ Cathy O'Callaghan  
Cathy O'Callaghan, Vice President and  
Controller  
(principal accounting officer)

Date: February 21, 2019

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this Report has been signed below by the following persons on behalf of Ford and in the capacities on the date indicated:

Signature	Title	Date
WILLIAM CLAY FORD, JR.* William Clay Ford, Jr.	Director, Chairman of the Board, Executive Chairman, Chair of the Office of the Chairman and Chief Executive, and Chair of the Finance Committee	February 21, 2019
JAMES P. HACKETT* James P. Hackett	Director, President and Chief Executive Officer (principal executive officer)	February 21, 2019
STEPHEN G. BUTLER* Stephen G. Butler	Director and Chair of the Audit Committee	February 21, 2019
KIMBERLY A. CASIANO* Kimberly A. Casiano	Director	February 21, 2019
ANTHONY F. EARLEY, JR.* Anthony F. Earley, Jr.	Director and Chair of the Compensation Committee	February 21, 2019
EDSEL B. FORD II* Edsel B. Ford II	Director	February 21, 2019
WILLIAM W. HELMAN IV* William W. Helman IV	Director and Chair of the Sustainability and Innovation Committee	February 21, 2019
WILLIAM E. KENNARD* William E. Kennard	Director and Chair of the Nominating and Governance Committee	February 21, 2019



JOHN C. LECHLEITER* John C. Lechleiter	Director	February 21, 2019
ELLEN R. MARRAM* Ellen R. Marram	Director	February 21, 2019
JOHN L. THORNTON* John L. Thornton	Director	February 21, 2019

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Signature	Title	Date
JOHN B. VEIHMEYER* John B. Veihmeyer	Director	February 21, 2019
LYNN M. VOJVODICH* Lynn M. Vojvodich	Director	February 21, 2019
JOHN S. WEINBERG* John S. Weinberg	Director	February 21, 2019
BOB SHANKS* Bob Shanks	Chief Financial Officer (principal financial officer)	February 21, 2019
CATHY O'CALLAGHAN* Cathy O'Callaghan	Vice President and Controller (principal accounting officer)	February 21, 2019
*By: /s/ JONATHAN E. OSGOOD Jonathan E. Osgood Attorney-in-Fact		February 21, 2019

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of  
Ford Motor Company

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Ford Motor Company and its subsidiaries (the “Company”) as of December 31, 2018 and 2017, and the related consolidated statements of income, comprehensive income, equity and cash flows for each of the three years in the period ended December 31, 2018, including the related notes and financial statement schedule appearing on page FSS-1 (collectively referred to as the “consolidated financial statements”). We also have audited the Company’s internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the COSO.

Change in Accounting Principle

As discussed in Note 1 to the consolidated financial statements, the Company changed its method of accounting for U.S. inventories to a first-in, first-out basis from a last-in, first-out basis in 2018.

Basis for Opinions

The Company’s management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management’s Report on Internal Control over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company’s consolidated financial statements and on the Company’s internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of

internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

FS-1

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### Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ PricewaterhouseCoopers LLP

Detroit, Michigan  
February 21, 2019

We have served as the Company's auditor since 1946.

FS-2

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FORD MOTOR COMPANY AND SUBSIDIARIES  
CONSOLIDATED INCOME STATEMENT  
(in millions, except per share amounts)

	For the years ended December 31,		
	2016	2017	2018
Revenues			
Automotive	\$ 141,546	\$ 145,653	\$ 148,294
Ford Credit	10,253	11,113	12,018
Mobility	1	10	26
Total revenues (Note 4)	151,800	156,776	160,338
Costs and expenses			
Cost of sales	126,195	131,321	136,269
Selling, administrative, and other expenses	10,972	11,527	11,403
Ford Credit interest, operating, and other expenses	8,847	9,047	9,463
Total costs and expenses	146,014	151,895	157,135
Interest expense on Automotive debt	894	1,133	1,171
Interest expense on Other debt	57	57	57
Other income/(loss), net (Note 5)	169	3,267	2,247
Equity in net income of affiliated companies	1,780	1,201	123
Income before income taxes	6,784	8,159	4,345
Provision for/(Benefit from) income taxes (Note 7)	2,184	402	650
Net income	4,600	7,757	3,695
Less: Income/(Loss) attributable to noncontrolling interests	11	26	18
Net income attributable to Ford Motor Company	\$ 4,589	\$ 7,731	\$ 3,677

EARNINGS PER SHARE ATTRIBUTABLE TO FORD MOTOR COMPANY  
COMMON AND CLASS B STOCK (Note 8)

Basic income	\$ 1.16	\$ 1.94	\$ 0.93
Diluted income	1.15	1.93	0.92

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME  
(in millions)

	For the years ended December 31,		
	2016	2017	2018
Net income	\$ 4,600	\$ 7,757	\$ 3,695
Other comprehensive income/(loss), net of tax (Note 21)			
Foreign currency translation	(1,024 )	314	(523 )
Marketable securities(8 )	( )	(34 )	(11 )
Derivative instruments	219	(265 )	183
	56	37	(56 )

Pension and other postretirement benefits				
Total other comprehensive income/(loss), net of tax	(757	)	52	(407
				)
Comprehensive income	3,843		7,809	3,288
Less:				
Comprehensive income/(loss) attributable to noncontrolling interests	10		24	18
Comprehensive income attributable to Ford Motor Company	\$ 3,833		\$ 7,785	\$ 3,270

The accompanying notes are part of the consolidated financial statements.

FS-3

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FORD MOTOR COMPANY AND SUBSIDIARIES  
CONSOLIDATED BALANCE SHEET  
(in millions)

	December 31, 2017	December 31, 2018
<b>ASSETS</b>		
Cash and cash equivalents (Note 9)	\$ 18,492	\$ 16,718
Marketable securities (Note 9)	20,435	17,233
Ford Credit finance receivables, net (Note 10)	52,210	54,353
Trade and other receivables, less allowances of \$412 and \$94	10,599	11,195
Inventories (Note 12)	11,176	11,220
Other assets	3,889	3,930
Total current assets	116,801	114,649
Ford Credit finance receivables, net (Note 10)	56,182	55,544
Net investment in operating leases (Note 13)	28,235	29,119
Net property (Note 14)	35,327	36,178
Equity in net assets of affiliated companies (Note 15)	3,085	2,709
Deferred income taxes (Note 7)	10,762	10,412
Other assets	8,104	7,929
Total assets	\$ 258,496	\$ 256,540
<b>LIABILITIES</b>		
Payables	\$ 23,282	\$ 21,520
Other liabilities and deferred revenue (Note 16)	19,697	20,556
Automotive debt payable within one year (Note 18)	3,356	2,314
Ford Credit debt payable within one year (Note 18)	48,265	51,179
Total current liabilities	94,600	95,569
Other liabilities and deferred revenue (Note 16)	24,711	23,588
Automotive long-term debt (Note 18)	12,575	11,233
Ford Credit long-term debt (Note 18)	89,492	88,887
Other long-term debt (Note 18)	599	600
Deferred income taxes (Note 7)	815	597
Total liabilities	222,792	220,474
Redeemable noncontrolling interest (Note 20)	98	100
<b>EQUITY</b>		
Common Stock, par value \$.01 per share (4,000 million shares issued of 6 billion authorized)	40	40
Class B Stock, par value \$.01 per share (71 million shares issued of 530 million authorized)	1	1
Capital in excess of par value of stock	21,843	22,006
Retained earnings	21,906	22,668
Accumulated other comprehensive income/(loss) (Note 21)	(6,959)	(7,366)
Treasury stock	(1,253)	(1,417)
Total equity attributable to Ford Motor Company	35,578	35,932
Equity attributable to noncontrolling interests	28	34



Total equity	35,606	35,966
Total liabilities and equity	\$ 258,496	\$ 256,540

The following table includes assets to be used to settle liabilities of the consolidated variable interest entities (“VIEs”). These assets and liabilities are included in the consolidated balance sheet above. See Note 22 for additional information on our VIEs.

	December 31, 2017	December 31, 2018
<b>ASSETS</b>		
Cash and cash equivalents	\$ 3,479	\$ 2,728
Ford Credit finance receivables, net	56,250	58,662
Net investment in operating leases	11,503	16,332
Other assets	64	27
<b>LIABILITIES</b>		
Other liabilities and deferred revenue	\$ 2	\$ 24
Debt	46,437	53,269

The accompanying notes are part of the consolidated financial statements.

FS-4

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FORD MOTOR COMPANY AND SUBSIDIARIES  
CONSOLIDATED STATEMENT OF CASH FLOWS  
(in millions)

	For the years ended December		
	31,		
	2016	2017	2018
Cash flows from operating activities			
Net income	\$4,600	\$7,757	\$3,695
Depreciation and tooling amortization	9,023	9,122	9,280
Other amortization	(306 )	(669 )	(972 )
Provision for credit and insurance losses	672	717	609
Pension and other postretirement employee benefits (“OPEB”) expense/(income)	2,667	(608 )	400
Equity investment (earnings)/losses in excess of dividends received	(178 )	240	206
Foreign currency adjustments	283	(403 )	529
Net (gain)/loss on changes in investments in affiliates	(139 )	(7 )	(42 )
Stock compensation	210	246	191
Net change in wholesale and other receivables	(1,449 )	(836 )	(2,408 )
Provision for deferred income taxes	1,473	(350 )	(197 )
Decrease/(Increase) in accounts receivable and other assets	(2,855 )	(2,297 )	(2,239 )
Decrease/(Increase) in inventory	(803 )	(970 )	(828 )
Increase/(Decrease) in accounts payable and accrued and other liabilities	6,595	6,089	6,781
Other	57	65	17
Net cash provided by/(used in) operating activities	19,850	18,096	15,022
Cash flows from investing activities			
Capital spending	(6,992 )	(7,049 )	(7,785 )
Acquisitions of finance receivables and operating leases	(56,007 )	(59,354 )	(62,924 )
Collections of finance receivables and operating leases	38,834	44,641	50,880
Purchases of marketable and other securities	(31,428 )	(27,567 )	(17,140 )
Sales and maturities of marketable and other securities	29,354	29,898	20,527
Settlements of derivatives	825	100	358
Other	112	(29 )	(177 )
Net cash provided by/(used in) investing activities	(25,302 )	(19,360 )	(16,261 )
Cash flows from financing activities			
Cash dividends	(3,376 )	(2,584 )	(2,905 )
Purchases of common stock	(145 )	(131 )	(164 )
Net changes in short-term debt	3,864	1,229	(2,819 )
Proceeds from issuance of long-term debt	45,961	45,801	50,130
Principal payments on long-term debt	(38,797 )	(40,770 )	(44,172 )
Other	(107 )	(151 )	(192 )
Net cash provided by/(used in) financing activities	7,400	3,394	(122 )
Effect of exchange rate changes on cash, cash equivalents, and restricted cash	(265 )	489	(370 )
Net increase/(decrease) in cash, cash equivalents, and restricted cash	\$1,683	\$2,619	\$(1,731 )
Cash, cash equivalents, and restricted cash at January 1 (Note 9)	\$14,336	\$16,019	\$18,638
Net increase/(decrease) in cash, cash equivalents, and restricted cash	1,683	2,619	(1,731 )
Cash, cash equivalents, and restricted cash at December 31 (Note 9)	\$16,019	\$18,638	\$16,907

The accompanying notes are part of the consolidated financial statements.

FS-5

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FORD MOTOR COMPANY AND SUBSIDIARIES  
CONSOLIDATED STATEMENT OF EQUITY  
(in millions)

	Equity Attributable to Ford Motor Company						Equity Attributable to Non-controlling Interests	Total Equity
	Capital Stock Par Value of Stock	Cap. in Excess of Par Value of Stock	Retained Earnings/ (Accumulated Deficit)	Accumulated Other Comprehensive Income/(Loss) (Note 21)	Treasury Stock	Total		
Balance at December 31, 2015	\$41	\$21,421	\$ 14,980	\$ (6,257 )	\$(977 )	\$29,208	\$ 15	\$29,223
Net income	—	—	4,589	—	—	4,589	11	4,600
Other comprehensive income/(loss), net of tax	—	—	—	(756 )	—	(756 )	(1 )	(757 )
Common stock issued (including share-based compensation impacts)	—	209	—	—	—	209	—	209
Treasury stock/other	—	—	—	—	(145 )	(145 )	(3 )	(148 )
Cash dividends declared (a)	—	—	(3,376 )	—	—	(3,376 )	(5 )	(3,381 )
Balance at December 31, 2016	\$41	\$21,630	\$ 16,193	\$ (7,013 )	\$(1,122)	\$29,729	\$ 17	\$29,746
Balance at December 31, 2016	\$41	\$21,630	\$ 16,193	\$ (7,013 )	\$(1,122)	\$29,729	\$ 17	\$29,746
Adoption of accounting standards	—	6	566	—	—	572	—	572
Net income	—	—	7,731	—	—	7,731	26	7,757
Other comprehensive income/(loss), net of tax	—	—	—	54	—	54	(2 )	52
Common stock issued (including share-based compensation impacts)	—	207	—	—	—	207	—	207
Treasury stock/other	—	—	—	—	(131 )	(131 )	(2 )	(133 )
Cash dividends declared (a)	—	—	(2,584 )	—	—	(2,584 )	(11 )	(2,595 )
Balance at December 31, 2017	\$41	\$21,843	\$ 21,906	\$ (6,959 )	\$(1,253)	\$35,578	\$ 28	\$35,606
Balance at December 31, 2017	\$41	\$21,843	\$ 21,906	\$ (6,959 )	\$(1,253)	\$35,578	\$ 28	\$35,606
Net income	—	—	3,677	—	—	3,677	18	3,695
Other comprehensive income/(loss), net of tax	—	—	—	(407 )	—	(407 )	—	(407 )
Common stock issued (including share-based compensation impacts)	—	163	—	—	—	163	—	163
Treasury stock/other	—	—	—	—	(164 )	(164 )	—	(164 )
Dividend and dividend equivalents declared (a)	—	—	(2,915 )	—	—	(2,915 )	(12 )	(2,927 )
Balance at December 31, 2018	\$41	\$22,006	\$ 22,668	\$ (7,366 )	\$(1,417)	\$35,932	\$ 34	\$35,966

(a) We declared dividends per share of Common and Class B Stock of \$0.85, \$0.65, and \$0.73 per share in 2016, 2017, and 2018, respectively.

The accompanying notes are part of the consolidated financial statements.

FS-6

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## Table of Contents

	Page
Footnote	<u>FS-8</u>
Note 1 Presentation	<u>FS-8</u>
Note 2 Summary of Significant Accounting Policies	<u>FS-9</u>
Note 3 New Accounting Standards	<u>FS-15</u>
Note 4 Revenue	<u>FS-16</u>
Note 5 Other Income/(Loss)	<u>FS-18</u>
Note 6 Share-Based Compensation	<u>FS-18</u>
Note 7 Income Taxes	<u>FS-19</u>
Note 8 Capital Stock and Earnings Per Share	<u>FS-23</u>
Note 9 Cash, Cash Equivalents, and Marketable Securities	<u>FS-24</u>
Note 10 Ford Credit Finance Receivables	<u>FS-27</u>
Note 11 Ford Credit Allowance for Credit Losses	<u>FS-31</u>
Note 12 Inventories	<u>FS-34</u>
Note 13 Net Investment in Operating Leases	<u>FS-34</u>
Note 14 Net Property and Lease Commitments	<u>FS-35</u>
Note 15 Equity in Net Assets of Affiliated Companies	<u>FS-36</u>
Note 16 Other Liabilities and Deferred Revenue	<u>FS-38</u>
Note 17 Retirement Benefits	<u>FS-38</u>
Note 18 Debt and Commitments	<u>FS-45</u>
Note 19 Derivative Financial Instruments and Hedging Activities	<u>FS-50</u>
Note 20 Redeemable Noncontrolling Interest	<u>FS-52</u>
Note 21 Accumulated Other Comprehensive Income/(Loss)	<u>FS-53</u>
Note 22 Variable Interest Entities	<u>FS-54</u>
Note 23 Commitments and Contingencies	<u>FS-55</u>
Note 24 Segment Information	<u>FS-57</u>
Note 25 Selected Quarterly Financial Data (unaudited)	<u>FS-59</u>
Note 26 Subsequent Event	<u>FS-60</u>

FS-7

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

NOTE 1. PRESENTATION

For purposes of this report, “Ford,” the “Company,” “we,” “our,” “us,” or similar references mean Ford Motor Company, our consolidated subsidiaries, and our consolidated VIEs of which we are the primary beneficiary, unless the context requires otherwise. We also make reference to Ford Motor Credit Company LLC, herein referenced to as Ford Credit. Our financial statements are presented in accordance with U.S. generally accepted accounting principles (“GAAP”).

Change in Presentation

Effective January 1, 2018, we changed our reportable segments to reflect the manner in which we now manage our business. Based on changes to our organization structure and how our Chief Operating Decision Maker (“CODM”) reviews operating results and makes decisions about resource allocation, we now have three reportable segments that represent the primary businesses reported in our consolidated financial statements: Automotive, Mobility, and Ford Credit. See Note 24 for a description of our segment presentation.

Certain Transactions Between Automotive, Mobility, and Ford Credit

Intersegment transactions occur in the ordinary course of business. Additional detail regarding certain transactions and the effect on each segment at December 31 was as follows (in billions):

	2017		2018	
	Automotive	Mobility	Automotive	Mobility
Trade and other receivables (a)				
Unearned interest supplements and residual support (b)				
Finance receivables and other (c)				
Intersegment receivables/(payables)				
		Ford Credit		Ford Credit
		\$ 5.8		\$ 6.8
		(6.1 )		(6.8 )
		1.9		2.1
	\$ (2.7)	\$ (0.1 )	2.8	\$ (1.2)
			\$ (1.1 )	2.3

(a) Automotive receivables (generated primarily from vehicle and parts sales to third parties) sold to Ford Credit.

(b) Automotive segment pays amounts to Ford Credit at the point of retail financing or lease origination which represent interest supplements and residual support.

(c) Primarily receivables with entities that are consolidated subsidiaries of Ford.

Change in Accounting

We carry inventory on our consolidated balance sheet that is comprised of finished products, raw materials, work-in-process, and supplies. As of January 1, 2018, we changed our accounting method for U.S. inventories to a first-in, first-out basis from a last-in, first-out basis. We believe this change in accounting method is preferable as it is consistent with how we manage our business, results in a uniform method to value our inventory across all regions in our business, and improves comparability with our peers. The effect of this change was immaterial on our consolidated balance sheet at December 31, 2018 and on our consolidated statements of income and cash flows for the year then ended.

We have retrospectively applied this change in accounting method to all prior periods. As of December 31, 2015, the cumulative effect of the change increased Retained earnings by \$566 million.

FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 1. PRESENTATION (Continued)

The effect of this change on our consolidated financial statements for the years ended or at December 31 was as follows (in millions except for per share amounts):

	2016		Effect of Change Higher/(Lower)	2017		Effect of Change Higher/(Lower)
	Previously Reported	As Revised		Previously Reported	As Revised	
Income statement						
Cost of sales	\$126,183	\$126,195	\$ 12	\$131,332	\$131,321	\$ (11 )
Income before income taxes	6,796	6,784	(12 )	8,148	8,159	11
Provision for/(Benefit from) income taxes	2,189	2,184	(5 )	520	402	(118 )
Net income	4,607	4,600	(7 )	7,628	7,757	129
Net income attributable to Ford Motor Company	4,596	4,589	(7 )	7,602	7,731	129
Basic earning per share attributable to Ford Motor Company	1.16	1.16	—	1.91	1.94	0.03
Diluted earning per share attributable to Ford Motor Company	1.15	1.15	—	1.90	1.93	0.03

	2017		Effect of Change Higher/(Lower)
	Previously Reported	As Revised	
Balance sheet			
Inventories	\$10,277	\$11,176	\$ 899
Deferred income taxes (assets)	10,973	10,762	(211 )
Retained earnings	21,218	21,906	688

	2016		Effect of Change Higher/(Lower)	2017		Effect of Change Higher/(Lower)
	Previously Reported	As Revised		Previously Reported	As Revised	
Cash flows from operating activities						
Net income	\$4,607	\$4,600	\$ (7 )	\$7,628	\$7,757	\$ 129
Provision for deferred income taxes	1,478	1,473	(5 )	(232 )	(350 )	(118 )
Decrease/(Increase) in inventory	(815 )	(803 )	12	(959 )	(970 )	(11 )

## Argentina

In June 2018, Argentina was classified as having a highly inflationary economy due to the three-year cumulative consumer price index exceeding 100%. As a result, we changed the functional currency for our operations in Argentina from the Argentine peso to the U.S. dollar as of July 1, 2018.



NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

For each accounting topic that is addressed in its own note, the description of the accounting policy may be found in the related note. Other significant accounting policies are described below.

Use of Estimates

The preparation of financial statements requires us to make estimates and assumptions that affect our results. Estimates are used to account for certain items such as marketing accruals, warranty costs, employee benefit programs, etc. Estimates are based on assumptions that we believe are reasonable under the circumstances. Due to the inherent uncertainty involved with estimates, actual results may differ.

FS-9

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Foreign Currency

We remeasure monetary assets and liabilities denominated in a currency that is different than a reporting entity's functional currency from the transactional currency to the legal entity's functional currency. The effect of this remeasurement process and the results of our foreign currency hedging activities are reported in Cost of sales and Other income/(loss), net and were \$307 million, \$307 million, and \$(121) million, for the years ended 2016, 2017, and 2018, respectively.

Generally, our foreign subsidiaries use the local currency as their functional currency. We translate the assets and liabilities of our foreign subsidiaries from their respective functional currencies to U.S. dollars using end-of-period exchange rates. Changes in the carrying value of these assets and liabilities attributable to fluctuations in exchange rates are recognized in Foreign currency translation, a component of Other comprehensive income/(loss), net of tax.

Upon sale or upon complete or substantially complete liquidation of an investment in a foreign subsidiary, the amount of accumulated foreign currency translation related to the entity is reclassified to income and recognized as part of the gain or loss on the investment.

Cash Equivalents

Cash and cash equivalents are highly liquid investments that are readily convertible to known amounts of cash and are subject to an insignificant risk of change in value due to interest rate, quoted price, or penalty on withdrawal. A debt security is classified as a cash equivalent if it meets these criteria and if it has a remaining time to maturity of three months or less from the date of acquisition. Amounts on deposit and available upon demand, or negotiated to provide for daily liquidity without penalty, are classified as Cash and cash equivalents. Time deposits, certificates of deposit, and money market accounts that meet the above criteria are reported at par value on our consolidated balance sheet.

Restricted Cash

Cash and cash equivalents that are restricted as to withdrawal or use under the terms of certain contractual agreements are recorded in Other assets in the non-current assets section of our consolidated balance sheet. Our Automotive segment restricted cash balances primarily include various escrow agreements related to legal, insurance, customs, and environmental matters. Our Ford Credit segment restricted cash balances primarily include cash held to meet certain local governmental and regulatory reserve requirements and cash held under the terms of certain contractual agreements. Mobility segment restricted cash balances primarily include cash held under the terms of certain contractual agreements. Restricted cash does not include required minimum balances or cash securing debt issued through securitization transactions.

Marketable Securities

Investments in securities with a maturity date greater than three months at the date of purchase and other securities for which there is more than an insignificant risk of change in value due to interest rate, quoted price, or penalty on withdrawal are classified as Marketable securities.

Realized gains and losses and interest income on all of our marketable securities and unrealized gains and losses on securities not classified as available for sale are recorded in Other income/(loss), net. Unrealized gains and losses on available for sale securities are recognized in Unrealized gains and losses on securities, a component of Other comprehensive income/(loss), net of tax. Realized gains and losses and reclassifications of accumulated other

comprehensive income into net income are measured using the specific identification method.

On a quarterly basis, we review our available for sale securities for impairment. If we conclude that any of these investments are impaired, we determine whether such impairment is other-than-temporary. Factors we consider to make such determination include the duration and severity of the impairment, the reason for the decline in value, and the potential recovery period and our intent to sell. If any impairment is considered other-than-temporary, we will write down the asset to its fair value and record the corresponding charge in Other income/(loss), net.

FS-10

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Trade Receivables

Trade and other receivables consists primarily of Automotive segment receivables from contracts with customers for the sale of vehicles, parts, and accessories. Trade receivables initially are recorded at the transaction amount and are typically outstanding for less than 30 days. Each reporting period, we evaluate the collectability of the receivables and record an allowance for doubtful accounts representing our estimate of the probable losses. Additions to the allowance for doubtful accounts are made by recording charges to bad debt expense reported in Selling, administrative, and other expenses.

Net Intangible Assets and Goodwill

Indefinite-lived intangible assets and goodwill are not amortized, but are tested for impairment annually or more frequently if events or circumstances indicate the assets may be impaired. Goodwill impairment testing is also performed following an allocation of goodwill to a business to be disposed or a change in reporting units. We test for impairment by assessing qualitative factors to determine whether it is more likely than not that the fair value of the indefinite-lived intangible asset or the reporting unit allocated the goodwill is less than its carrying amount. If the qualitative assessment indicates a possible impairment, the carrying value of the asset or reporting unit is compared with its fair value. Fair value is measured relying primarily on the income approach by applying a discounted cash flow method. We capitalize and amortize our finite-lived intangible assets over their estimated useful lives. Intangible assets are comprised primarily of licensing and advertising agreements, land rights, patents, customer contracts, and technology. The net carrying amount of our intangible assets was \$213 million and \$178 million at December 31, 2017 and 2018, respectively. For the periods presented, we have not recorded any impairments for indefinite-lived intangible assets.

The net carrying amount of goodwill was \$75 million and \$264 million at December 31, 2017 and 2018, respectively. In 2018, Mobility completed the acquisition of Autonomic, TransLoc, and Skinny Labs (Spin) which resulted in \$230 million of goodwill. In addition, Chariot goodwill of \$40 million was fully impaired during the fourth quarter of 2018 as a result of the decision to cease operations.

The carrying amount of intangible assets and goodwill is reported in Other assets in the non-current asset section of our consolidated balance sheet.

Long-Lived Asset Impairment

We test long-lived asset groups for recoverability when changes in circumstances indicate the carrying value may not be recoverable. Events that trigger a test for recoverability include material adverse changes in projected revenues and expenses, significant underperformance relative to historical and projected future operating results, significant negative industry or economic trends, and a significant adverse change in the manner in which an asset group is used or in its physical condition. When a triggering event occurs, a test for recoverability is performed, comparing projected undiscounted future cash flows to the carrying value of the asset group. If the test for recoverability identifies a possible impairment, the asset group's fair value is measured relying primarily on a discounted cash flow method. An impairment charge is recognized for the amount by which the carrying value of the asset group exceeds its estimated fair value. When an impairment loss is recognized for assets to be held and used, the adjusted carrying amount of those assets is depreciated over their remaining useful life. For the periods presented, we have not recorded any impairments.



FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Fair Value Measurements

We measure fair value of our financial instruments including those held within our pension plans using various valuation methods and prioritize the use of observable inputs. The use of observable and unobservable inputs and their significance in measuring fair value are reflected in our fair value hierarchy.

Level 1 - inputs include quoted prices for identical instruments and are the most observable

Level 2 - inputs include quoted prices for similar instruments and observable inputs such as interest rates, currency exchange rates, and yield curves

Level 3 - inputs include data not observable in the market and reflect management judgment about the assumptions market participants would use in pricing the instruments

Fixed income securities, equities, commingled funds, derivative financial instruments, and alternative assets are remeasured and presented within our financial statements at fair value on a recurring basis. Finance receivables and debt are measured at fair value for the purpose of disclosure. Other assets and liabilities are measured at fair value on a nonrecurring basis.

Transfers into and transfers out of the hierarchy levels are recognized as if they had taken place at the end of the reporting period.

Valuation Method

Fixed Income Securities. Fixed income securities primarily include government securities, government agency securities, corporate bonds, and asset-backed securities. We generally measure the fair value using prices obtained from pricing services or quotes from dealers that make markets in such securities. Pricing methods and inputs to valuation models used by the pricing services depend on the security type (i.e., asset class). Where possible, fair values are generated using market inputs including quoted prices (the closing price in an exchange market), bid prices (the price at which a buyer stands ready to purchase), and other market information. For fixed income securities that are not actively traded, the pricing services use alternative methods to determine fair value for the securities, including quotes for similar fixed-income securities, matrix pricing, discounted cash flow using benchmark curves, or other factors. In certain cases, when market data is not available, we may use broker quotes or pricing services that use proprietary pricing models to determine fair value. The proprietary models incorporate unobservable inputs primarily consisting of prepayment curves, discount rates, default assumptions, recovery rates, yield assumptions, and credit spread assumptions.

An annual review is performed on the security prices received from our pricing services, which includes discussion and analysis of the inputs used by the pricing services to value our securities. The price of certain securities sold close to the quarter end are also compared to the price of the same security at the balance sheet date to ensure the reported fair value is reasonable.

Equities. Equity securities are primarily exchange-traded and are valued based on the closing bid, official close, or last trade pricing on an active exchange. If closing prices are not available, securities are valued at the last quoted bid price or may be valued using the last available price. Securities that are thinly traded or delisted are valued using unobservable pricing data.

Commingled Funds. Fixed income and public equity securities may each be combined into commingled fund investments. Most commingled funds are valued to reflect our interest in the fund based on the reported year-end net asset value (“NAV”).

FS-12

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

**Derivative Financial Instruments.** Exchange-traded derivatives for which market quotations are readily available are valued at the last reported sale price or official closing price as reported by an independent pricing service on the primary market or exchange on which they are traded. Over-the-counter derivatives are not exchange traded and are valued using independent pricing services or industry-standard valuation models such as a discounted cash flow. When discounted cash flow models are used, projected future cash flows are discounted to a present value using market-based expectations for interest rates, foreign exchange rates, commodity prices, and the contractual terms of the derivative instruments. The discount rate used is the relevant interbank deposit rate (e.g., LIBOR) plus an adjustment for non-performance risk. The adjustment reflects the full credit default swap (“CDS”) spread applied to a net exposure, by counterparty, considering the master netting agreements and any posted collateral. We use our counterparty’s CDS spread when we are in a net asset position and our own CDS spread when we are in a net liability position. In cases where market data is not available we use broker quotes and models (e.g., Black-Scholes) to determine fair value. This includes situations where there is lack of liquidity for a particular currency or commodity, or when the instrument is longer dated.

**Alternative Assets.** Hedge funds generally hold liquid and readily-priced securities, such as public equities, exchange-traded derivatives, and corporate bonds. Private equity and real estate investments are less liquid. External investment managers typically report valuations reflecting initial cost or updated appraisals, which are adjusted for cash flows, and realized and unrealized gains/losses. All alternative assets are valued at the NAV provided by the investment sponsor or third party administrator, as they do not have readily-available market quotations. Valuations may be lagged up to 6 months. The NAV will be adjusted for cash flows (additional investments or contributions, and distributions) through year-end. We may make further adjustments for any known substantive valuation changes not reflected in the NAV.

The Ford-Werke GmbH (“Ford-Werke”) defined benefit plan is primarily funded through a group insurance contract (see Note 17). We measure the fair value of the insurance asset by projecting expected future cash flows from the contract and discounting them to present value based on current market rates including an assessment for non-performance risk of the insurance company. The assumptions used to project expected future cash flows are based on actuarial estimates and are unobservable; therefore, the contract is categorized within Level 3 of the hierarchy.

**Finance Receivables.** We measure finance receivables at fair value using internal valuation models (see Note 10). These models project future cash flows of financing contracts based on scheduled contract payments (including principal and interest). The projected cash flows are discounted to present value based on assumptions regarding credit losses, pre-payment speed, and applicable spreads to approximate current rates. Our assumptions regarding pre-payment speed and credit losses are based on historical performance. The fair value of finance receivables is categorized within Level 3 of the hierarchy.

On a nonrecurring basis, we also measure at fair value retail contracts greater than 120 days past due or deemed to be uncollectible, and individual dealer loans probable of foreclosure. We use the fair value of collateral, adjusted for estimated costs to sell, to determine the fair value of our receivables. The collateral for a retail receivable is the vehicle financed, and for dealer loans is real estate or other property.

The fair value of collateral for retail receivables is calculated by multiplying the outstanding receivable balances by the average recovery value percentage. The fair value of collateral for dealer loans is determined by reviewing various appraisals, which include total adjusted appraised value of land and improvements, alternate use appraised value, broker’s opinion of value, and purchase offers.



Debt. We measure debt at fair value using quoted prices for our own debt with approximately the same remaining maturities (see Note 18). Where quoted prices are not available, we estimate fair value using discounted cash flows and market-based expectations for interest rates, credit risk, and the contractual terms of the debt instruments. For certain short-term debt with an original maturity date of one year or less, we assume that book value is a reasonable approximation of the debt's fair value. The fair value of debt is categorized within Level 2 of the hierarchy.

FS-13

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Employee Separation Actions and Exit and Disposal Activities

We record costs associated with voluntary separations at the time of employee acceptance, unless the acceptance requires explicit approval by the Company. We record costs associated with involuntary separation programs when management has approved the plan for separation, the affected employees are identified, and it is unlikely that actions required to complete the separation plan will change significantly. When a plan of separation requires approval by or consultation with the relevant labor organization or government, the costs are recorded after the required approval or consultation process is complete. Costs associated with benefits that are contingent on the employee continuing to provide service are accrued over the required service period.

Additionally, under certain labor agreements, we are required to pay transitional benefits to our employees who are idled. For employees who are temporarily idled, we expense the benefits on an as-incurred basis. For employees who are permanently idled, we expense all of the expected future benefit payments in the period when it is probable that the employees will be permanently idled. Our accrual for these future benefit payments to permanently idled employees takes into account several factors: the demographics of the population at each affected facility, redeployment alternatives, estimate of benefits to be paid, and recent experience relative to voluntary redeployments.

Finance and Lease Incentives

We offer special financing and lease incentives to customers who choose to finance or lease Ford or Lincoln vehicles with Ford Credit. The cost for these incentives is included in our estimate of variable consideration when the vehicle is sold to the dealer. Ford Credit records a reduction to the finance receivable or reduces the cost of the vehicle operating lease when it records the underlying finance contract and we transfer to it the amount of the incentive on behalf of the dealer's customer. See Note 1 for additional information regarding transactions between Automotive and Ford Credit. The Ford Credit segment recognized interest revenue of \$1.6 billion, \$2 billion, and \$2.4 billion in 2016, 2017, and 2018, respectively, and lower depreciation of \$1.9 billion, \$2.1 billion, and \$2.4 billion in 2016, 2017, and 2018, respectively, associated with these incentives.

Supplier Price Adjustments

We frequently negotiate price adjustments with our suppliers throughout a production cycle, even after receiving production material. These price adjustments relate to changes in design specification or other commercial terms such as economics, productivity, and competitive pricing. We recognize price adjustments when we reach final agreement with our suppliers. In general, we avoid direct price changes in consideration of future business; however, when these occur, our policy is to defer the financial statement impact of any such price change given explicitly in consideration of future business where guaranteed volumes are specified.

Government Incentives

We receive incentives from U.S. and non-U.S. governmental entities in the form of tax rebates or credits, grants, and loans. Government incentives are recorded in the financial statements in accordance with their purpose as a reduction of expense, a reduction of the cost of the capital investment, or other income. The benefit is recorded when all conditions attached to the incentive have been met and there is reasonable assurance of receipt.

Selected Other Costs

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Engineering, research, and development expenses, primarily salaries, materials, and associated costs, are reported in Cost of sales; advertising costs are reported in Selling, administrative, and other expenses. Engineering, research, and development costs are expensed as incurred when performed internally or when performed by a supplier if we guarantee reimbursement. Advertising costs are expensed as incurred. Engineering, research, development, and advertising expenses for the years ended December 31 were as follows (in billions):

	2016	2017	2018
Engineering, research, and development	\$ 7.3	\$ 8.0	\$ 8.2
Advertising	4.3	4.1	4.0

FS-14

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

NOTE 3. NEW ACCOUNTING STANDARDS

Adoption of New Accounting Standards

Accounting Standards Update (“ASU”) 2017-12, Derivatives and Hedging. On January 1, 2018, we adopted the amendments to Accounting Standards Codification 815 which aligns hedge accounting with risk management activities and simplifies the requirements to qualify for hedge accounting. Adoption did not have a material impact on our financial statements. We continue to assess opportunities enabled by the new standard to expand our risk management strategies.

ASU 2016-01, Financial Instruments - Recognition and Measurement of Financial Assets and Financial Liabilities.

On January 1, 2018, we adopted ASU 2016-01 and the related amendments. This standard amends various aspects of the recognition, measurement, presentation, and disclosure of financial instruments. We adopted the measurement alternative for equity investments without readily determinable fair values (often referred to as cost method investments) on a prospective basis. As a result, these investments will be revalued upon occurrence of an observable price change for similar investments and for impairments. We anticipate adoption may increase the volatility on our consolidated income statement.

We also adopted the following ASUs during 2018, none of which had a material impact to our financial statements or financial statement disclosures:

ASU	Effective Date
2017-08 Nonrefundable Fees and Other Costs - Premium Amortization on Purchased Callable Debt Securities	January 1, 2018
2016-18 Statement of Cash Flows - Restricted Cash	January 1, 2018
2016-16 Income Taxes - Intra-Entity Transfers of Assets Other Than Inventory	January 1, 2018
2016-15 Statement of Cash Flows - Classification of Certain Cash Receipts and Cash Payments	January 1, 2018

Accounting Standards Issued But Not Yet Adopted

The following represent the standards that will, or are expected to, result in a significant change in practice and/or have a significant financial impact to Ford.

ASU 2016-13, Credit Losses - Measurement of Credit Losses on Financial Instruments. In June 2016, the Financial Accounting Standards Board (“FASB”) issued a new accounting standard which replaces the current incurred loss impairment method with a method that reflects expected credit losses. We plan to adopt the new standard and the related amendments on its effective date of January 1, 2020, by recognizing the cumulative effect of initially applying the new standard as an adjustment to the opening balance of Retained earnings. We anticipate adoption will increase the amount of expected credit losses reported in Ford Credit finance receivables, net on our consolidated balance sheet and do not expect a material impact to our consolidated income statement.

ASU 2016-02, Leases. In February 2016, the FASB issued a new accounting standard which provides guidance on the recognition, measurement, presentation, and disclosure of leases. The new standard supersedes the present U.S. GAAP standard on leases and requires substantially all leases to be reported on the balance sheet as right-of-use assets and lease obligations. We will adopt the new standard and the related amendments on its effective date of January 1, 2019. We anticipate adoption of the standard will add approximately \$1.3 billion in right-of-use assets and lease obligations to our consolidated balance sheet and will not significantly impact retained earnings. We will elect the practical expedients upon transition that will retain the lease classification and initial direct costs for any leases

that exist prior to adoption of the standard. We will not reassess whether any contracts entered into prior to adoption are leases.

