

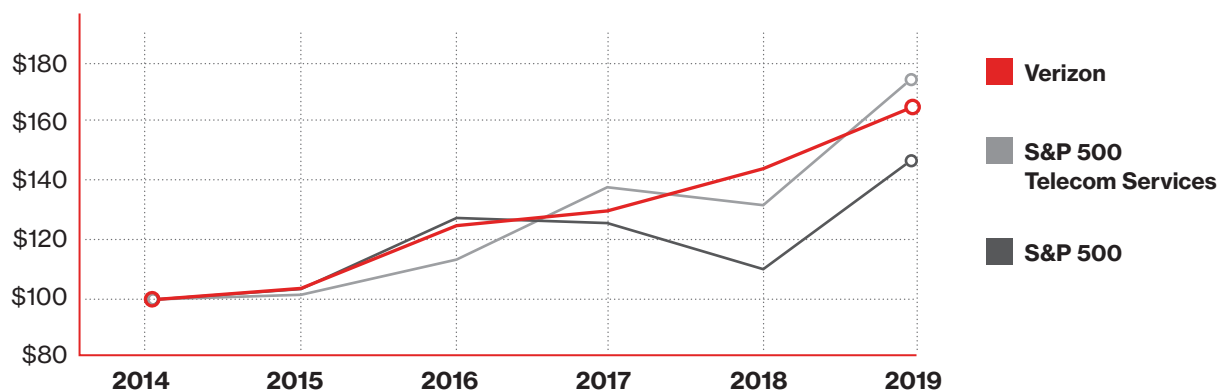
Selected Financial Data

	2019	2018	2017	2016	2015
(dollars in millions, except per share amounts)					
Results of Operations					
Operating revenues	\$ 131,868	\$ 130,863	\$ 126,034	\$ 125,980	\$ 131,620
Operating income	30,378	22,278	27,425	29,249	30,615
Net income attributable to Verizon	19,265	15,528	30,101	13,127	17,879
Per common share – basic	4.66	3.76	7.37	3.22	4.38
Per common share – diluted	4.65	3.76	7.36	3.21	4.37
Cash dividends declared per common share	2.435	2.385	2.335	2.285	2.230
Net income attributable to noncontrolling interests	523	511	449	481	496
Financial Position					
Total assets	\$ 291,727	\$ 264,829	\$ 257,143	\$ 244,180	\$ 244,175
Debt maturing within one year	10,777	7,190	3,453	2,645	6,489
Long-term debt	100,712	105,873	113,642	105,433	103,240
Employee benefit obligations	17,952	18,599	22,112	26,166	29,957
Noncontrolling interests	1,440	1,565	1,591	1,508	1,414
Equity attributable to Verizon	61,395	53,145	43,096	22,524	16,428

- Significant events affecting our historical earnings trends in 2018 through 2019 are described in “Special Items” in the “Management’s Discussion and Analysis of Financial Condition and Results of Operations” section.
- 2017 data includes severance, pension and benefit charges, gain on spectrum license transactions, acquisition and integration related charges, product realignment charges, net gain on sale of divested businesses and early debt redemption costs. 2016 data includes severance, pension and benefit charges, gain on spectrum license transactions, net gain on sale of divested businesses and early debt redemption costs. 2015 data includes severance, pension and benefit credits and gain on spectrum license transactions.
- On January 1, 2019, we adopted several Accounting Standards Updates (ASUs) that were issued by the Financial Accounting Standards Board (FASB) using the modified retrospective basis. On January 1, 2018, we adopted several ASUs that were issued by the FASB. These standards were adopted on different bases, including: (1) prospective; (2) full retrospective; and (3) modified retrospective. Based on the method of adoption, certain figures are not comparable, with full retrospective reflected in all periods. See Note 1 to the consolidated financial statements for additional information.

Stock Performance Graph

Comparison of Five-Year Total Return Among Verizon, S&P 500 and S&P 500 Telecommunications Services Index



	2014	2015	2016	2017	2018	2019
Verizon	\$ 100.0	\$ 103.6	\$ 125.1	\$ 130.1	\$ 144.7	\$ 164.8
S&P 500	100.0	103.4	127.7	126.1	110.3	146.3
S&P 500 Telecommunications Services	100.0	101.4	113.5	138.3	132.2	173.8

The graph compares the cumulative total returns of Verizon, the S&P 500 Stock Index and the S&P 500 Telecommunications Services Index over a five-year period. It assumes \$100 was invested on December 31, 2014 with dividends being reinvested.

Management's Discussion and Analysis of Financial Condition and Results of Operations

Overview

Verizon Communications Inc. (Verizon or the Company) is a holding company that, acting through its subsidiaries, is one of the world's leading providers of communications, information and entertainment products and services to consumers, businesses and government entities. With a presence around the world, we offer voice, data and video services and solutions on our networks that are designed to meet customers' demand for mobility, reliable network connectivity, security and control. We have a highly diverse workforce of approximately 135,000 employees as of December 31, 2019.