FS-15

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 4. REVENUE

The following tables disaggregate our revenue by major source for the years ended December 31 (in millions):

	2017			
	Automotive	Mobility	Ford Credit	Consolidated
Vehicles, parts, and accessories	\$ 140,171	\$ —	\$—	\$ 140,171
Used vehicles	2,956	—	—	2,956
Extended service contracts	1,236	—	—	1,236
Other revenue	815	10	219	1,044
Revenues from sales and services	145,178	10	219	145,407
Leasing income	475	—	5,552	6,027
Financing income	—	—	5,184	5,184
Insurance income	—	—	158	158
Total revenues	\$ 145,653	\$ 10	\$ 11,113	\$ 156,776
	2018			
	Automotive	Mobility	Ford Credit	Consolidated
Vehicles, parts, and accessories	\$ 142,532	\$ —	\$—	\$ 142,532
Used vehicles	3,022	—	—	3,022
Extended service contracts	1,323	—	—	1,323
Other revenue	879	26	218	1,123
Revenues from sales and services	147,756	26	218	148,000
Leasing income	538	—	5,795	6,333
Financing income	—	—	5,841	5,841
Insurance income	—	—	164	164
Total revenues	\$ 148,294	\$ 26	\$ 12,018	\$ 160,338

Revenue is recognized when obligations under the terms of a contract with our customer are satisfied; generally this occurs with the transfer of control of our vehicles, parts, accessories, or services. Revenue is measured as the amount of consideration we expect to receive in exchange for transferring goods or providing services. Sales, value add, and other taxes we collect concurrent with revenue-producing activities are excluded from revenue. Incidental items that are immaterial in the context of the contract are recognized as expense. The expected costs associated with our base warranties and field service actions continue to be recognized as expense when the products are sold (see Note 23). We recognize revenue for vehicle service contracts that extend mechanical and maintenance coverages beyond our base warranties over the life of the contract. We do not have any material significant payment terms as payment is received at or shortly after the point of sale.

## Automotive Segment

**Vehicles, Parts, and Accessories.** For the majority of vehicles, parts, and accessories, we transfer control and recognize a sale when we ship the product from our manufacturing facility to our customer (dealers and distributors). We receive cash equal to the invoice price for most vehicle sales at the time of wholesale. When the vehicle sale is financed by our wholly-owned subsidiary Ford Credit, the dealer pays Ford Credit when it sells the vehicle to the

retail customer (see Note 10). Payment terms on part sales to dealers, distributors, and retailers range from 30 to 120 days. The amount of consideration we receive and revenue we recognize varies with changes in marketing incentives and returns we offer to our customers and their customers. When we give our dealers the right to return eligible parts and accessories, we estimate the expected returns based on an analysis of historical experience. We adjust our estimate of revenue at the earlier of when the most likely amount of consideration we expect to receive changes or when the consideration becomes fixed. During 2017 and 2018, we recorded a decrease to revenue of \$887 million and \$903 million related to sales recognized in 2016 and 2017, respectively.

FS-16

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

NOTE 4. REVENUE (Continued)

Depending on the terms of the arrangement, we may also defer the recognition of a portion of the consideration received because we have to satisfy a future obligation (e.g., free extended service contracts). We use an observable price to determine the stand-alone selling price for separate performance obligations or a cost plus margin approach when one is not available. We have elected to recognize the cost for freight and shipping when control over vehicles, parts, or accessories have transferred to the customer as an expense in Cost of sales.

We sell vehicles to daily rental companies and guarantee that we will pay them the difference between an agreed amount and the value they are able to realize upon resale. At the time of transfer of vehicles to the daily rental companies, we record the probable amount we will pay under the guarantee to Other liabilities and deferred revenue.

**Used Vehicles.** We sell used vehicles both at auction and through our consolidated dealerships. Proceeds from the sale of these vehicles are recognized in Automotive revenues upon transfer of control of the vehicle to the customer and the related vehicle carrying value is recognized in Cost of sales.

**Extended Service Contracts.** We sell separately priced service contracts that extend mechanical and maintenance coverages beyond our base warranty agreements to vehicle owners. The separately priced service contracts range from 12 to 120 months. We receive payment at contract inception and recognize revenue over the term of the agreement in proportion to the costs we expect to incur in satisfying the contract obligations. At January 1, 2017 and December 31, 2017, \$3.5 billion and \$3.8 billion, respectively, of unearned revenue associated with outstanding contracts was reported in Other liabilities and deferred revenue. We recognized \$1 billion and \$1.1 billion of the unearned amounts as revenue during the years ended December 31, 2017 and 2018, respectively. At December 31, 2018, the unearned amount was \$4 billion. We expect to recognize approximately \$1.2 billion of the unearned amount in 2019, \$1.1 billion in 2020, and \$1.7 billion thereafter.

We record a premium deficiency reserve to the extent we estimate the future costs associated with these contracts exceed the unrecognized revenue. Amounts paid to dealers to obtain these contracts are deferred and recorded as Other assets. These costs are amortized to expense consistent with how the related revenue is recognized. We had a balance of \$232 million and \$247 million in deferred costs as of December 31, 2017 and 2018, respectively, and recognized \$63 million and \$73 million of amortization during the years ended December 31, 2017 and 2018, respectively.

**Other Revenue.** Other revenue consists primarily of net commissions received for serving as the agent in facilitating the sale of a third party's products or services to our customers, payments for vehicle-related design and testing services we perform for others, and revenue associated with various Mobility operations. We have applied the practical expedient to recognize Automotive revenues for vehicle-related design and testing services over the two to three year term of these agreements in proportion to the amount we have the right to invoice.

**Leasing Income.** We sell vehicles to daily rental companies with an obligation to repurchase the vehicles for a guaranteed amount, exercisable at the option of the customer. The transactions are accounted for as operating leases. Upon the transfer of vehicles to the daily rental companies, we record proceeds received in Other liabilities and deferred revenue. The difference between the proceeds received and the guaranteed repurchase amount is recorded in Automotive revenues over the term of the lease using a straight-line method. The cost of the vehicle is recorded in Net investment in operating leases on our consolidated balance sheet and the difference between the cost of the vehicle and the estimated auction value is depreciated in Cost of sales over the term of the lease.

Ford Credit Segment



Leasing Income. Ford Credit offers leasing plans to retail consumers through Ford and Lincoln brand dealers who originate the leases. Ford Credit records an operating lease upon purchase of a vehicle subject to a lease from the dealer. The retail consumer makes lease payments representing the difference between Ford Credit's purchase price of the vehicle and the contractual residual value of the vehicle, plus lease fees that we recognize on a straight-line basis over the term of the lease agreement. Depreciation and the gain or loss upon disposition of the vehicle is recorded in Ford Credit interest, operating, and other expenses.

FS-17

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

NOTE 4. REVENUE (Continued)

**Financing Income.** Ford Credit originates and purchases finance installment contracts. Financing income represents interest earned on the finance receivables (including direct financing leases). Interest is recognized using the interest method and includes the amortization of certain direct origination costs.

**Insurance Income.** Income from insurance contracts is recognized evenly over the term of the agreement. Insurance commission revenue is recognized on a net basis at the time of sale of the third party's product or service to our customer.

NOTE 5. OTHER INCOME/(LOSS)

The amounts included in Other income/(loss), net for the years ended December 31 were as follows (in millions):

	2016	2017	2018
Net periodic pension and OPEB income/(cost), excluding service cost	\$(1,625)	\$1,757	\$786
Investment-related interest income	291	459	667
Interest income/(expense) on income taxes	3	2	33
Realized and unrealized gains/(losses) on cash equivalents, marketable securities, and other securities	2	(23)	115
Gains/(Losses) on changes in investments in affiliates	139	14	42
Royalty income	714	678	491
Insurance premiums earned	156	—	—
Other	489	380	113
Total	\$169	\$3,267	\$2,247

NOTE 6. SHARE-BASED COMPENSATION

Under our Long-Term Incentive Plans, we may issue restricted stock units ("RSUs"), restricted stock shares ("RSSs"), and stock options. RSUs and RSSs consist of time-based and performance-based awards. The number of shares that may be granted in any year is limited to 2% of our issued and outstanding Common Stock as of December 31 of the prior calendar year. The limit may be increased up to 3% in any year, with a corresponding reduction in shares available for grants in future years. Granted RSUs generally cliff vest or ratably vest over a three-year service period.

Performance-based RSUs have two components: one based on internal financial performance metrics, and the other based on total shareholder return relative to an industrial and automotive peer group. At the time of vest, RSU awards are net settled (shares are withheld to cover the employee tax obligation).

The fair value of both the time-based and the internal performance metrics portion of the performance-based RSUs and RSSs is determined using the closing price of our Common Stock at grant date. The weighted average per unit grant date fair value for the years ended December 31, 2016, 2017, and 2018 was \$13.54, \$12.37, and \$9.89, respectively.

The fair value of time-based RSUs and RSSs is expensed over the shorter of the vesting period, using the graded vesting method, or the time period an employee becomes eligible to retain the award at retirement. The fair value of performance-based RSUs and RSSs is expensed when it is probable and estimable as measured against the performance metrics over the shorter of the performance or required service periods. We have elected to recognize forfeitures as an adjustment to compensation expense for all RSUs and RSSs in the same period as the forfeitures occur. Expense is recorded in Selling, administrative, and other expenses.

The fair value of vested RSUs and RSSs as well as the compensation cost for the years ended December 31 was as follows (in millions):

	2016	2017	2018
Fair value of vested shares	\$ 157	\$ 175	\$ 187
Compensation cost (a)	135	193	162

(a) Net of tax benefit of \$72 million, \$52 million, and \$29 million in 2016, 2017, and 2018, respectively.

FS-18

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 6. SHARE-BASED COMPENSATION (Continued)

As of December 31, 2018, there was approximately \$146 million in unrecognized compensation cost related to non-vested RSUs and RSSs. This expense will be recognized over a weighted average period of 1.9 years.

The performance-based RSUs granted in March 2016, 2017, and 2018 include a relative Total Shareholder Return (“TSR”) metric. We estimate the fair value of the TSR component of the performance-based RSUs using a Monte Carlo simulation. Inputs and assumptions used to calculate the fair value at grant date were as follows:

	2016	2017	2018
Fair value per stock award	\$15.56	\$12.44	\$9.03
Grant date stock price	13.54	12.66	10.40
Assumptions:			
Ford’s stock price expected volatility (a)	23.1 %	23.4 %	22.9 %
Expected average volatility of peer companies (a)	26.4	26.0	25.4
Risk-free interest rate	0.98	1.57	2.46
Dividend yield	4.43	4.74	5.00

(a) Expected volatility based on three years of daily closing share price changes ending on the grant date.

During 2018, activity for RSUs and RSSs was as follows (in millions, except for weighted average fair value):

	Shares	Weighted-Average Fair Value
Outstanding, beginning of year	44.4	\$ 13.32
Granted	37.7	9.89
Vested	(13.7 )	13.68
Forfeited	(4.3 )	13.85
Outstanding, end of year	64.1	10.80

The table above also includes shares awarded to non-employee directors. At December 31, 2018, there were 684,461 shares vested, but unissued.

### Stock Options

As of March 31, 2017, all of our outstanding stock options were fully vested. The last of our outstanding stock options will expire in July 2024, if not exercised sooner. We measure the fair value of our stock options using the Black-Scholes option-pricing model and record expense in Selling, administrative, and other expenses.

## NOTE 7. INCOME TAXES

We recognize income tax-related penalties in the Provision for/(Benefit from) income taxes on our consolidated income statement. We recognize income tax-related interest income and interest expense in Other income/(loss), net on our consolidated income statement.

We account for U.S. tax on global intangible low-tax income in the period incurred.

### Valuation of Deferred Tax Assets and Liabilities

Deferred tax assets and liabilities are recognized based on the future tax consequences attributable to temporary differences that exist between the financial statement carrying value of assets and liabilities and their respective tax bases, and operating loss and tax credit carryforwards on a taxing jurisdiction basis. We measure deferred tax assets and liabilities using enacted tax rates that will apply in the years in which we expect the temporary differences to be recovered or paid.

FS-19

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 7. INCOME TAXES (Continued)

Our accounting for deferred tax consequences represents our best estimate of the likely future tax consequences of events that have been recognized on our financial statements or tax returns and their future probability. In assessing the need for a valuation allowance, we consider both positive and negative evidence related to the likelihood of realization of the deferred tax assets. If, based on the weight of available evidence, it is more likely than not that the deferred tax assets will not be realized, we record a valuation allowance.

## Components of Income Taxes

Components of income taxes excluding cumulative effects of changes in accounting principles, other comprehensive income, and equity in net results of affiliated companies accounted for after-tax, for the years ended December 31 were as follows:

	2016	2017	2018		
Income before income taxes (in millions)					
U.S.	\$5,254	\$4,861	\$2,051		
Non-U.S.	1,530	3,298	2,294		
Total	\$6,784	\$8,159	\$4,345		
Provision for/(Benefit from) income taxes (in millions)					
Current					
Federal	\$(122 )	\$(125 )	\$75		
Non-U.S.	630	868	690		
State and local	12	85	(6 )		
Total current	520	828	759		
Deferred					
Federal	1,318	(1,214 )	(360 )		
Non-U.S.	121	593	239		
State and local	225	195	12		
Total deferred	1,664	(426 )	(109 )		
Total	\$2,184	\$402	\$650		
Reconciliation of effective tax rate					
U.S. statutory rate	35.0	% 35.0	% 21.0	%	
Non-U.S. tax rates under U.S. rates	(1.0 )	(4.9 )	(1.2 )		
State and local income taxes	2.3	2.2	2.0		
General business credits	(3.1 )	(3.6 )	(9.2 )		
Dispositions and restructurings	7.4	(11.7 )	4.6		
U.S. tax on non-U.S. earnings	(5.6 )	(7.0 )	8.1		
Prior year settlements and claims	—	(0.2 )	1.1		
Tax-exempt income	(0.9 )	—	—		
Enacted change in tax laws	(4.2 )	(8.2 )	(3.0 )		
Valuation allowances	2.7	5.6	(9.6 )		
Other	(0.4 )	(2.3 )	1.2		
Effective rate	32.2	% 4.9	% 15.0	%	

On December 22, 2017, the Tax Cuts and Jobs Act (H.R. 1) was signed into law. This act includes, among other items, a permanent reduction to the U.S. corporate income tax rate from 35% to 21% effective January 1, 2018, and requires immediate taxation of accumulated, unremitted non-U.S. earnings. As a result, at December 31, 2017, we recognized a tax benefit of \$739 million from revaluing U.S. net deferred tax liabilities and tax expense of \$219

million to record U.S. tax on unremitted non-U.S. earnings. Our 2018 tax provision includes an additional benefit of \$123 million reflecting updates to the impact of the act on our global operations.

Our 2016 tax provision includes a \$300 million benefit for the recognition of deferred taxes resulting from a 2016 change in U.S. tax law related to the taxation of foreign currency gains and losses for our non-U.S. branch operations.

FS-20

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 7. INCOME TAXES (Continued)

At December 31, 2018, \$8.8 billion of non-U.S. earnings are considered indefinitely reinvested in operations outside the United States, for which deferred taxes have not been provided. Repatriation of these earnings in their entirety would result in incremental tax liability of about \$300 million.

## Components of Deferred Tax Assets and Liabilities

The components of deferred tax assets and liabilities at December 31 were as follows (in millions):

	2017	2018
Deferred tax assets		
Employee benefit plans	\$5,293	\$4,039
Net operating loss carryforwards	2,235	1,825
Tax credit carryforwards	9,122	9,199
Research expenditures	577	437
Dealer and dealers' customer allowances and claims	1,442	1,552
Other foreign deferred tax assets	430	648
All other	1,591	1,765
Total gross deferred tax assets	20,690	19,465
Less: valuation allowances	(1,492)	(973)
Total net deferred tax assets	19,198	18,492
Deferred tax liabilities		
Leasing transactions	4,049	3,215
Deferred income	253	—
Depreciation and amortization (excluding leasing transactions)	2,646	2,865
Finance receivables	523	639
Other foreign deferred tax liabilities	842	948
All other	938	1,010
Total deferred tax liabilities	9,251	8,677
Net deferred tax assets/(liabilities)	\$9,947	\$9,815

At December 31, 2018, we have a valuation allowance of \$1 billion primarily related to deferred tax assets in various non-U.S. operations.

Deferred tax assets for net operating losses and other temporary differences related to certain non-U.S. operations have not been recorded as a result of elections to tax these operations simultaneously in U.S. tax returns. Reversal of these elections would result in the recognition of \$8.5 billion of deferred tax assets, subject to valuation allowance testing.

Operating loss carryforwards for tax purposes were \$4.8 billion at December 31, 2018, resulting in a deferred tax asset of \$1.8 billion. There is no expiration date for \$3.6 billion of these losses. A substantial portion of the remaining losses will expire beyond 2022. Tax credits available to offset future tax liabilities are \$9.2 billion. Approximately half of these credits have a remaining carryforward period of five years or more. Tax benefits of operating loss and tax credit carryforwards are evaluated on an ongoing basis, including a review of historical and projected future operating results, the eligible carryforward period, and available tax planning strategies.



FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 7. INCOME TAXES (Continued)

## Other

A reconciliation of the beginning and ending amount of unrecognized tax benefits for the years ended December 31 were as follows (in millions):

	2017	2018
Beginning balance	\$1,586	\$2,063
Increase – tax positions in prior periods	716	90
Increase – tax positions in current period	44	45
Decrease – tax positions in prior periods	(22 )	(133 )
Settlements	(263 )	—
Lapse of statute of limitations	(10 )	—
Foreign currency translation adjustment	12	(18 )
Ending balance	\$2,063	\$2,047

The amount of unrecognized tax benefits that would affect the effective tax rate if recognized was \$2 billion at both December 31, 2017 and 2018.

Examinations by tax authorities have been completed through 2004 in Germany, 2011 in Canada, 2011 in the United States, and 2014 in China and the United Kingdom. Although examinations have been completed in these jurisdictions, limited transfer pricing disputes exist for years dating back to 2005.

Net interest income on income taxes was \$3 million, \$2 million, and \$33 million for the years ended December 31, 2016, 2017, and 2018, respectively. These were reported in Other income/(loss), net in our consolidated income statement. Net payables for tax related interest were \$70 million and \$29 million as of December 31, 2017 and 2018, respectively.

We paid income taxes of \$740 million, \$586 million, and \$821 million in 2016, 2017, and 2018, respectively.

FS-22

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

NOTE 8. CAPITAL STOCK AND EARNINGS PER SHARE

All general voting power is vested in the holders of Common Stock and Class B Stock. Holders of our Common Stock have 60% of the general voting power and holders of our Class B Stock are entitled to such number of votes per share as will give them the remaining 40%. Shares of Common Stock and Class B Stock share equally in dividends when and as paid, with stock dividends payable in shares of stock of the class held.

If liquidated, each share of Common Stock is entitled to the first \$0.50 available for distribution to holders of Common Stock and Class B Stock, each share of Class B Stock is entitled to the next \$1.00 so available, each share of Common Stock is entitled to the next \$0.50 so available, and each share of Common and Class B Stock is entitled to an equal amount thereafter.

We present both basic and diluted earnings per share (“EPS”) amounts in our financial reporting. Basic EPS excludes dilution and is computed by dividing income available to Common and Class B Stock holders by the weighted-average number of Common and Class B Stock outstanding for the period. Diluted EPS reflects the maximum potential dilution that could occur from our share-based compensation, including “in-the-money” stock options, unvested restricted stock units, and unvested restricted stock shares. Potentially dilutive shares are excluded from the calculation if they have an anti-dilutive effect in the period.

Earnings Per Share Attributable to Ford Motor Company Common and Class B Stock

Basic and diluted income per share were calculated using the following (in millions):

	2016	2017	2018
Basic and Diluted Income Attributable to Ford Motor Company			
Basic income	\$4,589	\$7,731	\$3,677
Diluted income	4,589	7,731	3,677
Basic and Diluted Shares			
Basic shares (average shares outstanding)	3,973	3,975	3,974
Net dilutive options, unvested restricted stock units, and unvested restricted stock shares	26	23	24
Diluted shares	3,999	3,998	3,998

FS-23

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 9. CASH, CASH EQUIVALENTS, AND MARKETABLE SECURITIES

The fair values of cash, cash equivalents, and marketable securities measured at fair value on a recurring basis were as follows (in millions):

	Fair Value Level	December 31, 2017			Consolidated
		Automotive	Mobility	Ford Credit	
Cash and cash equivalents					
U.S. government	1	\$913	\$ —	\$—	\$ 913
U.S. government agencies	2	433	—	300	733
Non-U.S. government and agencies	2	—	—	703	703
Corporate debt	2	55	—	25	80
Total marketable securities classified as cash equivalents		1,401	—	1,028	2,429
Cash, time deposits, and money market funds		7,529	4	8,530	16,063
Total cash and cash equivalents		\$8,930	\$ 4	\$9,558	\$ 18,492
Marketable securities					
U.S. government	1	\$5,580	\$ —	\$966	\$ 6,546
U.S. government agencies	2	2,484	—	384	2,868
Non-U.S. government and agencies	2	5,270	—	660	5,930
Corporate debt	2	4,031	—	848	4,879
Equities (a)	1	138	—	—	138
Other marketable securities	2	51	—	23	74
Total marketable securities		\$17,554	\$ —	\$2,881	\$ 20,435
Restricted Cash		\$15	\$ 7	\$124	\$ 146
December 31, 2018					
	Fair Value Level	Automotive	Mobility	Ford Credit	Consolidated
Cash and cash equivalents					
U.S. government	1	\$220	\$ —	\$139	\$ 359
U.S. government agencies	2	496	—	25	521
Non-U.S. government and agencies	2	169	—	114	283
Corporate debt	2	174	—	884	1,058
Total marketable securities classified as cash equivalents		1,059	—	1,162	2,221
Cash, time deposits, and money market funds		5,999	53	8,445	14,497
Total cash and cash equivalents		\$7,058	\$ 53	\$9,607	\$ 16,718
Marketable securities					
U.S. government	1	\$3,014	\$ —	\$289	\$ 3,303
U.S. government agencies	2	1,953	—	65	2,018
Non-U.S. government and agencies	2	4,674	—	610	5,284
Corporate debt	2	5,614	—	198	5,812
Equities (a)	1	424	—	—	424
Other marketable securities	2	246	—	146	392

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Total marketable securities	\$15,925	\$ —	\$1,308	\$ 17,233
Restricted Cash	\$16	\$ 33	\$140	\$ 189

(a) Net unrealized gains/losses on equities were a \$27 million loss and a \$25 million gain at December 31, 2017 and 2018, respectively.

FS-24

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 9. CASH, CASH EQUIVALENTS, AND MARKETABLE SECURITIES (Continued)

The cash equivalents and marketable securities accounted for as available-for-sale (“AFS”) securities were as follows (in millions):

	December 31, 2017				Fair Value of Securities with Contractual Maturities		
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Within 1 Year	After 1 Year through 5 Years	After 5 Years
Automotive							
U.S. government	\$3,669	\$ —	\$ (18 )	\$3,651	\$1,377	\$2,274	\$ —
U.S. government agencies	1,915	—	(15 )	1,900	265	1,620	15
Non-U.S. government and agencies	4,021	—	(28 )	3,993	197	3,771	25
Corporate debt	1,716	1	(8 )	1,709	194	1,509	6
Other marketable securities	17	—	—	17	—	16	1
Total	\$11,338	\$ 1	\$ (69 )	\$11,270	\$2,033	\$9,190	\$ 47

	December 31, 2018				Fair Value of Securities with Contractual Maturities		
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Within 1 Year	After 1 Year through 5 Years	After 5 Years
Automotive							
U.S. government	\$2,933	\$ 5	\$ (10 )	\$2,928	\$1,714	\$1,214	\$ —
U.S. government agencies	1,920	—	(18 )	1,902	797	1,087	18
Non-U.S. government and agencies	3,841	4	(37 )	3,808	194	3,614	—
Corporate debt	4,010	3	(33 )	3,980	1,148	2,830	2
Other marketable securities	207	—	—	207	1	134	72
Total	\$12,911	\$ 12	\$ (98 )	\$12,825	\$3,854	\$8,879	\$ 92

Sales proceeds and gross realized gains/losses from the sale of AFS debt securities for the years ended December 31 were as follows (in millions):

	2016	2017	2018
Automotive			
Sales proceeds	\$ 69	\$3,315	\$5,512
Gross realized gains	1	3	1
Gross realized losses	—	8	21

FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 9. CASH, CASH EQUIVALENTS, AND MARKETABLE SECURITIES (Continued)

The present fair values and gross unrealized losses for cash equivalents and marketable securities accounted for as AFS securities that were in an unrealized loss position, aggregated by investment category and the length of time that individual securities have been in a continuous loss position, were as follows (in millions):

	December 31, 2017					
	Less than 1 year		1 Year or Greater		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
Automotive						
U.S. government	\$2,382	\$ (9 )	\$903	\$ (9 )	\$3,285	\$ (18 )
U.S. government agencies	1,625	(12 )	260	(3 )	1,885	(15 )
Non-U.S. government and agencies	3,148	(20 )	510	(8 )	3,658	(28 )
Corporate debt	1,396	(8 )	—	—	1,396	(8 )
Total	\$8,551	\$ (49 )	\$1,673	\$ (20 )	\$10,224	\$ (69 )

	December 31, 2018					
	Less than 1 year		1 Year or Greater		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
Automotive						
U.S. government	\$199	\$ (1 )	\$1,637	\$ (9 )	\$1,836	\$ (10 )
U.S. government agencies	193	(1 )	1,596	(17 )	1,789	(18 )
Non-U.S. government and agencies	341	(1 )	2,445	(36 )	2,786	(37 )
Corporate debt	1,816	(16 )	856	(17 )	2,672	(33 )
Other marketable securities	125	—	—	—	125	—
Total	\$2,674	\$ (19 )	\$6,534	\$ (79 )	\$9,208	\$ (98 )

During the years ended December 31, 2016, 2017, and 2018, we did not recognize any other-than-temporary impairment loss.

## Cash, Cash Equivalents, and Restricted Cash

Cash, cash equivalents, and restricted cash as reported in the consolidated statement of cash flows were as follows (in millions):

	December 31, 2017	December 31, 2018
Cash and cash equivalents	\$ 18,492	\$ 16,718
Restricted cash (a)	146	189
Total cash, cash equivalents, and restricted cash	\$ 18,638	\$ 16,907

(a) Included in Other assets in the non-current assets section of our consolidated balance sheet.

## Other Securities

We have investments in entities for which we do not have the ability to exercise significant influence and fair values are not readily available. We have elected to record these investments at cost (less impairment, if any), adjusted for

observable price changes in orderly transactions for the identical or a similar investment of the same issuer. We report the carrying value of these investments in Other assets in the non-current assets section of our consolidated balance sheet. These investments were \$363 million and \$250 million at December 31, 2017 and 2018, respectively. In 2018, there were no material adjustments to the fair values of these investments held at December 31, 2018.

FS-26

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 10. FORD CREDIT FINANCE RECEIVABLES

Ford Credit manages finance receivables as “consumer” and “non-consumer” portfolios. The receivables are generally secured by the vehicles, inventory, or other property being financed.

Finance receivables are recorded at time of origination or purchase at fair value and are subsequently reported at amortized cost, net of any allowance for credit losses.

**Consumer Portfolio.** Receivables in this portfolio include products offered to individuals and businesses that finance the acquisition of Ford and Lincoln vehicles from dealers for personal or commercial use. Retail financing includes retail installment contracts for new and used vehicles and direct financing leases with retail customers, government entities, daily rental companies, and fleet customers.

**Non-Consumer Portfolio.** Receivables in this portfolio include products offered to automotive dealers. Dealer financing includes wholesale loans to dealers to finance the purchase of vehicle inventory, also known as floorplan financing, as well as loans to dealers to finance working capital and improvements to dealership facilities, finance the purchase of dealership real estate, and finance other dealer programs. Wholesale financing is approximately 93% of our dealer financing.

Finance receivables, net at December 31 were as follows (in millions):

	2017	2018
Consumer		
Retail financing, gross	\$78,331	\$79,622
Unearned interest supplements	(3,280 )	(3,508 )
Consumer finance receivables	75,051	76,114
Non-Consumer		
Dealer financing	33,938	34,372
Non-Consumer finance receivables	33,938	34,372
Total recorded investment	\$108,989	\$110,486
Recorded investment in finance receivables	\$108,989	\$110,486
Allowance for credit losses	(597 )	(589 )
Finance receivables, net	\$108,392	\$109,897
Current portion	\$52,210	\$54,353
Non-current portion	56,182	55,544
Finance receivables, net	\$108,392	\$109,897
Net finance receivables subject to fair value (a)	\$105,106	\$106,142
Fair value	104,521	105,676

At December 31, 2017 and 2018, Finance receivables, net includes \$3.3 billion and \$3.8 billion, respectively, of (a) direct financing leases that are not subject to fair value disclosure requirements. The fair value of finance receivables is categorized within Level 3 of the fair value hierarchy.

Excluded from finance receivables at December 31, 2017 and 2018, was \$240 million and \$264 million, respectively, of accrued uncollected interest, which is reported as Other assets in the current assets section of our consolidated balance sheet.



FS-27

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 10. FORD CREDIT FINANCE RECEIVABLES (Continued)

Included in the recorded investment in finance receivables at December 31, 2017 and 2018 were consumer receivables of \$38.9 billion and \$40.7 billion, respectively, and non-consumer receivables of \$24.5 billion and \$25.7 billion, respectively, that have been sold for legal purposes in securitization transactions but continue to be reported in our consolidated financial statements. The receivables are available only for payment of the debt issued by, and other obligations of, the securitization entities that are parties to those securitization transactions; they are not available to pay the other obligations or the claims of Ford Credit's other creditors. Ford Credit holds the right to receive the excess cash flows not needed to pay the debt issued by, and other obligations of, the securitization entities that are parties to those securitization transactions (see Note 22).

Contractual maturities of total finance receivables outstanding at December 31, 2018 reflect contractual repayments due from customers or borrowers as follows (in millions):

	Due in Year Ending December 31,				Total
	2019	2020	2021	Thereafter	
Consumer					
Retail financing, gross (a)	\$23,564	\$20,518	\$16,716	\$18,824	\$79,622
Non-Consumer					
Dealer financing	32,281	661	200	1,230	34,372
Total finance receivables	\$55,845	\$21,179	\$16,916	\$20,054	\$113,994

(a) Contractual maturities of retail financing, gross include \$309 million of estimated unguaranteed residual values related to direct financing leases.

Our finance receivables are generally pre-payable without penalty, so prepayments may cause actual maturities to differ from contractual maturities.

## Aging

For all finance receivables, we define "past due" as any payment, including principal and interest, that is at least 31 days past the contractual due date. The recorded investment of consumer receivables greater than 90 days past due and still accruing interest was \$24 million and \$20 million at December 31, 2017 and 2018, respectively.

The aging analysis of our finance receivables balances at December 31 was as follows (in millions):

	2017	2018
Consumer		
31-60 days past due	\$748	\$859
61-90 days past due	113	123
91-120 days past due	36	39
Greater than 120 days past due	37	39
Total past due	934	1,060
Current	74,117	75,054
Consumer finance receivables	75,051	76,114
Non-Consumer		
Total past due	122	76

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Current	33,816	34,296
Non-Consumer finance receivables	33,938	34,372
Total recorded investment	\$ 108,989	\$ 110,486

FS-28

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

NOTE 10. FORD CREDIT FINANCE RECEIVABLES (Continued)

Credit Quality

Consumer Portfolio. When originating all classes of consumer receivables (i.e., retail and lease products), we use a proprietary scoring system that measures credit quality using information in the credit application, proposed contract terms, credit bureau data, and other information. After a proprietary risk score is generated, we decide whether to originate a contract using a decision process based on a judgmental evaluation of the applicant, the credit application, the proposed contract terms, credit bureau information (e.g., FICO score), proprietary risk score, and other information. Our evaluation emphasizes the applicant's ability to pay and creditworthiness focusing on payment, affordability, applicant credit history, and stability as key considerations.

After origination, we review the credit quality of retail financing based on customer payment activity. As each customer develops a payment history, we use an internally developed behavioral scoring model to assist in determining the best collection strategies, which allows us to focus collection activity on higher-risk accounts. These models are used to refine our risk-based staffing model to ensure collection resources are aligned with portfolio risk. Based on data from this scoring model, contracts are categorized by collection risk. Our collection models evaluate several factors, including origination characteristics, updated credit bureau data, and payment patterns.

Credit quality ratings for consumer receivables are based on aging. Consumer receivables credit quality ratings are as follows:

- Pass – current to 60 days past due;
- Special Mention – 61 to 120 days past due and in intensified collection status; and
- Substandard – greater than 120 days past due and for which the uncollectible portion of the receivables has already been charged off, as measured using the fair value of collateral less costs to sell.

Non-Consumer Portfolio. We extend credit to dealers primarily in the form of lines of credit to purchase new Ford and Lincoln vehicles as well as used vehicles. Payment is required when the dealer has sold the vehicle. Each non-consumer lending request is evaluated by considering the borrower's financial condition and the underlying collateral securing the loan. We use a proprietary model to assign each dealer a risk rating. This model uses historical dealer performance data to identify key factors about a dealer that we consider most significant in predicting a dealer's ability to meet its financial obligations. We also consider numerous other financial and qualitative factors of the dealer's operations, including capitalization and leverage, liquidity and cash flow, profitability, and credit history with ourselves and other creditors.

Dealers are assigned to one of four groups according to risk ratings as follows:

- Group I – strong to superior financial metrics;
- Group II – fair to favorable financial metrics;
- Group III – marginal to weak financial metrics; and
- Group IV – poor financial metrics, including dealers classified as uncollectible.

We generally suspend credit lines and extend no further funding to dealers classified in Group IV.

We regularly review our model to confirm the continued business significance and statistical predictability of the model and may make updates to improve the performance of the model. In addition, we regularly audit dealer inventory and dealer sales records to verify that the dealer is in possession of the financed vehicles and is promptly

paying each receivable following the sale of the financed vehicle. The frequency of on-site vehicle inventory audits depends primarily on the dealer's risk rating. Under our policies, on-site vehicle inventory audits of low-risk dealers are conducted only as circumstances warrant. On-site vehicle inventory audits of higher-risk dealers are conducted with increased frequency based primarily on the dealer's risk rating, but also considering the results of our electronic monitoring of the dealer's performance, including daily payment verifications and monthly analysis of the dealer's financial statements, payoffs, aged inventory, over credit line and delinquency reports. We typically perform a credit review of each dealer annually and more frequently review certain dealers based on the dealer's risk rating and total exposure. We adjust the dealer's risk rating, if necessary.

The credit quality of dealer financing receivables is evaluated based on our internal dealer risk rating analysis. A dealer has the same risk rating for its entire dealer financing regardless of the type of financing.

FS-29

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FORD MOTOR COMPANY AND SUBSIDIARIES  
 NOTES TO THE FINANCIAL STATEMENTS

NOTE 10. FORD CREDIT FINANCE RECEIVABLES (Continued)

The credit quality analysis of our dealer financing receivables at December 31 was as follows (in millions):

	2017	2018
Dealer Financing		
Group I	\$26,252	\$27,032
Group II	5,908	5,635
Group III	1,640	1,576
Group IV	138	129
Total recorded investment	\$33,938	\$34,372

Impaired Receivables. Impaired consumer receivables include accounts that have been rewritten or modified in reorganization proceedings pursuant to the U.S. Bankruptcy Code that are considered to be Troubled Debt Restructurings (“TDRs”), as well as all accounts greater than 120 days past due. Impaired non-consumer receivables represent accounts with dealers that have weak or poor financial metrics or dealer financing that has been modified in TDRs. The recorded investment of consumer receivables that were impaired at December 31, 2017 and 2018 was \$386 million and \$370 million, or 0.5% and 0.5% of consumer receivables, respectively. The recorded investment of non-consumer receivables that were impaired at December 31, 2017 and 2018 was \$138 million and \$129 million, or 0.4% and 0.4% of non-consumer receivables, respectively. Impaired finance receivables are evaluated both collectively and specifically.

The accrual of revenue is discontinued at the time a receivable is determined to be uncollectible. Accounts may be restored to accrual status only when a customer settles all past-due deficiency balances and future payments are reasonably assured. For receivables in non-accrual status, subsequent financing revenue is recognized only to the extent a payment is received. Payments are generally applied first to outstanding interest and then to the unpaid principal balance.

A restructuring of debt constitutes a TDR if we grant a concession to a debtor for economic or legal reasons related to the debtor’s financial difficulties that we otherwise would not consider. Consumer and non-consumer receivables that have a modified interest rate below market rate or that were modified in reorganization proceedings pursuant to the U.S. Bankruptcy Code, except non-consumer receivables that are current with minimal risk of loss, are considered to be TDRs. We do not grant concessions on the principal balance of our receivables. If a receivable is modified in a reorganization proceeding, all payment requirements of the reorganization plan need to be met before remaining balances are forgiven. Finance receivables involved in TDRs are specifically assessed for impairment.

FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

NOTE 11. FORD CREDIT ALLOWANCE FOR CREDIT LOSSES

The allowance for credit losses represents our estimate of the probable credit loss inherent in finance receivables as of the balance sheet date. The adequacy of the allowance for credit losses is assessed quarterly and the assumptions and models used in establishing the allowance are evaluated regularly. Because credit losses may vary substantially over time, estimating credit losses requires a number of assumptions about matters that are uncertain. The majority of credit losses are attributable to Ford Credit's consumer receivables portfolio.

Additions to the allowance for credit losses are made by recording charges to Ford Credit interest, operating, and other expenses on our consolidated income statement. The uncollectible portion of finance receivables are charged to the allowance for credit losses at the earlier of when an account is deemed to be uncollectible or when an account is 120 days delinquent, taking into consideration the financial condition of the customer, borrower, or lessee, the value of the collateral, recourse to guarantors, and other factors.

In the event we repossess the collateral, the receivable is charged off and we record the collateral at its estimated fair value less costs to sell and report it in Other assets on our consolidated balance sheet. Charge-offs on finance receivables include uncollected amounts related to principal, interest, late fees, and other allowable charges. Recoveries on finance receivables previously charged off as uncollectible are credited to the allowance for credit losses.