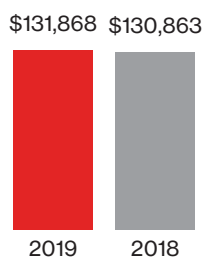
To compete effectively in today's dynamic marketplace, we are focused on the capabilities of our high-performing networks to drive growth based on delivering what customers want and need in the new digital world. During 2019, we focused on leveraging our network leadership; retaining and growing our high-quality customer base while balancing profitability; enhancing ecosystems in growth businesses; and driving monetization of our networks and solutions. We are creating business value by earning customers', employees' and shareholders' trust, limiting our environmental impact and continuing our customer growth while creating social benefit through our products and services. Our strategy requires significant capital investments primarily to acquire wireless spectrum, put the spectrum into service, provide additional capacity for growth in our networks, invest in the fiber that supports our businesses, evolve and maintain our networks and develop and maintain significant advanced information technology systems and data system capabilities. We believe that steady and consistent investments in our networks and platforms will drive innovative products and services and fuel our growth.

We are consistently deploying new network architecture and technologies to extend our leadership in both fourth-generation (4G) and fifth-generation (5G) wireless networks. We expect that our next-generation multi-use platform, which we call the Intelligent Edge Network, will simplify operations by eliminating legacy network elements, improve 4G Long-Term Evolution (LTE) wireless coverage, speed the deployment of 5G wireless technology and create new opportunities in the business market. Our network leadership is the hallmark of our brand and the foundation for the connectivity, platform and solutions upon which we build our competitive advantage.

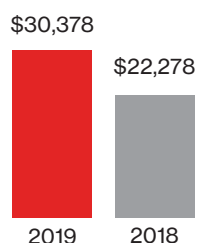
Highlights of Our 2019 Financial Results

(dollars in millions)

Operating Revenues



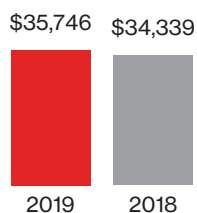
Operating Income



Net Income



Cash Flows from Operations



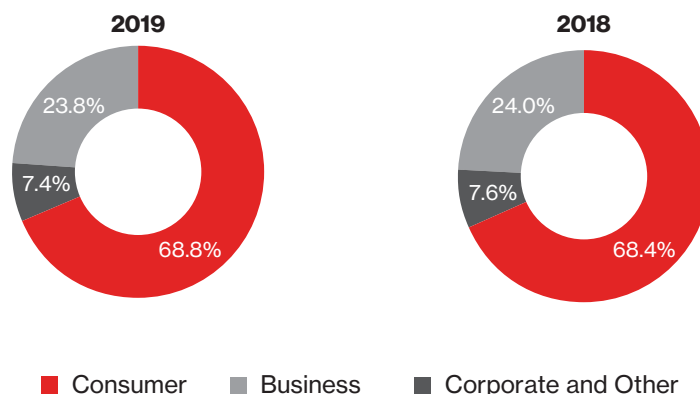
Capital Expenditures



Business Overview

In November 2018, we announced a strategic reorganization of our business. Under the new structure, effective April 1, 2019, there are two reportable segments that we operate and manage as strategic business units – Verizon Consumer Group (Consumer) and Verizon Business Group (Business).

Revenue by Segment



Note: Excludes eliminations.

Verizon Consumer Group

Our Consumer segment provides consumer-focused wireless and wireline communications services and products. Our wireless services are provided across one of the most extensive wireless networks in the United States (U.S.) under the Verizon brand and through wholesale and other arrangements. Our wireline services are provided in nine states in the Mid-Atlantic and Northeastern U.S., as well as Washington D.C., over our 100% fiber-optic network under the Fios brand and over a traditional copper-based network to customers who are not served by Fios. Our Consumer segment's wireless and wireline products and services are available to our retail customers, as well as resellers that purchase wireless network access from us on a wholesale basis.

Customers can obtain our wireless services on a postpaid or prepaid basis. A retail postpaid connection represents an individual line of service for a wireless device for which a customer is generally billed one month in advance for a monthly access charge in return for access to and usage of network services. Our prepaid service is offered only to Consumer customers and enables individuals to obtain wireless services without credit verification by paying for all services in advance. The Consumer segment also offers several categories of wireless equipment to customers, including a variety of smartphones and other handsets, wireless-enabled Internet devices, such as tablets, laptop computers and netbooks, and other wireless-enabled connected devices, such as smart watches and other wearables.