Consumer

We estimate the allowance for credit losses on our consumer receivables using a combination of measurement models and management judgment. The models consider factors such as historical trends in credit losses and recoveries (including key metrics such as delinquencies, repossessions, and bankruptcies), the composition of the present portfolio (including vehicle brand, term, risk evaluation, and new/used vehicles), trends in historical used vehicle values, and economic conditions. Estimates from these models rely on historical information and may not fully reflect losses inherent in the present portfolio. Therefore, we may adjust the estimate to reflect management judgment regarding observable changes in recent economic trends and conditions, portfolio composition, and other relevant factors.

We make projections of two key assumptions to assist in estimating the consumer allowance for credit losses:

• Frequency - number of finance receivables contracts that are expected to default over the loss emergence period ("LEP"), measured as repossessions; and

• Loss severity - expected difference between the amount a customer owes when the finance contract is charged off and the amount received, net of expenses, from selling the repossessed vehicle.

Collective Allowance for Credit Losses. The collective allowance is evaluated primarily using a collective loss-to-receivables ("LTR") model that, based on historical experience, indicates credit losses have been incurred in the portfolio even though the particular accounts that are uncollectible cannot be specifically identified. The LTR model is based on the most recent years of history. An LTR for each product is calculated by dividing credit losses (i.e., charge-offs net of recoveries) by average net finance receivables, excluding unearned interest supplements and allowance for credit losses. The average LTR that is calculated for each product is multiplied by the end-of-period balances for that given product.

FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

NOTE 11. FORD CREDIT ALLOWANCE FOR CREDIT LOSSES (Continued)

Our largest markets also use a loss projection model to estimate losses inherent in the portfolio. The loss projection model applies recent monthly performance metrics, stratified by contract type (retail or lease), contract term, and risk rating to our active portfolio to estimate the losses that have been incurred.

The LEP is an assumption within our models and represents the average amount of time between when a loss event first occurs to when it is charged off. This time period starts when the consumer begins to experience financial difficulty. It is evidenced, typically through delinquency, before eventually resulting in a charge-off. The LEP is a multiplier in the calculation of the collective consumer allowance for credit losses.

For accounts greater than 120 days past due, the uncollectible portion is charged off, such that the remaining recorded investment is equal to the estimated fair value of the collateral less costs to sell.

**Specific Allowance for Impaired Receivables.** Consumer receivables involved in TDRs are specifically assessed for impairment. A specific allowance is estimated based on the present value of the expected future cash flows of the receivable discounted at the contract's original effective interest rate or the fair value of any collateral adjusted for estimated costs to sell.

After establishing the collective and specific allowance for credit losses, if management believes the allowance does not reflect all losses inherent in the portfolio due to changes in recent economic trends and conditions, or other relevant factors, an adjustment is made based on management judgment.

**Non-Consumer**

We estimate the allowance for credit losses for non-consumer receivables based on historical LTR ratios, expected future cash flows, and the fair value of collateral.

**Collective Allowance for Credit Losses.** We estimate an allowance for non-consumer receivables that are not specifically identified as impaired using an LTR model for each financing product based on historical experience. This LTR is an average of the most recent historical experience and is calculated consistent with the consumer receivables LTR approach. All accounts that are specifically identified as impaired are excluded from the calculation of the non-specific or collective allowance.

**Specific Allowance for Impaired Receivables.** Dealer financing is evaluated by segmenting individual loans by the risk characteristics of the loan (such as the amount of the loan, the nature of the collateral, and the financial status of the debtor). The loans are analyzed to determine whether individual loans are impaired, and a specific allowance is estimated based on the present value of the expected future cash flows of the receivable discounted at the loan's original effective interest rate or the fair value of the collateral adjusted for estimated costs to sell.

After establishing the collective and the specific allowance for credit losses, if management believes the allowance does not reflect all losses inherent in the portfolio due to changes in recent economic trends and conditions, or other relevant factors, an adjustment is made based on management judgment.



FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 11. FORD CREDIT ALLOWANCE FOR CREDIT LOSSES (Continued)

An analysis of the allowance for credit losses related to finance receivables for the years ended December 31 was as follows (in millions):

	2017		
	Consumer	Non-Consumer	Total
Allowance for credit losses			
Beginning balance	\$469	\$ 15	\$484
Charge-offs	(510 )	(7 )	(517 )
Recoveries	139	9	148
Provision for credit losses	471	(2 )	469
Other (a)	13	—	13
Ending balance (b)	\$582	\$ 15	\$597
Analysis of ending balance of allowance for credit losses			
Collective impairment allowance	\$560	\$ 13	\$573
Specific impairment allowance	22	2	24
Ending balance (b)	582	15	597
Analysis of ending balance of finance receivables			
Collectively evaluated for impairment	74,665	33,800	108,465
Specifically evaluated for impairment	386	138	524
Recorded investment	75,051	33,938	108,989
Ending balance, net of allowance for credit losses	\$74,469	\$ 33,923	\$108,392

(a) Primarily represents amounts related to translation adjustments.

(b) Total allowance, including for operating leases, was \$668 million.

	2018		
	Consumer	Non-Consumer	Total
Allowance for credit losses			
Beginning balance	\$582	\$ 15	\$597
Charge-offs (a)	(528 )	(67 )	(595 )
Recoveries	163	7	170
Provision for credit losses	359	68	427
Other (b)	(10 )	—	(10 )
Ending balance (c)	\$566	\$ 23	\$589
Analysis of ending balance of allowance for credit losses			
Collective impairment allowance	\$546	\$ 14	\$560
Specific impairment allowance	20	9	29
Ending balance (c)	566	23	589
Analysis of ending balance of finance receivables			
Collectively evaluated for impairment	75,744	34,243	109,987
Specifically evaluated for impairment	370	129	499
Recorded investment	76,114	34,372	110,486

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Ending balance, net of allowance for credit losses \$75,548 \$ 34,349 \$109,897

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(a) Non-consumer charge-offs primarily reflect a U.S. dealer's floorplan inventory and dealer loan determined to be uncollectible.

(b) Primarily represents amounts related to translation adjustments.

(c) Total allowance, including for operating leases, was \$667 million.

FS-33

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 12. INVENTORIES

All inventories are stated at the lower of cost or net realizable value. Inventories at December 31 were as follows (in millions):

	2017	2018
Raw materials, work-in-process, and supplies	\$4,397	\$4,536
Finished products	6,779	6,684
Total inventories	\$11,176	\$11,220

## NOTE 13. NET INVESTMENT IN OPERATING LEASES

Net investment in operating leases consist primarily of lease contracts for vehicles with retail customers, daily rental companies, government entities, and fleet customers. Assets subject to operating leases are depreciated using the straight-line method over the term of the lease to reduce the asset to its estimated residual value. Estimated residual values are based on assumptions for used vehicle prices at lease termination and the number of vehicles that are expected to be returned.

The net investment in operating leases at December 31 was as follows (in millions):

	2017	2018
Automotive Segment		
Vehicles, net of depreciation	\$1,574	\$1,705
Ford Credit Segment		
Vehicles and other equipment, at cost (a)	32,659	33,557
Accumulated depreciation	(5,927 )	(6,065 )
Allowance for credit losses	(71 )	(78 )
Total Ford Credit Segment	26,661	27,414
Total	\$28,235	\$29,119

Includes Ford Credit's operating lease assets of \$11.5 billion and \$16.3 billion at December 31, 2017 and 2018, respectively, which have been included in certain lease securitization transactions. These net investments in (a) operating leases are available only for payment of the debt or other obligations issued or arising in the securitization transactions; they are not available to pay other obligations or the claims of other creditors.

## Ford Credit Segment

Included in Ford Credit interest, operating, and other expense is operating lease depreciation expense (which includes gains and losses on disposal of assets). Operating lease depreciation expense for the years ended December 31 was as follows (in millions):

	2016	2017	2018
Operating lease depreciation expense	\$4,330	\$4,135	\$3,867

Included in Ford Credit revenues are rents on operating leases. The amounts contractually due for minimum rentals on operating leases at December 31, 2018 were as follows (in millions):

	2019	2020	2021	2022	Thereafter	Total
Minimum rentals on operating leases	\$4,708	\$2,929	\$1,083	\$ 83	\$ 6	\$8,809



FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 14. NET PROPERTY AND LEASE COMMITMENTS

## Net Property

Net property is reported at cost, net of accumulated depreciation and impairments. We capitalize new assets when we expect to use the asset for more than one year. Routine maintenance and repair costs are expensed when incurred.

Property and equipment are depreciated primarily using the straight-line method over the estimated useful life of the asset. Useful lives range from 3 years to 36 years. The estimated useful lives generally are 14.5 years for machinery and equipment, 8 years for software, 30 years for land improvements, and 36 years for buildings. Tooling generally is amortized over the expected life of a product program using a straight-line method.

Net property at December 31 was as follows (in millions):

	2017	2018
Land	\$411	\$445
Buildings and land improvements	11,096	11,477
Machinery, equipment, and other	37,533	38,720
Software	3,118	3,349
Construction in progress	2,608	2,066
Total land, plant and equipment, and other	54,766	56,057
Accumulated depreciation	(29,862 )	(30,243 )
Net land, plant and equipment, and other	24,904	25,814
Tooling, net of amortization	10,423	10,364
Total	\$35,327	\$36,178

Property-related expenses excluding net investment in operating leases for the years ended December 31 were as follows (in millions):

	2016	2017	2018
Depreciation and other amortization	\$2,130	\$2,292	\$2,504
Tooling amortization	2,563	2,695	2,909
Total	\$4,693	\$4,987	\$5,413

Maintenance and rearrangement	\$1,801	\$1,970	\$1,994
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## Lease Commitments

We lease land, buildings, and equipment under agreements that expire over various contractual periods. Minimum non-cancellable operating lease commitments at December 31, 2018 were as follows (in millions):

	Operating Lease Commitments
2019	\$ 363
2020	271
2021	193
2022	141
2023	106
Thereafter <sup>437</sup>	
Total	\$ 1,511

FS-35

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 14. NET PROPERTY AND LEASE COMMITMENTS (Continued)

Operating lease expense for the years ended December 31 was as follows (in millions):

Operating Lease Expense
2016\$ 474
2017526
2018552

## NOTE 15. EQUITY IN NET ASSETS OF AFFILIATED COMPANIES

We use the equity method of accounting for our investments in entities over which we do not have control, but over whose operating and financial policies we are able to exercise significant influence.

Our carrying value and ownership percentages of our equity method investments at December 31 were as follows (in millions, except percentages):

	Investment Balance		Ownership Percentage
	2017	2018	2018
Changan Ford Automobile Corporation, Limited	\$1,144	\$950	50.0 %
Jiangling Motors Corporation, Limited	675	543	32.0
AutoAlliance (Thailand) Co., Ltd.	439	431	50.0
Ford Otomotiv Sanayi Anonim Sirketi	329	247	41.0
Getrag Ford Transmissions GmbH	222	236	50.0
FFS Finance South Africa (Pty) Limited	71	81	50.0
Changan Ford Mazda Engine Company, Ltd.	84	71	25.0
Ionity Holding GmbH & Co. KG	12	42	25.0
DealerDirect LLC	33	33	97.7
RouteOne LLC	24	31	30.0
Thirdware Solutions Limited	12	12	20.0
Percepta, LLC	8	10	45.0
Chongqing ANTE Trading Co., Ltd.	5	6	10.0
U.S. Council for Automotive Research LLC	5	6	33.3
Crash Avoidance Metrics Partnership LLC	3	4	50.0
Blue Diamond Parts, LLC	3	3	25.0
CNF-Administradora de Consorcio Nacional Ltda.	6	3	33.3
Automotive Fuel Cell Cooperation Corporation	10	—	49.9
ZF Transmission Tech, LLC	—	—	49.0
Total	\$3,085	\$2,709	

FS-36

FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 15. EQUITY IN NET ASSETS OF AFFILIATED COMPANIES (Continued)

We received \$1.6 billion, \$1.4 billion, and \$330 million of dividends from these affiliated companies for the years ended December 31, 2016, 2017, and 2018, respectively.

A summary of the total financial results, as reported by our equity method investees, in the aggregate at December 31 was as follows (in millions):

Summarized Balance Sheet	2017	2018
Current assets	\$10,191	\$8,277
Non-current assets	9,796	9,733
Total assets	\$19,987	\$18,010
Current liabilities	\$10,557	\$9,190
Non-current liabilities	3,022	3,149
Total liabilities	\$13,579	\$12,339
Equity attributable to noncontrolling interests	\$10	\$11

	For the years ended December 31,		
Summarized Income Statement	2016	2017	2018
Total revenue	\$36,992	\$35,172	\$27,196
Income before income taxes	4,401	2,980	484
Net income	3,747	2,584	463

In the ordinary course of business, we buy/sell various products and services including vehicles, parts, and components to/from our equity method investees. In addition, we receive royalty income.

Transactions with equity method investees reported for the years ended or at December 31 were as follows (in millions):

	For the years ended December 31,		
Income Statement	2016	2017	2018
Sales	\$4,367	\$4,481	\$4,426
Purchases	8,665	9,422	10,477
Royalty income	649	583	374

Balance Sheet	2017	2018
Receivables	\$769	\$634
Payables	850	663



FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 16. OTHER LIABILITIES AND DEFERRED REVENUE

Other liabilities and deferred revenue at December 31 were as follows (in millions):

	2017	2018
Current		
Dealer and dealers' customer allowances and claims	\$ 10,902	\$ 11,369
Deferred revenue	2,107	2,095
Employee benefit plans	1,661	1,755
Accrued interest	1,057	988
OPEB	348	339
Pension	229	204
Other	3,393	3,806
Total current other liabilities and deferred revenue	\$ 19,697	\$ 20,556
Non-current		
Pension	\$ 9,932	\$ 9,423
OPEB	5,821	5,220
Dealer and dealers' customer allowances and claims	2,471	2,497
Deferred revenue	3,829	3,985
Employee benefit plans	1,139	1,080
Other	1,519	1,383
Total non-current other liabilities and deferred revenue	\$ 24,711	\$ 23,588

## NOTE 17. RETIREMENT BENEFITS

Defined benefit pension and OPEB plan obligations are remeasured at least annually as of December 31 based on the present value of projected future benefit payments for all participants for services rendered to date. The measurement of projected future benefits is dependent on the provisions of each specific plan, demographics of the group covered by the plan, and other key measurement assumptions. For plans that provide benefits dependent on salary assumptions, we include a projection of salary growth in our measurements. No assumption is made regarding any potential future changes to benefit provisions beyond those to which we are presently committed (e.g., in existing labor contracts).

Net periodic benefit costs, including service cost, interest cost, and expected return on assets are determined using assumptions regarding the benefit obligation and the fair value of plan assets (where applicable) as of the beginning of each year. We have elected to use a fair value of plan assets to calculate the expected return on assets in net periodic benefit cost. The funded status of the benefit plans, which represents the difference between the benefit obligation and fair value of plan assets, is calculated on a plan-by-plan basis. The benefit obligation and related funded status are determined using assumptions as of the end of each year. Actuarial gains and losses resulting from plan remeasurement are recognized in net periodic benefit cost in the period of the remeasurement. The impact of a retroactive plan amendment is recorded in Accumulated other comprehensive income/(loss), and is amortized as a component of net periodic cost generally over the remaining service period of the active employees. The service cost component is included in Cost of sales and Selling, administrative and other expenses. Other components of net periodic benefit cost/(income) are included in Other income/(loss), net on our consolidated income statement.

A curtailment results from an event that significantly reduces the expected years of future service or eliminates the accrual of defined benefits for the future services of a significant number of employees. A curtailment gain is recorded when the employees who are entitled to a benefit terminate their employment, or when a plan suspension or

amendment that results in a curtailment gain is adopted. A curtailment loss is recorded when it becomes probable a curtailment loss will occur. We recognize settlement expense when the costs associated with all settlements during the year exceed the interest component of net periodic cost for the affected plan. Expense from curtailments and settlements is recorded in Other income/(loss), net.

Defined Benefit Pension Plans. We have defined benefit pension plans covering hourly and salaried employees in the United States, Canada, United Kingdom, Germany and other locations. The largest portion of our worldwide obligation is associated with our U.S. plans. The vast majority of our worldwide defined benefit plans are closed to new participants.

FS-38

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 17. RETIREMENT BENEFITS (Continued)

In general, our defined benefit pension plans are funded (i.e., have restricted assets from which benefits are paid). Our unfunded defined benefit pension plans are treated on a “pay as you go” basis with benefit payments from general Company cash. These unfunded plans primarily include certain plans in Germany, and the U.S. defined benefit plans for senior management.

OPEB. We have defined benefit OPEB plans, primarily certain health care and life insurance benefits, covering hourly and salaried employees in the United States, Canada, and other locations. The largest portion of our worldwide obligation is associated with our U.S. plans. Our OPEB plans are unfunded and the benefits are paid from general Company cash.

Defined Contribution and Savings Plans. We also have defined contribution and savings plans for hourly and salaried employees in the United States and other locations. Company contributions to these plans, if any, are made from general Company cash and are expensed as incurred. The expense for our worldwide defined contribution and savings plans was \$340 million, \$377 million, and \$393 million for the years ended December 31, 2016, 2017, and 2018, respectively. This includes the expense for Company-matching contributions to our primary employee savings plan in the United States of \$132 million, \$142 million, and \$143 million for the years ended December 31, 2016, 2017, and 2018, respectively.

## Defined Benefit Plans – Expense and Status

The assumptions used to determine benefit obligation and net periodic benefit cost/(income) were as follows:

	Pension Benefits					
	U.S. Plans		Non-U.S. Plans		Worldwide OPEB	
	2017	2018	2017	2018	2017	2018
Weighted Average Assumptions at December 31						
Discount rate	3.60%	4.29%	2.33%	2.48%	3.61%	4.17%
Average rate of increase in compensation	3.50	3.50	3.37	3.37	3.44	3.44
Weighted Average Assumptions Used to Determine Net Benefit Cost for the Year Ended December 31						
Discount rate - Service cost	4.18%	3.67%	2.51%	2.39%	4.15%	3.70%
Effective interest rate on benefit obligation	3.40	3.22	2.07	2.02	3.41	3.27
Expected long-term rate of return on assets	6.75	6.75	5.19	4.51	—	—
Average rate of increase in compensation	3.50	3.50	3.38	3.37	3.44	3.44

The pre-tax net periodic benefit cost/(income) for our defined benefit pension and OPEB plans for the years ended December 31 was as follows (in millions):

	Pension Benefits								
	U.S. Plans			Non-U.S. Plans			Worldwide OPEB		
	2016	2017	2018	2016	2017	2018	2016	2017	2018
Service cost	\$510	\$534	\$544	\$483	\$566	\$588	\$49	\$49	\$54
Interest cost	1,524	1,525	1,466	782	671	684	194	197	195
Expected return on assets	(2,693)	(2,734)	(2,887)	(1,339)	(1,375)	(1,295)	—	—	—
Amortization of prior service costs/(credits)	170	143	143	38	37	25	(142)	(120)	(109)
Net remeasurement (gain)/loss	900	(538)	1,294	1,876	407	(76)	220	293	(366)
Separation programs/other	12	74	53	81	18	103	—	2	1

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Settlements and curtailments	—	(354)	(15)	2	(3)	(2)	—	—	—
Net periodic benefit cost/(income)	\$423	\$(1,350)	\$598	\$1,923	\$321	\$27	\$321	\$421	\$(225)

In the first quarter of 2018, we amended the U.S. defined benefit plans for senior management. Effective December 31, 2019, the plans will have a 35-year limit for service and pay for purposes of determining the pension benefits. As a result, we recognized both a remeasurement gain and a curtailment gain related to this amendment.

FS-39

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 17. RETIREMENT BENEFITS (Continued)

The year-end status of these plans was as follows (in millions):

	Pension Benefits					
	U.S. Plans		Non-U.S. Plans		Worldwide OPEB	
	2017	2018	2017	2018	2017	2018
Change in Benefit Obligation						
Benefit obligation at January 1	\$45,746	\$46,340	\$30,624	\$34,098	\$5,865	\$6,169
Service cost	534	544	566	588	49	54
Interest cost	1,525	1,466	671	684	197	195
Amendments	—	—	—	135	—	—
Separation programs/other	35	9	17	97	1	1
Curtailments	(356 )	(15 )	(3 )	(2 )	—	—
Settlements	—	—	(52 )	(16 )	—	—
Plan participant contributions	24	25	20	19	24	17
Benefits paid	(3,267 )	(2,880 )	(1,316 )	(1,316 )	(368 )	(372 )
Foreign exchange translation	—	—	3,323	(1,858 )	108	(139 )
Actuarial (gain)/loss	2,099	(3,220 )	248	(1,350 )	293	(366 )
Benefit obligation at December 31	46,340	42,269	34,098	31,079	6,169	5,559
Change in Plan Assets						
Fair value of plan assets at January 1	41,939	44,160	25,549	29,657	—	—
Actual return on plan assets	5,371	(1,627 )	1,216	21	—	—
Company contributions	133	140	1,624	629	—	—
Plan participant contributions	24	25	20	19	—	—
Benefits paid	(3,267 )	(2,880 )	(1,316 )	(1,316 )	—	—
Settlements	—	—	(52 )	(16 )	—	—
Foreign exchange translation	—	—	2,623	(1,708 )	—	—
Other	(40 )	(44 )	(7 )	(13 )	—	—
Fair value of plan assets at December 31	44,160	39,774	29,657	27,273	—	—
Funded status at December 31	\$(2,180 )	\$(2,495 )	\$(4,441 )	\$(3,806 )	\$(6,169 )	\$(5,559 )
Amounts Recognized on the Balance Sheet						
Prepaid assets	\$386	\$165	\$3,154	\$3,161	\$—	\$—
Other liabilities	(2,566 )	(2,660 )	(7,595 )	(6,967 )	(6,169 )	(5,559 )
Total	\$(2,180 )	\$(2,495 )	\$(4,441 )	\$(3,806 )	\$(6,169 )	\$(5,559 )
Amounts Recognized in Accumulated Other Comprehensive Loss (pre-tax)						
Unamortized prior service costs/(credits)	\$238	\$95	\$191	\$285	\$(209 )	\$97
Pension Plans in which Accumulated Benefit Obligation Exceeds Plan Assets at December 31						
Accumulated benefit obligation	\$2,092	\$1,965	\$11,506	\$10,904		
Fair value of plan assets	155	137	5,287	5,232		
Accumulated Benefit Obligation at December 31	\$45,081	\$41,312	\$30,449	\$27,787		
Pension Plans in which Projected Benefit Obligation Exceeds Plan Assets at December 31						

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Projected benefit obligation	\$22,378	\$20,529	\$13,385	\$12,321
Fair value of plan assets	19,812	17,872	5,790	5,357
Projected Benefit Obligation at December 31	\$46,340	\$42,269	\$34,098	\$31,079

FS-40

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

NOTE 17. RETIREMENT BENEFITS (Continued)

Pension Plan Contributions

Our policy for funded pension plans is to contribute annually, at a minimum, amounts required by applicable laws and regulations. We may make contributions beyond those legally required.

In 2018, we contributed about \$400 million (most of which were mandatory contributions) to our global funded pension plans and made about \$350 million of benefit payments to participants in unfunded plans. During 2019, we expect to contribute about \$650 million (including \$140 million in discretionary contributions in the United States) from cash and cash equivalents to our worldwide funded pension plans and to make about \$350 million of benefit payments to participants in unfunded plans, for a total of about \$1 billion. Based on current assumptions and regulations, we do not expect to have a legal requirement to contribute to our major U.S. pension plans in 2019.

Expected Future Benefit Payments and Amortization

The expected future benefit payments at December 31, 2018 were as follows (in millions):

	Benefit Payments		
	Pension		
	U.S.	Non-U.S.	Worldwide
	Plans	Plans	OPEB
2019	\$3,050	\$ 1,290	\$ 350
2020	2,820	1,180	340
2021	2,790	1,190	340
2022	2,760	1,200	330
2023	2,760	1,220	330
2024-2028	13,640	6,460	1,640

The prior service cost/(credit) amounts in Accumulated other comprehensive income/(loss) that are expected to be recognized as components of net periodic benefit cost/(income) during 2019 are \$87 million for U.S. pension plans, \$33 million for non-U.S. pension plans, and \$(70) million for worldwide OPEB plans.

Pension Plan Asset Information

Investment Objective and Strategies. Our investment objectives for the U.S. plans are to minimize the volatility of the value of our U.S. pension assets relative to U.S. pension obligations and to ensure assets are sufficient to pay plan benefits. Our U.S. target asset allocations are 80% fixed income and 20% growth assets (primarily alternative investments which include hedge funds, real estate, private equity, and public equity). Our largest non-U.S. plans (United Kingdom and Canada) have similar investment objectives to the U.S. plans and have made progress toward these objectives.

Investment strategies and policies for the U.S. plans and the largest non-U.S. plans reflect a balance of risk-reducing and return-seeking considerations. The objective of minimizing the volatility of assets relative to obligations is addressed primarily through asset-liability matching, asset diversification, and hedging. The fixed income target asset allocation matches the bond-like and long-dated nature of the pension obligations. Assets are broadly diversified within asset classes to achieve risk-adjusted returns that in total lower asset volatility relative to the obligations. Strategies to address the goal of ensuring sufficient assets to pay benefits include target allocations to a broad array of asset classes, and strategies within asset classes that provide adequate returns, diversification, and

liquidity.

Derivatives are permitted for fixed income investment and public equity managers to use as efficient substitutes for traditional securities and to manage exposure to interest rate and foreign exchange risks. Interest rate and foreign currency derivative instruments are used for the purpose of hedging changes in the fair value of assets that result from interest rate changes and currency fluctuations. Interest rate derivatives also are used to adjust portfolio duration. Derivatives may not be used to leverage or to alter the economic exposure to an asset class outside the scope of the mandate an investment manager has been given. Alternative investment managers are permitted to employ leverage (including through the use of derivatives or other tools) that may alter economic exposure.

FS-41

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

NOTE 17. RETIREMENT BENEFITS (Continued)

Alternative investments execute diverse strategies that provide exposure to a broad range of hedge fund strategies, equity investments in private companies, and investments in private property funds.

**Significant Concentrations of Risk.** Significant concentrations of risk in our plan assets relate to interest rate, equity, and operating risk. In order to minimize asset volatility relative to the obligations, the majority of plan assets are allocated to fixed income investments which are exposed to interest rate risk. Rate increases generally will result in a decline in the value of fixed income assets, while reducing the present value of the obligations. Conversely, rate decreases generally will increase the value of fixed income assets, offsetting the related increase in the obligations.

In order to ensure assets are sufficient to pay benefits, a portion of plan assets is allocated to growth assets that are expected over time to earn higher returns with more volatility than fixed income investments which more closely match pension obligations. Within equities, risk is mitigated by constructing a portfolio that is broadly diversified by geography, market capitalization, manager mandate size, investment style, and process. Within alternative investments, risk is similarly mitigated by constructing a portfolio that is broadly diversified by asset class, investment strategy, manager, style, and process.

Operating risks include the risks of inadequate diversification and weak controls. To mitigate these risks, investments are diversified across and within asset classes in support of investment objectives. Policies and practices to address operating risks include ongoing manager oversight (e.g., style adherence, team strength, firm health, and internal risk controls), plan and asset class investment guidelines and instructions that are communicated to managers, and periodic compliance and audit reviews to ensure adherence.

At year-end 2018, Ford securities comprised less than 1% of our plan assets.

**Expected Long-Term Rate of Return on Assets.** The long-term return assumption at year-end 2018 is 6.75% for the U.S. plans, 4.25% for the U.K. plans, and 5.00% for the Canadian plans, and averages 4.18% for all non-U.S. plans. A generally consistent approach is used worldwide to develop this assumption. This approach considers various sources, primarily inputs from a range of advisors for long-term capital market returns, inflation, bond yields, and other variables, adjusted for specific aspects of our investment strategy by plan. Historical returns also are considered where appropriate. The assumption is based on consideration of all inputs, with a focus on long-term trends to avoid short-term market influences.

FS-42

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 17. RETIREMENT BENEFITS (Continued)

The fair value of our defined benefit pension plan assets (including dividends and interest receivables of \$344 million and \$106 million for U.S. and non-U.S. plans, respectively) by asset category at December 31 was as follows (in millions):

Asset Category	2017 U.S. Plans					Non-U.S. Plans				
	Level 1	Level 2	Assets		Total	Level 1	Level 2	Assets		Total
			Level 3	measured at NAV (a)				Level 3	measured at NAV (a)	
Equity										
U.S. companies	\$2,135	\$25	\$ —	\$ —	\$2,160	\$1,593	\$143	\$—	\$—	\$1,736
International companies	1,669	38	1	—	1,708	1,333	428	—	—	1,761
Total equity	3,804	63	1	—	3,868	2,926	571	—	—	3,497
Fixed Income										
U.S. government and agencies	6,603	2,842	—	—	9,445	495	98	—	—	593
Non-U.S. government	—	1,575	—	—	1,575	—	14,088	—	—	14,088
Corporate bonds	—	21,617	4	—	21,621	—	3,217	—	—	3,217
Mortgage/other asset-backed	—	590	—	—	590	—	301	—	—	301
Commingled funds	—	49	—	—	49	—	251	—	—	251
Derivative financial instruments, net	11	(24)	—	—	(13)	(2)	44	—	—	42
Total fixed income	6,614	26,649	4	—	33,267	493	17,999	—	—	18,492
Alternatives										
Hedge funds	—	—	—	3,060	3,060	—	—	—	1,179	1,179
Private equity	—	—	—	2,322	2,322	—	—	—	722	722
Real estate	—	—	—	1,216	1,216	—	—	—	461	461
Total alternatives	—	—	—	6,598	6,598	—	—	—	2,362	2,362
Cash, cash equivalents, and repurchase agreements (b)	1,380	—	—	—	1,380	388	—	—	—	388
Other (c)	(953)	—	—	—	(953)	(715)	—	5,633	—	4,918
Total assets at fair value	\$10,845	\$26,712	\$ 5	\$ 6,598	\$44,160	\$3,092	\$18,570	\$5,633	\$ 2,362	\$29,657

(a) Certain assets that are measured at fair value using the NAV per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy.

(b) Primarily short-term investment funds to provide liquidity to plan investment managers, cash held to pay benefits, and repurchase agreements valued at \$(360) million in U.S. plans and \$(181) million in non-U.S. plans.

(c) For U.S. plans, amounts related to net pending security (purchases)/sales and net pending foreign currency purchases/(sales). For non-U.S. plans, primarily Ford-Werke, plan assets (insurance contract valued at \$4.8 billion at year-end 2017) and amounts related to net pending security (purchases)/sales and net pending foreign currency purchases/(sales).



FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 17. RETIREMENT BENEFITS (Continued)

The fair value of our defined benefit pension plan assets (including dividends and interest receivables of \$340 million and \$115 million for U.S. and non-U.S. plans, respectively) by asset category at December 31 was as follows (in millions):

Asset Category	2018 U.S. Plans					Non-U.S. Plans				
	Level 1	Level 2	Assets		Total	Level 1	Level 2	Assets		Total
			Level 3	measured at NAV (a)				Level 3	measured at NAV (a)	
Equity										
U.S. companies	\$1,246	\$17	\$—	\$—	\$1,263	\$1,146	\$103	\$—	\$—	\$1,249
International companies	787	10	1	—	798	894	134	1	—	1,029
Total equity	2,033	27	1	—	2,061	2,040	237	1	—	2,278
Fixed Income										
U.S. government and agencies	7,915	2,317	—	—	10,232	415	148	—	—	563
Non-U.S. government	—	1,073	—	—	1,073	—	14,871	—	—	14,871
Corporate bonds	—	19,905	—	—	19,905	—	2,875	—	—	2,875
Mortgage/other asset-backed	—	474	—	—	474	—	286	—	—	286
Commingled funds	—	94	—	—	94	—	268	—	—	268
Derivative financial instruments, net	9	43	—	—	52	13	(46)	—	—	(33)
Total fixed income	7,924	23,906	—	—	31,830	428	18,402	—	—	18,830
Alternatives										
Hedge funds	—	—	—	3,217	3,217	—	—	—	1,143	1,143
Private equity	—	—	—	2,046	2,046	—	—	—	687	687
Real estate	—	—	—	1,242	1,242	—	—	—	413	413
Total alternatives	—	—	—	6,505	6,505	—	—	—	2,243	2,243
Cash, cash equivalents, and repurchase agreements (b)	354	—	—	—	354	(641)	—	—	—	(641)
Other (c)	(976)	—	—	—	(976)	(685)	—	5,248	—	4,563
Total assets at fair value	\$9,335	\$23,933	\$1	\$6,505	\$39,774	\$1,142	\$18,639	\$5,249	\$2,243	\$27,273

(a) Certain assets that are measured at fair value using the NAV per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy.

(b) Primarily short-term investment funds to provide liquidity to plan investment managers, cash held to pay benefits, and repurchase agreements valued at \$(1.7) billion in U.S. plans and \$(1.4) billion in non-U.S. plans.

(c) For U.S. plans, amounts related to net pending security (purchases)/sales and net pending foreign currency purchases/(sales). For non-U.S. plans, primarily Ford-Werke, plan assets (insurance contract valued at \$4.3 billion at year-end 2018) and amounts related to net pending security (purchases)/sales and net pending foreign currency purchases/(sales).



FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 17. RETIREMENT BENEFITS (Continued)

The following table summarizes the changes in Level 3 defined benefit pension plan assets measured at fair value on a recurring basis for the years ended December 31 (in millions):

	2017					
	Return on plan assets attributable					
	Fair to Value at January 1	Assets Held at December 31	Attributable to Assets Sold	Net Purchases/ (Settlements)	Transfers Into/ (Out of) Level 3	Fair Value at December 31
U.S. Plans	\$ 14	\$( 2)	\$ 2	\$ (9)	\$ —	\$ 5
Non-U.S. Plans (a)	5,252	381	—	—	—	5,633
	2018					
	Return on plan assets attributable					
	Fair to Value at January 1	Assets Held at December 31	Attributable to Assets Sold	Net Purchases/ (Settlements)	Transfers Into/ (Out of) Level 3	Fair Value at December 31
U.S. Plans	\$ 5	\$ —	\$ (5)	\$ 4	\$ (3)	\$ 1
Non-U.S. Plans (a)	5,633	384	1	(1)	—	5,249

(a) Primarily Ford-Werke plan assets (insurance contract valued at \$4.8 billion and \$4.3 billion at year-end 2017 and 2018, respectively).

## NOTE 18. DEBT AND COMMITMENTS

Our debt consists of short-term and long-term secured and unsecured debt securities, and secured and unsecured borrowings from banks and other lenders. Debt issuances are placed directly by us or through securities dealers or underwriters and are held by institutional and retail investors. In addition, Ford Credit sponsors securitization programs that provide short-term and long-term asset-backed financing through institutional investors in the U.S. and international capital markets.

Debt is reported on our consolidated balance sheet at par value adjusted for unamortized discount or premium, unamortized issuance costs, and adjustments related to designated fair value hedging (see Note 19). Discounts, premiums, and costs directly related to the issuance of debt are capitalized and amortized over the life of the debt or to the put date and are recorded in interest expense using the effective interest method. Gains and losses on the extinguishment of debt are recorded in Other income/(loss), net.



FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 18. DEBT AND COMMITMENTS (Continued)

The carrying value of Automotive, Ford Credit, and Other debt at December 31 was as follows (in millions):

	2017	2018	Interest Rates		Average	
			Contractual	Contractual	Effective (a)	Effective (a)
			2017	2018	2017	2018
Automotive						
Debt payable within one year						
Short-term	\$1,396	\$614	5.5%	2.9%	5.5%	2.9%
Long-term payable within one year						
Public unsecured debt securities	361	—				
U.S. Department of Energy Advanced Technology Vehicles Manufacturing (“DOE ATVM”) Incentive Program	591	591				
Other debt	1,031	1,125				
Unamortized (discount)/premium	(23)	(16)				
Total debt payable within one year	3,356	2,314				
Long-term debt payable after one year						
Public unsecured debt securities	9,033	9,033				
DOE ATVM Incentive Program	2,060	1,470				
Other debt	1,848	1,026				
Adjustments						
Unamortized (discount)/premium	(290)	(224)				
Unamortized issuance costs	(76)	(72)				
Total long-term debt payable after one year	12,575	11,233	5.1% (b)	5.2% (b)	5.8% (b)	5.7% (b)
Total Automotive	\$15,931	\$13,547				
Fair value of Automotive debt (c)	\$17,976	\$13,319				
Ford Credit						
Debt payable within one year						
Short-term	\$17,153	\$14,705	3.0%	3.5%	3.0%	3.5%
Long-term payable within one year						
Unsecured debt	13,298	14,373				
Asset-backed debt	17,817	22,130				
Adjustments						
Unamortized (discount)/premium	1	2				
Unamortized issuance costs	(16)	(16)				
Fair value adjustments (d)	12	(15)				
Total debt payable within one year	48,265	51,179				
Long-term debt payable after one year						
Unsecured debt	55,687	52,409				
Asset-backed debt	34,052	36,844				
Adjustments						
Unamortized (discount)/premium	(2)	—				
Unamortized issuance costs	(212)	(195)				
Fair value adjustments (d)	(33)	(171)				
Total long-term debt payable after one year	89,492	88,887	2.5% (b)	2.8% (b)	2.6% (b)	2.8% (b)
Total Ford Credit	\$137,757	\$140,066				



Fair value of Ford Credit debt (c)	\$ 139,605	\$ 138,809				
Other						
Long-term debt payable after one year						
Unsecured debt	\$ 604	\$ 604				
Adjustments						
Unamortized (discount)/premium	(3	) (3	)			
Unamortized issuance costs	(2	) (1	)			
Total Other	\$ 599	\$ 600	9.3%	9.3%	9.2%	9.2%
Fair value of Other debt	\$ 801	\$ 697				

(a) Average effective rates reflect the average contractual interest rate plus amortization of discounts, premiums, and issuance costs.

(b) Includes interest on long-term debt payable within one year and after one year.

At December 31, 2017 and 2018, the fair value of debt includes \$1.1 billion and \$458 million of Automotive (c) short-term debt and \$16.4 billion and \$13.8 billion of Ford Credit short-term debt, respectively, carried at cost which approximates fair value. All debt is categorized within Level 2 of the fair value hierarchy.

(d) These adjustments relate to designated fair value hedges. The carrying value of hedged debt was \$39 billion and \$38 billion at December 31, 2017 and 2018, respectively.

FS-46

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 18. DEBT AND COMMITMENTS (Continued)

We paid interest of \$836 million, \$1.1 billion, and \$1.2 billion in 2016, 2017, and 2018, respectively, on Automotive and Other debt. We paid interest of \$2.5 billion, \$2.9 billion, and \$3.5 billion in 2016, 2017, and 2018, respectively, on Ford Credit debt.