In addition to the wireless services and equipment discussed above, Consumer sells residential fixed connectivity solutions, including Internet, video and voice services, and wireless network access to resellers on a wholesale basis. The Consumer segment's operating revenues for the year ended December 31, 2019 totaled \$91.1 billion, an increase of \$1.3 billion, or 1.4%, compared to the year ended December 31, 2018. As of December 31, 2019, Consumer had approximately 95 million wireless retail connections, 6 million broadband connections and 4 million Fios video connections.

Verizon Business Group

Our Business segment provides wireless and wireline communications services and products, video and data services, corporate networking solutions, security and managed network services, local and long distance voice services and network access to deliver various Internet of Things (IoT) services and products, including solutions that support fleet tracking management, compliance management, field service management, asset tracking and other types of mobile resource management. We provide these products and services to businesses, government customers and wireless and wireline carriers across the U.S. and select products and services to customers around the world. The Business segment's operating revenues for the year ended December 31, 2019 totaled \$31.4 billion, a decrease of \$91 million, or 0.3%, compared to the year ended December 31, 2018. As of December 31, 2019, Business had approximately 25 million wireless retail postpaid connections and 489 thousand broadband connections.

Corporate and Other

Corporate and other includes the results of our media business, Verizon Media, and other businesses, investments in unconsolidated businesses, insurance captives, unallocated corporate expenses, certain pension and other employee benefit related costs and interest and financing expenses. Corporate and other also includes the historical results of divested businesses and other adjustments and gains and losses that are not allocated in assessing segment performance due to their nature. Although such

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Management's Discussion and Analysis of Financial Condition and Results of Operations *continued*

transactions are excluded from the business segment results, they are included in reported consolidated earnings. Gains and losses from transactions that are not individually significant are included in segment results as these items are included in the chief operating decision maker's assessment of segment performance.

Verizon Media includes diverse media and technology brands that serve both consumers and businesses. Verizon Media provides consumers with owned and operated and third-party search properties as well as mail, news, finance, sports and entertainment offerings, and provides other businesses and partners access to consumers through digital advertising, content delivery and video streaming platforms. Verizon Media's total operating revenues were \$7.5 billion for the year ended December 31, 2019. This was a decrease of 3.0% from the year ended December 31, 2018.

Capital Expenditures and Investments

We continue to invest in our wireless networks, high-speed fiber and other advanced technologies to position ourselves at the center of growth trends for the future. During the year ended December 31, 2019, these investments included \$17.9 billion for capital expenditures. See "Cash Flows Used in Investing Activities" and "Operating Environment and Trends" for additional information. We believe that our investments aimed at expanding our portfolio of products and services will provide our customers with an efficient, reliable infrastructure for competing in the information economy.

Global Network and Technology

We are focusing our capital spending on adding capacity and density to our 4G LTE network, while also building our next generation 5G network. We are densifying our network by utilizing small cell technology, in-building solutions and distributed antenna systems. Network densification enables us to add capacity to address increasing mobile video consumption and the growing demand for IoT products and services on our 4G LTE and 5G networks. Over the past several years, we have been leading the development of 5G wireless technology industry standards and the ecosystems for fixed and mobile 5G wireless services. We believe 5G technology will be able to provide users with eight capabilities, or currencies. The eight currencies are peak data rates, mobile data volumes, mobility, number of connected devices, energy efficiency of connected devices, service deployment, reduced latency and improved reliability. We expect that 5G technology will provide higher throughput and lower latency than the current 4G LTE technology and enable our networks to handle more traffic as the number of Internet-connected devices grows. During 2018, we commercially launched 5G Home on proprietary standards in four U.S. markets and on global standards in a fifth U.S. market in 2019. We also launched our 5G Ultra Wideband Network in 31 U.S. markets in 2019, as well as several 5G-compatible smartphones.

To compensate for the shrinking market for traditional copper-based products, we continue to build our wireline business around fiber-based networks supporting data, video and advanced business services - areas where demand for reliable high-speed connections is growing. We are evolving the architecture of our networks to a next-generation multi-use platform, providing improved efficiency and virtualization, increased automation and opportunities for edge computing services that will support both our fiber-based and radio access network technologies. We call this the Intelligent Edge Network. We expect that this new architecture will simplify operations by eliminating legacy network elements, improve our 4G LTE wireless coverage, speed the deployment of 5G wireless technology and create new opportunities in the business market.

Recent Developments

In 2019, the Federal Communications Commission (FCC) completed two millimeter wave spectrum license auctions. Verizon participated in these auctions and was the high bidder on 9 and 1,066 licenses, respectively, in the 24 Gigahertz (GHz) and 28 GHz bands. We submitted an application to the FCC and paid cash of approximately \$521 million for the licenses. We received the licenses during the fourth quarter of 2019.