## Maturities

Debt maturities at December 31, 2018 were as follows (in millions):

	2019	2020	2021	2022	2023	Thereafter	Adjustments	Total Debt Maturities
Automotive								
Public unsecured debt securities	\$—	\$—	\$—	\$86	\$—	\$ 8,947	\$ (195)	\$ 8,838
DOE ATVM Incentive Program	591	591	591	288	—	—	—	2,061
Short-term and other debt	1,739	261	218	181	205	161	(117)	2,648
Total	\$2,330	\$852	\$809	\$555	\$205	\$ 9,108	\$ (312)	\$ 13,547
Ford Credit								
Unsecured debt	\$28,135	\$15,073	\$15,288	\$8,343	\$5,895	\$ 7,810	\$ (322)	\$ 80,222
Asset-backed debt	23,073	19,004	7,865	4,487	2,595	2,893	(73)	59,844
Total	\$51,208	\$34,077	\$23,153	\$12,830	\$8,490	\$ 10,703	\$ (395)	\$ 140,066
Other								
Unsecured debt	\$—	\$130	\$180	\$—	\$—	\$ 294	\$ (4)	\$ 600

FS-47

FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 18. DEBT AND COMMITMENTS (Continued)

## Automotive Segment

## Public Unsecured Debt Securities

Our public, unsecured debt securities outstanding at December 31 were as follows (in millions):

Title of Security	Aggregate Principal Amount Outstanding	
	2017	2018
6 1/2% Debentures due August 1, 2018	\$361	\$—
8 7/8% Debentures due January 15, 2022	86	86
7 1/8% Debentures due November 15, 2025	209	209
7 1/2% Debentures due August 1, 2026	193	193
6 5/8% Debentures due February 15, 2028	104	104
6 5/8% Debentures due October 1, 2028 (a)	638	638
6 3/8% Debentures due February 1, 2029 (a)	260	260
7.45% GLOBS due July 16, 2031 (a)	1,794	1,794
8.900% Debentures due January 15, 2032	151	151
9.95% Debentures due February 15, 2032	4	4
7.75% Debentures due June 15, 2043	73	73
7.40% Debentures due November 1, 2046	398	398
9.980% Debentures due February 15, 2047	181	181
7.70% Debentures due May 15, 2097	142	142
4.346% Notes due December 8, 2026	1,500	1,500
5.291% Notes due December 8, 2046	1,300	1,300
4.75% Notes due January 15, 2043	2,000	2,000
Total public unsecured debt securities (b)	\$9,394	\$9,033

(a) Listed on the Luxembourg Exchange and on the Singapore Exchange.

Excludes 9.215% Debentures due September 15, 2021 with an outstanding balance at December 31, 2018 of (b) \$180 million. The proceeds from these securities were on-lent by Ford to Ford Holdings and are reported as Other long-term debt.

## DOE ATVM Incentive Program

In September 2009, we entered into a Loan Arrangement and Reimbursement Agreement with the DOE, under which we borrowed through multiple draws \$5.9 billion to finance certain costs for fuel-efficient, advanced-technology vehicles. At December 31, 2018, an aggregate \$2.1 billion was outstanding. The principal amount of the ATVM loan bears interest at a blended rate based on the U.S. Treasury yield curve at the time each draw was made (with the weighted-average interest rate on all such draws being about 2.3% per annum). The ATVM loan is repayable in equal quarterly installments of \$148 million, which began in September 2012 and will end in June 2022.

## Automotive Credit Facilities

Total committed Automotive credit lines at December 31, 2018 were \$11.9 billion, consisting of \$10.4 billion of our corporate credit facility and \$1.5 billion of local credit facilities available to non-U.S. Automotive affiliates. At December 31, 2018, the utilized portion of the corporate credit facility was \$27 million, representing amounts utilized for letters of credit. At December 31, 2018, the utilized portion of the local credit facilities was \$735 million.

Lenders under our corporate credit facility have commitments to us totaling \$13.4 billion, with 75% of the commitments maturing on April 30, 2023 and 25% of the commitments maturing on April 30, 2021. We have allocated \$3 billion of commitments to Ford Credit on an irrevocable and exclusive basis to support its liquidity. We would guarantee any borrowings by Ford Credit under the corporate credit facility.

FS-48

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

NOTE 18. DEBT AND COMMITMENTS (Continued)

The corporate credit facility is unsecured and free of material adverse change conditions to borrowing, restrictive financial covenants (for example, interest or fixed charge coverage ratio, debt-to-equity ratio, and minimum net worth requirements), and credit rating triggers that could limit our ability to obtain funding. The corporate credit facility contains a liquidity covenant that requires us to maintain a minimum of \$4 billion in aggregate of domestic cash, cash equivalents, and loaned and marketable securities and/or availability under the facility. If our senior, unsecured, long-term debt does not maintain at least two investment grade ratings from Fitch, Moody's, and S&P, the guarantees of certain subsidiaries will be required.

Ford Credit Segment

Asset-Backed Debt

At December 31, 2018, the carrying value of our asset-backed debt was \$59.8 billion. This secured debt is issued by Ford Credit and includes asset-backed securities used to fund operations and maintain liquidity. Assets securing the related debt issued as part of all our securitization transactions are included in our consolidated results and are based upon the legal transfer of the underlying assets in order to reflect legal ownership and the beneficial ownership of the debt holder. The third-party investors in the securitization transactions have legal recourse only to the assets securing the debt and do not have such recourse to us, except for the customary representation and warranty provisions or when we are counterparty to certain derivative transactions of the special purpose entities ("SPEs"). In addition, the cash flows generated by the assets are restricted only to pay such liabilities; Ford Credit retains the right to residual cash flows. See Note 22 for additional information.

Although not contractually required, we regularly support our wholesale securitization programs by repurchasing receivables of a dealer from a SPE when the dealer's performance is at risk, which transfers the corresponding risk of loss from the SPE to us. In order to continue to fund the wholesale receivables, we also may contribute additional cash or wholesale receivables if the collateral falls below required levels. The balances of cash related to these contributions were \$0 at December 31, 2017 and 2018, and ranged from \$0 to \$9 million during 2017 and \$0 to \$179 million during 2018.

SPEs that are exposed to interest rate or currency risk may reduce their risks by entering into derivative transactions. In certain instances, we have entered into derivative transactions with the counterparty to protect the counterparty from risks absorbed through derivative transactions with the SPEs. Derivative income/(expense) related to the derivative transactions that support Ford Credit's securitization programs were \$(29) million, \$60 million, and \$(17) million for the years ended December 31, 2016, 2017, and 2018, respectively. See Note 19 for additional information regarding the accounting for derivatives.

Interest expense on securitization debt was \$773 million, \$955 million, and \$1.4 billion in 2016, 2017, and 2018, respectively.

The assets and liabilities related to our asset-backed debt arrangements included on our financial statements at December 31 were as follows (in billions):

	2017	2018
Assets		
Cash and cash equivalents	\$3.8	\$3.0
Finance receivables, net	63.2	66.2
Net investment in operating leases	11.5	16.3

Liabilities

Debt (a) \$52.6 \$59.8

            
(a) Debt is net of unamortized discount and issuance costs.

FS-49

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

NOTE 18. DEBT AND COMMITMENTS (Continued)

Committed Credit Facilities

At December 31, 2018, Ford Credit's committed capacity totaled \$41.4 billion, of which \$19.6 billion is available for use. Ford Credit's committed capacity is primarily comprised of unsecured credit facilities with financial institutions, committed asset-backed security lines from bank-sponsored commercial paper conduits and other financial institutions, and allocated commitments under the corporate credit facility.

NOTE 19. DERIVATIVE FINANCIAL INSTRUMENTS AND HEDGING ACTIVITIES

In the normal course of business, our operations are exposed to global market risks, including the effect of changes in foreign currency exchange rates, certain commodity prices, and interest rates. To manage these risks, we enter into highly effective derivative contracts:

- Foreign currency exchange contracts, including forwards, that are used to manage foreign exchange exposure;
- Commodity contracts, including forwards, that are used to manage commodity price risk;
- Interest rate contracts, including swaps, that are used to manage the effects of interest rate fluctuations; and
- Cross-currency interest rate swap contracts that are used to manage foreign currency and interest rate exposures on foreign-denominated debt.

Our derivatives are over-the-counter customized derivative transactions and are not exchange-traded. We review our hedging program, derivative positions, and overall risk management strategy on a regular basis.

**Derivative Financial Instruments and Hedge Accounting.** Derivatives are reported on our consolidated balance sheet at fair value and presented on a gross basis. Derivative assets are reported in Other assets and derivative liabilities are reported in Payables and Other liabilities and deferred revenue.

We have elected to apply hedge accounting to certain derivatives. Derivatives that are designated in hedging relationships are evaluated for effectiveness using regression analysis at the time they are designated and throughout the hedge period. Some derivatives do not qualify for hedge accounting; for others, we elect not to apply hedge accounting.

**Cash Flow Hedges.** Our Automotive segment has designated certain forward contracts as cash flow hedges of forecasted transactions with exposure to foreign currency exchange and commodity price risks.

Changes in the fair value of cash flow hedges are deferred in Accumulated other comprehensive income/(loss) and are recognized in Cost of sales when the hedged item affects earnings. Our policy is to de-designate foreign currency exchange cash flow hedges prior to the time forecasted transactions are recognized as assets or liabilities on the balance sheet and report subsequent changes in fair value through Cost of sales. If it becomes probable that the originally forecasted transaction will not occur, the related amount included in Accumulated other comprehensive income/(loss) is reclassified and recognized in earnings. The cash flows associated with hedges designated until maturity are reported in Net cash provided by/(used in) operating activities on our consolidated statement of cash flows. Our cash flow hedges mature within three years.

**Fair Value Hedges.** Our Ford Credit segment uses derivatives to reduce the risk of changes in the fair value of debt. We have designated certain receive-fixed, pay-float interest rate swaps as fair value hedges of fixed-rate debt. The risk being hedged is the risk of changes in the fair value of the hedged debt attributable to changes in the benchmark

interest rate. If the hedge relationship is deemed to be highly effective, we report the changes in the fair value of the hedged debt related to the risk being hedged in Ford Credit debt and Ford Credit interest, operating, and other expenses. Net interest settlements and accruals, and the fair value changes on hedging instruments are reported in Ford Credit interest, operating, and other expenses. The cash flows associated with fair value hedges are reported in Net cash provided by/(used in) operating activities on our consolidated statement of cash flows.

When a fair value hedge is de-designated, or when the derivative is terminated before maturity, the fair value adjustment to the hedged debt continues to be reported as part of the carrying value of the debt and is recognized in Ford Credit interest, operating, and other expenses over its remaining life.

FS-50

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

NOTE 19. DERIVATIVE FINANCIAL INSTRUMENTS AND HEDGING ACTIVITIES (Continued)

Derivatives Not Designated as Hedging Instruments. Automotive reports changes in the fair value of derivatives not designated as hedging instruments through Cost of sales. Cash flows associated with non-designated or de-designated derivatives are reported in Net cash provided by/(used in) investing activities on our consolidated statement of cash flows.

Our Ford Credit segment reports the gains/(losses) on derivatives not designated as hedging instruments in Other income/(loss), net. Cash flows associated with non-designated derivatives are reported in Net cash provided by/(used in) investing activities on our consolidated statement of cash flows.

Normal Purchases and Normal Sales Classification. We have elected to apply the normal purchases and normal sales classification for physical supply contracts that are entered into for the purpose of procuring commodities to be used in production over a reasonable period in the normal course of our business.

Income Effect of Derivative Financial Instruments

The gains/(losses), by hedge designation, reported in income for the years ended December 31 were as follows (in millions):

	2016	2017	2018
Cash flow hedges (a)			
Reclassified from AOCI to Cost of sales	\$537	\$456	\$50
Fair value hedges			
Interest rate contracts			
Net interest settlements and accruals on hedging instruments	367	217	10
Fair value changes on hedging instruments (b)	(120)	(268)	(155)
Fair value changes on hedged debt (b)	124	267	153
Derivatives not designated as hedging instruments			
Foreign currency exchange contracts (c)	257	(662)	398
Cross-currency interest rate swap contracts	398	103	(244)
Interest rate contracts	(9)	58	(84)
Commodity contracts	7	74	(96)
Total	\$1,561	\$245	\$32

(a) For 2016, 2017, and 2018, a \$770 million gain, a \$134 million gain, and a \$288 million gain, respectively, were reported in Other comprehensive income/(loss), net of tax.

For 2016 and 2017, the fair value changes on hedging instruments and on hedged debt were reported in Other (b) income/(loss), net; effective 2018, these amounts were reported in Ford Credit interest, operating, and other expenses.

For 2016, 2017, and 2018, a \$78 million gain, a \$512 million loss, and a \$235 million gain were reported in Cost of (c) sales and a \$179 million gain, a \$150 million loss, and a \$163 million gain were reported in Other income/(loss), net, respectively.

FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 19. DERIVATIVE FINANCIAL INSTRUMENTS AND HEDGING ACTIVITIES (Continued)

## Balance Sheet Effect of Derivative Financial Instruments

Derivative assets and liabilities are reported on our consolidated balance sheet at fair value and are presented on a gross basis. The notional amounts of the derivative instruments do not necessarily represent amounts exchanged by the parties and are not a direct measure of our financial exposure. We also enter into master agreements with counterparties that may allow for netting of exposures in the event of default or breach of the counterparty agreement.

The fair value of our derivative instruments and the associated notional amounts, presented gross, at December 31 were as follows (in millions):

	2017			2018		
	Notional	Fair Value of Assets	Fair Value of Liabilities	Notional	Fair Value of Assets	Fair Value of Liabilities
Cash flow hedges						
Foreign currency exchange contracts	\$ 19,595	\$ 407	\$ 306	\$ 15,972	\$ 391	\$ 110
Commodity contracts	—	—	—	327	—	20
Fair value hedges						
Interest rate contracts	28,008	248	135	22,989	158	208
Derivatives not designated as hedging instruments						
Foreign currency exchange contracts	20,679	172	302	20,695	202	99
Cross-currency interest rate swap contracts	4,006	408	28	5,235	232	157
Interest rate contracts	60,504	276	137	76,904	235	274
Commodity contracts	660	37	4	638	3	45
Total derivative financial instruments, gross (a) (b)	\$ 133,452	\$ 1,548	\$ 912	\$ 142,760	\$ 1,221	\$ 913
Current portion		\$ 802	\$ 568		\$ 681	\$ 601
Non-current portion		746	344		540	312
Total derivative financial instruments, gross		\$ 1,548	\$ 912		\$ 1,221	\$ 913

(a) At December 31, 2017 and 2018, we held collateral of \$15 million and \$19 million, and we posted collateral of \$38 million and \$59 million, respectively.

(b) At December 31, 2017 and 2018, the fair value of assets and liabilities available for counterparty netting was \$618 million and \$434 million, respectively. All derivatives are categorized within Level 2 of the fair value hierarchy.

## NOTE 20. REDEEMABLE NONCONTROLLING INTEREST

We formed the Ford Sollers joint venture with Sollers PJSC (“Sollers”) in October 2011 to operate in Russia. The value of the redeemable noncontrolling interest, reflecting redemption features embedded in the 50% equity interest in the joint venture that is held by Sollers, reported in the mezzanine section of our consolidated balance sheet at December 31, 2017 and 2018 was \$98 million and \$100 million, respectively. The redeemable noncontrolling interest became exercisable beginning on January 1, 2019.



FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 21. ACCUMULATED OTHER COMPREHENSIVE INCOME/(LOSS)

The changes in the balances for each component of accumulated other comprehensive income/(loss) attributable to Ford Motor Company for the years ended December 31 were as follows (in millions):

	2016	2017	2018
<b>Foreign currency translation</b>			
Beginning balance	\$(3,570)	\$(4,593)	\$(4,277)
Gains/(Losses) on foreign currency translation	(494 )	38	(435 )
Less: Tax/(Tax benefit) (a)	537	(294 )	91
Net gains/(losses) on foreign currency translation	(1,031 )	332	(526 )
(Gains)/Losses reclassified from AOCI to net income (b)	8	(16 )	3
Other comprehensive income/(loss), net of tax	(1,023 )	316	(523 )
Ending balance	\$(4,593)	\$(4,277)	\$(4,800)
<b>Marketable securities</b>			
Beginning balance	\$(6 )	\$(14 )	\$(48 )
Gains/(Losses) on available for sale securities	(13 )	(53 )	(37 )
Less: Tax/(Tax benefit)	(10 )	(15 )	(8 )
Net gains/(losses) on available for sale securities	(3 )	(38 )	(29 )
(Gains)/Losses reclassified from AOCI to net income	(1 )	5	20
Less: Tax/(Tax benefit)	4	1	2
Net (gains)/losses reclassified from AOCI to net income	(5 )	4	18
Other comprehensive income/(loss), net of tax	(8 )	(34 )	(11 )
Ending balance	\$(14 )	\$(48 )	\$(59 )
<b>Derivative instruments</b>			
Beginning balance	\$64	\$283	\$18
Gains/(Losses) on derivative instruments	770	134	288
Less: Tax/(Tax benefit)	144	80	65
Net gains/(losses) on derivative instruments	626	54	223
(Gains)/Losses reclassified from AOCI to net income	(537 )	(456 )	(50 )
Less: Tax/(Tax benefit)	(130 )	(137 )	(10 )
Net (gains)/losses reclassified from AOCI to net income (c)	(407 )	(319 )	(40 )
Other comprehensive income/(loss), net of tax	219	(265 )	183
Ending balance	\$283	\$18	\$201
<b>Pension and other postretirement benefits</b>			
Beginning balance	\$(2,745)	\$(2,689)	\$(2,652)
Prior service (costs)/credits arising during the period	(16 )	5	(135 )
Less: Tax/(Tax benefit)	(4 )	—	(23 )
Net prior service (costs)/credits arising during the period	(12 )	5	(112 )
Amortization and recognition of prior service costs/(credits) (d)	66	60	59
Less: Tax/(Tax benefit)	22	20	13
Net prior service costs/(credits) reclassified from AOCI to net income	44	40	46
Translation impact on non-U.S. plans	24	(8 )	10
Other comprehensive income/(loss), net of tax	56	37	(56 )
Ending balance	\$(2,689)	\$(2,652)	\$(2,708)



FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

NOTE 22. VARIABLE INTEREST ENTITIES

A VIE is an entity that either (i) has insufficient equity to permit the entity to finance its activities without additional subordinated financial support, or (ii) has equity investors who lack the characteristics of a controlling financial interest. We consolidate VIEs of which we are the primary beneficiary. We consider ourselves the primary beneficiary of a VIE when we have both the power to direct the activities that most significantly impact the entity's economic performance and the obligation to absorb losses or the right to receive benefits from the entity that could potentially be significant to the VIE. Assets recognized as a result of consolidating these VIEs do not represent additional assets that could be used to satisfy claims against our general assets. Liabilities recognized as a result of consolidating these VIEs do not represent additional claims on our general assets; rather, they represent claims against the specific assets of the consolidated VIEs.

We have the power to direct the significant activities of an entity when our management has the ability to make key operating decisions, such as decisions regarding capital or product investment or manufacturing production schedules. For securitization entities, we have the power to direct significant activities when we have the ability to exercise discretion in the servicing of financial assets (including general collection activity on current and non-current accounts and loss mitigation efforts including repossession and sale of collateral), issue additional debt, exercise a unilateral call option, add assets to revolving structures, or control investment decisions.

VIEs of Which We are Not the Primary Beneficiary

Certain of our joint ventures are VIEs, in which the power to direct economically significant activities is shared with the joint venture partner. Our investments in these joint ventures are accounted for as equity method investments. Our maximum exposure to any potential losses associated with these joint ventures is limited to our investment, including loans, and was \$222 million and \$237 million at December 31, 2017 and 2018, respectively.

VIEs of Which We are the Primary Beneficiary

**Securitization Entities.** Through Ford Credit, we securitize, transfer, and service financial assets associated with consumer finance receivables, operating leases, and wholesale loans. Our securitization transactions typically involve the legal transfer of financial assets to bankruptcy remote SPEs. We generally retain economic interests in the asset-backed securitization transactions, which are retained in the form of senior or subordinated interests, cash reserve accounts, residual interests, and servicing rights. For accounting purposes, we are precluded from recording the transfers of assets in securitization transactions as sales.

In most cases, the bankruptcy remote SPEs meet the definition of VIEs for which we have determined we have both the power to direct the activities of the entity that most significantly impact the entity's performance and the obligation to absorb losses or the right to receive benefits of the entity that could be significant, and would therefore also be consolidated. We account for all securitization transactions as if they were secured financing and therefore the assets, liabilities, and related activity of these transactions are consolidated in our financial results and are included in amounts presented on the face of our consolidated balance sheet. See Note 18 for additional information on the accounting for asset-backed debt and the assets securing this debt.

FORD MOTOR COMPANY AND SUBSIDIARIES  
 NOTES TO THE FINANCIAL STATEMENTS

NOTE 23. COMMITMENTS AND CONTINGENCIES

Commitments and contingencies primarily consist of guarantees and indemnifications, litigation and claims, and warranty.

Guarantees and Indemnifications

The maximum potential payments and the carrying value of recorded liabilities related to guarantees and limited indemnities at December 31 were as follows (in millions):

	2017	2018
Maximum potential payments	\$1,397	\$1,163
Carrying value of recorded liabilities related to guarantees and limited indemnities	408	351

Guarantees and indemnifications are recorded at fair value at their inception. We regularly review our performance risk under these arrangements, and in the event it becomes probable we will be required to perform under a guarantee or indemnity, the amount of probable payment is recorded.

We guarantee the resale value of vehicles sold in certain arrangements to daily rental companies. The maximum potential payment of \$995 million as of December 31, 2018 included in the table above represents the total proceeds we guarantee the rental company will receive on re-sale. Reflecting our present estimate of proceeds the rental companies will receive on resale from third parties, we have recorded \$311 million as our best estimate of the amount we will have to pay under the guarantee.

We also guarantee debt and lease obligations of certain joint ventures, as well as certain financial obligations of outside third parties, including suppliers, to support our business and economic growth. Expiration dates vary through 2033, and guarantees will terminate on payment and/or cancellation of the underlying obligation. A payment by us would be triggered by failure of the joint venture or other third party to fulfill its obligation covered by the guarantee. In some circumstances, we are entitled to recover from a third party amounts paid by us under the guarantee. However, our ability to enforce these rights is sometimes stayed until the guaranteed party is paid in full, and may be limited in the event of insolvency of the third party or other circumstances.

In the ordinary course of business, we execute contracts involving indemnifications standard in the industry and indemnifications specific to a transaction, such as the sale of a business. These indemnifications might include and are not limited to claims relating to any of the following: environmental, tax, and shareholder matters; intellectual property rights; power generation contracts; governmental regulations and employment-related matters; dealer, supplier, and other commercial contractual relationships; and financial matters, such as securitizations. Performance under these indemnities generally would be triggered by a breach of terms of the contract or by a third-party claim. While some of these indemnifications are limited in nature, many of them do not limit potential payment. Therefore, we are unable to estimate a maximum amount of future payments that could result from claims made under these unlimited indemnities.

Litigation and Claims

Various legal actions, proceedings, and claims (generally, “matters”) are pending or may be instituted or asserted against us. These include but are not limited to matters arising out of alleged defects in our products; product warranties; governmental regulations relating to safety, emissions, and fuel economy or other matters; government incentives; tax matters; alleged illegal acts resulting in fines or penalties; financial services; employment-related matters; dealer, supplier, and other contractual relationships; intellectual property rights; environmental matters; shareholder or

investor matters; and financial reporting matters. Certain of the pending legal actions are, or purport to be, class actions. Some of the matters involve or may involve claims for compensatory, punitive, or antitrust or other treble damages in very large amounts, or demands for field service actions, environmental remediation programs, sanctions, loss of government incentives, assessments, or other relief, which, if granted, would require very large expenditures.

The extent of our financial exposure to these matters is difficult to estimate. Many matters do not specify a dollar amount for damages, and many others specify only a jurisdictional minimum. To the extent an amount is asserted, our historical experience suggests that in most instances the amount asserted is not a reliable indicator of the ultimate outcome.

FS-55

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

NOTE 23. COMMITMENTS AND CONTINGENCIES (Continued)

We accrue for matters when losses are deemed probable and reasonably estimable. In evaluating matters for accrual and disclosure purposes, we take into consideration factors such as our historical experience with matters of a similar nature, the specific facts and circumstances asserted, the likelihood that we will prevail, and the severity of any potential loss. We reevaluate and update our accruals as matters progress over time.

For the majority of matters, which generally arise out of alleged defects in our products, we establish an accrual based on our extensive historical experience with similar matters. We do not believe there is a reasonably possible outcome materially in excess of our accrual for these matters.

For the remaining matters, where our historical experience with similar matters is of more limited value (i.e., “non-pattern matters”), we evaluate the matters primarily based on the individual facts and circumstances. For non-pattern matters, we evaluate whether there is a reasonable possibility of a material loss in excess of any accrual that can be estimated. Our estimate of reasonably possible loss in excess of our accruals for all material matters currently reflects indirect tax and customs matters, for which we estimate the aggregate risk to be a range of up to about \$600 million. In addition, we have a reasonably possible risk of loss for an emission matter. Because the matter is preliminary, we cannot estimate the risk of loss or predict the outcome, and cannot provide reasonable assurance that it will not have a material adverse effect on us.

As noted, the litigation process is subject to many uncertainties, and the outcome of individual matters is not predictable with assurance. Our assessments are based on our knowledge and experience, but the ultimate outcome of any matter could require payment substantially in excess of the amount that we have accrued and/or disclosed.

Warranty and Field Service Actions

We accrue obligations for warranty costs and field service actions (i.e., safety recalls, emission recalls, and other product campaigns) at the time of sale using a patterned estimation model that includes historical information regarding the nature, frequency, and average cost of claims for each vehicle line by model year. Warranty and field service action obligations are reported in Other liabilities and deferred revenue. We reevaluate the adequacy of our accruals on a regular basis.

We recognize the benefit from a recovery of the costs associated with our warranty and field service actions when specifics of the recovery have been agreed with our supplier and the amount of the recovery is virtually certain. Recoveries are reported in Trade and other receivables and Other assets.

The estimate of our future warranty and field service action costs, net of estimated supplier recoveries, for the years ended December 31 was as follows (in millions):

	2017	2018
Beginning balance	\$4,960	\$5,296
Payments made during the period	(3,457 )	(4,360 )
Changes in accrual related to warranties issued during the period	2,260	2,584
Changes in accrual related to pre-existing warranties	1,415	1,758
Foreign currency translation and other	118	(141 )
Ending balance	\$5,296	\$5,137

Revisions to our estimated costs are reported as changes in accrual related to pre-existing warranties in the table above.

FS-56

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

NOTE 24. SEGMENT INFORMATION

Effective January 1, 2018, we changed our reportable segments to reflect the manner in which we manage our business. Based on changes to our organization structure and how our CODM reviews operating results and makes decisions about resource allocation, we have three reportable segments that represent the primary businesses reported in our consolidated financial statements: Automotive, Mobility, and Ford Credit.

In addition to the change in reportable segments, consistent with how our CODM assesses performance of the segments, we changed the measurement of our segment profits and losses as described below:

- Corporate governance expenses, which were previously reported as part of our Automotive segment, are reported as part of Corporate Other
- Autonomous vehicle development costs, which were previously reported as part of our Automotive segment, are reported in Mobility
- Interest income and portfolio gains and losses, which were previously reported in our segment results, are reported in Corporate Other. Interest expense (other than interest expense incurred by Ford Credit) is reported as a separate reconciling item

Prior period amounts were adjusted retrospectively to reflect the segment and measurement changes.

Below is a description of our reportable segments and other activities.

Automotive Segment

Our Automotive segment primarily includes the sale of Ford and Lincoln vehicles, service parts, and accessories worldwide, together with the associated costs to develop, manufacture, distribute, and service the vehicles, parts, and accessories. This segment includes revenues and costs related to our electrification vehicle programs. The segment includes the following regional business units: North America, South America, Europe, Middle East & Africa, and Asia Pacific (including China).

Mobility Segment

Our Mobility segment primarily includes development costs related to our autonomous vehicles and our investment in mobility through Ford Smart Mobility LLC (“FSM”). Autonomous vehicles includes self-driving systems development and vehicle integration, autonomous vehicle research and advanced engineering, autonomous vehicle transportation-as-a-service network development, user experience, and business strategy and business development teams. FSM designs and builds mobility services on its own, and collaborates with start-ups and technology companies.

Ford Credit Segment

The Ford Credit segment is comprised of the Ford Credit business on a consolidated basis, which is primarily vehicle-related financing and leasing activities.

Corporate Other

Corporate Other primarily includes corporate governance expenses, interest income (excluding interest earned on our extended service contract portfolio that is included in our Automotive segment) and portfolio gains and losses from

our cash, cash equivalents, and marketable securities, and foreign exchange derivatives gains and losses associated with intercompany lending. Corporate governance expenses are primarily administrative, delivering benefit on behalf of the global enterprise and are not allocated to specific Automotive business units or operating segments. These include expenses related to setting and directing global policy, providing oversight and stewardship, and promoting the Company's interests. The underlying assets and liabilities associated with these activities remain with the respective Automotive and Mobility segments.

#### Interest on Debt

Interest on Debt is presented as a separate reconciling item and consists of interest expense on Automotive and Other debt. The underlying liability is reported in the Automotive segment and in Corporate Other.

FS-57

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 24. SEGMENT INFORMATION (Continued)

## Special Items

Special Items are presented as a separate reconciling item. They consist of (i) pension and OPEB remeasurement gains and losses, (ii) significant personnel and dealer-related costs stemming from our efforts to match production capacity and cost structure to market demand and changing model mix, and (iii) other items that we do not necessarily consider to be indicative of earnings from ongoing operating activities. Our management excludes these items from its review of the results of the operating segments for purposes of measuring segment profitability and allocating resources. We also report these special items separately to help investors track amounts related to these activities and to allow investors analyzing our results to identify certain infrequent significant items that they may wish to exclude when considering the trend of ongoing operating results.

Key financial information for the years ended or at December 31 was as follows (in millions):

	Automotive	Mobility	Ford Credit	Corporate Other	Interest on Debt	Special Items	Adjustment	Total
2016								
Revenues	\$ 141,546	\$ 1	\$ 10,253	\$ —	\$ —	\$ —	\$ —	\$ 151,800
Income/(loss) before income taxes	10,050	(117 )	1,879	(498)	(951)	(3,579)	—	6,784
Depreciation and tooling amortization	4,667	—	4,356	—	—	—	—	9,023
Interest expense	—	—	2,751	—	951	—	—	3,702
Investment-related interest income	75	—	76	140	—	—	—	291
Equity in net income/(loss) of affiliated companies	1,747	—	33	—	—	—	—	1,780
Cash outflow for capital spending	6,947	—	45	—	—	—	—	6,992
Cash, cash equivalents, marketable securities, and restricted cash	27,467	8	11,466	—	—	—	—	38,941
Total assets	97,488	69	146,503	—	—	—	(5,550)	(a)238,510
2017								
Revenues	\$ 145,653	\$ 10	\$ 11,113	\$ —	\$ —	\$ —	\$ —	\$ 156,776
Income/(loss) before income taxes	8,084	(299 )	2,310	(457)	(1,190)	(289)	—	8,159
Depreciation and tooling amortization	4,963	—	4,159	—	—	—	—	9,122
Interest expense	—	—	3,174	—	1,190	—	—	4,364
Investment-related interest income	93	—	118	248	—	—	—	459
Equity in net income/(loss) of affiliated companies	1,169	—	32	—	—	—	—	1,201
Cash outflow for capital spending	7,001	3	45	—	—	—	—	7,049
Cash, cash equivalents, marketable securities, and restricted cash	26,499	11	12,563	—	—	—	—	39,073
Total assets	103,573	96	160,594	—	—	—	(5,767)	(a)258,496
2018								
Revenues	\$ 148,294	\$ 26	\$ 12,018	\$ —	\$ —	\$ —	\$ —	\$ 160,338
Income/(loss) before income taxes	5,422	(674 )	2,627	(373)	(1,228)	(1,429)	—	4,345
Depreciation and tooling amortization	5,368	16	3,896	—	—	—	—	9,280
Interest expense	—	—	3,929	—	1,228	—	—	5,157

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Investment-related interest income	109	—	201	357	—	—	—	667
Equity in net income/(loss) of affiliated companies	95	—	28	—	—	—	—	123
Cash outflow for capital spending	7,677	60	48	—	—	—	—	7,785
Cash, cash equivalents, marketable securities, and restricted cash	22,999	86	11,055	—	—	—	—	34,140
Total assets	100,105	558	161,678	—	—	—	(5,801)	(a)256,540

(a) Includes deferred tax netting and eliminations of intersegment transactions occurring in the ordinary course of business.

FS-58

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

## NOTE 24. SEGMENT INFORMATION (Continued)

## Geographic Information

We report revenue on a “where-sold” basis, which reflects the revenue within the country in which the ultimate sale or financing is made to our external customer.

Total Company revenues and long-lived assets, split geographically by our country of domicile (the United States) and other countries where our major subsidiaries are domiciled, for the years ended December 31 were as follows (in millions):

	2016		2017		2018	
	Revenues	Long-Lived Assets (a)	Revenues	Long-Lived Assets (a)	Revenues	Long-Lived Assets (a)
United States	\$93,433	\$ 42,946	\$93,844	\$ 42,504	\$97,546	\$ 44,940
United Kingdom	10,041	1,302	9,619	1,691	9,703	1,650
Canada	10,028	4,264	10,580	4,771	10,541	4,604
Germany	7,322	2,254	7,265	3,182	7,894	3,593
All Other	30,976	10,135	35,468	11,414	34,654	10,510
Total Company	\$151,800	\$ 60,901	\$156,776	\$ 63,562	\$160,338	\$ 65,297

(a)Includes Net property and Net investment in operating leases from our consolidated balance sheet.

## NOTE 25. SELECTED QUARTERLY FINANCIAL DATA (unaudited)

Selected financial data by calendar quarter were as follows (in millions, except per share amounts):

	2017				2018			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Total revenues	\$39,146	\$39,853	\$36,451	\$41,326	\$41,959	\$38,920	\$37,666	\$41,793
Income/(Loss) before income taxes	2,251	2,266	1,770	1,872	1,919	1,349	1,094	(17 )

## Amounts Attributable to Ford Motor Company Common and Class B Shareholders

Net income/(loss)	\$1,592	\$2,047	\$1,572	\$2,520	\$1,736	\$1,066	\$991	\$(116 )
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## Common and Class B per share from income from continuing operations

Basic	\$0.40	\$0.51	\$0.40	\$0.63	\$0.44	\$0.27	\$0.25	\$(0.03 )
Diluted	0.40	0.51	0.39	0.63	0.43	0.27	0.25	(0.03 )

Certain of the quarterly results identified in the table above include material unusual or infrequently occurring items as follows on a pre-tax basis, except for tax items:

The fourth quarter 2017 results include a curtailment gain of \$354 million relating to a plan amendment to our principal salaried defined benefit pension plan in the United States.

The fourth quarter 2017 net income includes tax benefits of \$520 million and \$484 million related to U.S. tax legislation in the Tax Cuts and Jobs Act of 2017 and non-U.S. restructuring, respectively.

The fourth quarter 2018 results include a pension and OPEB net remeasurement loss of \$877 million.

FS-59

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FORD MOTOR COMPANY AND SUBSIDIARIES  
NOTES TO THE FINANCIAL STATEMENTS

NOTE 26. SUBSEQUENT EVENT

On February 15, 2019, Ford Motor Company Brasil Ltda. (“Ford Brazil”), our subsidiary in Brazil, committed to a plan to exit the commercial heavy truck business in South America. As a result, Ford Brazil will cease production at the São Bernardo do Campo plant in Brazil during 2019, ending sales in South America of the Cargo heavy truck lineup, F-4000, and F-350, as well as Fiesta cars. In connection with this announcement, we expect to record pre-tax special item charges of about \$460 million. The charges will include approximately \$100 million of non-cash charges for accelerated depreciation and amortization. The remaining charges of about \$360 million will be paid in cash and are primarily attributable to separation and termination payments for employees, dealers, and suppliers. Most of these pre-tax special item charges and cash outflows will be recorded in 2019.

FS-60

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FORD MOTOR COMPANY AND SUBSIDIARIES  
 Schedule II — Valuation and Qualifying Accounts  
 (in millions)

Description	Balance at Beginning of Period	Charged to Costs and Expenses	Deductions	Balance at End of Period
For the Year Ended December 31, 2016				
Allowances deducted from assets				
Credit losses	\$ 437	\$551	\$421	(a) \$ 567
Doubtful receivables	372	24	19	(b) 377
Inventories (primarily service part obsolescence)	227	(26)	(c) —	201
Deferred tax assets	1,831	209	(d) 1,131	(e) 909
Total allowances deducted from assets	\$ 2,867	\$758	\$1,571	\$2,054
For the Year Ended December 31, 2017				
Allowances deducted from assets				
Credit losses	\$ 567	\$595	\$483	(a) \$ 679
Doubtful receivables	377	24	(3)	(b) 404
Inventories (primarily service part obsolescence)	201	42	(c) —	243
Deferred tax assets	909	583	(d) —	1,492
Total allowances deducted from assets	\$ 2,054	\$1,244	\$480	\$2,818
For the Year Ended December 31, 2018				
Allowances deducted from assets				
Credit losses	\$ 679	\$524	\$533	(a) \$ 670
Doubtful receivables	404	5	315	(b) 94
Inventories (primarily service part obsolescence)	243	130	(c) —	373
Deferred tax assets	1,492	(519)	(d) —	973
Total allowances deducted from assets	\$ 2,818	\$140	\$848	\$2,110

(a) Finance receivables and lease investments deemed to be uncollectible and other changes, principally amounts related to finance receivables sold and translation adjustments.

(b) Accounts and notes receivable deemed to be uncollectible as well as translation adjustments.

(c) Net change in inventory allowances, including translation adjustments.

(d) Includes \$26 million, \$127 million, and \$(101) million in 2016, 2017, and 2018, respectively, of valuation allowance for deferred tax assets through Accumulated other comprehensive income/(loss), including translation adjustments and \$183 million, \$456 million, and \$(418) million in 2016, 2017, and 2018, respectively, of valuation allowance for deferred tax assets through the income statement.

(e) During 2016 we elected to tax a significant portion of our South American operations simultaneously in U.S. tax returns resulting in a \$1.1 billion reduction in deferred tax assets and related valuation allowance.