In December 2019, the FCC incentive auction for spectrum licenses in the upper 37 GHz, 39 GHz, and 47 GHz bands commenced. As an incumbent licensee, Verizon received vouchers related to our existing 39 GHz licenses. These vouchers can be converted into cash, the amount of which will not be known until the conclusion of the auction, or applied toward the purchase price of spectrum in the auction. At the conclusion of the auction, all existing licenses will be cancelled and new reconfigured licenses or cash will be distributed depending on the results of the auction. Due to the FCC's rules restricting communications regarding the auction, we will not disclose our financial plans for the auction during the quiet period for this auction unless legally required. In addition, as of this time, until the completion of the auction process, we cannot determine the resulting financial outcome, including a potential gain or loss. Such gain or loss, if any, may be material.

Consolidated Results of Operations

In this section, we discuss our overall results of operations and highlight special items that are not included in our segment results. In "Segment Results of Operations," we review the performance of our two reportable segments in more detail. A detailed discussion of 2017 items and year-over-year comparisons between 2018 and 2017 that are not included in this Form 10-K can be found in the "Management's Discussion and Analysis of Financial Condition and Results of Operations" for the year ended December 31, 2018 filed with our most recent financial statements and included in the Company's Current Report on Form 8-K dated August 8, 2019.

Consolidated Revenues

Years Ended December 31,	2019	2018	(dollars in millions)	
			Increase/(Decrease)	
			2019 vs. 2018	
Consumer	\$ 91,056	\$ 89,762	\$ 1,294	1.4%
Business	31,443	31,534	(91)	(0.3)
Corporate and other	9,812	9,936	(124)	(1.2)
Eliminations	(443)	(369)	(74)	20.1
Consolidated Revenues	\$ 131,868	\$ 130,863	\$ 1,005	0.8

Consolidated revenues increased \$1.0 billion, or 0.8%, during 2019 compared to 2018, primarily due to an increase in revenues at our Consumer segment, partially offset by decreases in revenues at our Business segment and Corporate and other.

Revenues for our segments are discussed separately below under the heading "Segment Results of Operations."

Corporate and other revenues decreased \$124 million, or 1.2%, during 2019 compared to 2018, primarily due to a decrease of \$232 million in revenues within Verizon Media.

Consolidated Operating Expenses

Years Ended December 31,	2019	2018	(dollars in millions)	
			Increase/(Decrease)	
			2019 vs. 2018	
Cost of services	\$ 31,772	\$ 32,185	\$ (413)	(1.3)%
Cost of wireless equipment	22,954	23,323	(369)	(1.6)
Selling, general and administrative expense	29,896	31,083	(1,187)	(3.8)
Depreciation and amortization expense	16,682	17,403	(721)	(4.1)
Media goodwill impairment	186	4,591	(4,405)	(95.9)
Consolidated Operating Expenses	\$ 101,490	\$ 108,585	\$ (7,095)	(6.5)

Operating expenses for our segments are discussed separately below under the heading "Segment Results of Operations."

Cost of Services

Cost of services includes the following costs directly attributable to a service: salaries and wages, benefits, materials and supplies, content costs, contracted services, network access and transport costs, customer provisioning costs, computer systems support, and costs to support our outsourcing contracts and technical facilities. Aggregate customer care costs, which include billing and service provisioning, are allocated between Cost of services and Selling, general and administrative expense.

Cost of services decreased \$413 million, or 1.3%, during 2019 compared to 2018, primarily due to decreases in network access costs, a product realignment charge in 2018 (see "Special Items"), decreases in employee-related costs resulting from the Voluntary Separation Program and decreases in digital content costs. These decreases were partially offset by increases in rent expense as a result of adding capacity to the networks to support demand and the adoption of the new lease accounting standard in 2019, regulatory fees, and costs related to the device protection package offered to our wireless retail postpaid customers.

Cost of Wireless Equipment

Cost of wireless equipment decreased \$369 million, or 1.6%, during 2019 compared to 2018, primarily as a result of declines in the number of wireless devices sold as a result of an elongation of the handset upgrade cycle, partially offset by a shift to higher priced devices in the mix of wireless devices sold.

Selling, General and Administrative Expense

Selling, general and administrative expense includes salaries and wages and benefits not directly attributable to a service or product, bad debt charges, taxes other than income taxes, advertising and sales commission costs, call center and information technology costs, regulatory fees, professional service fees, and rent and utilities for administrative space. Also included is a portion of the aggregate customer care costs as discussed above in "Cost of Services."

Selling, general and administrative expense decreased \$1.2 billion, or 3.8%, during 2019 compared to 2018, primarily due to decreases in employee-related costs primarily due to the Voluntary Separation Program, a decrease in severance, pension and benefits charges (see "Special Items"), the acquisition and integration related charges in 2018 primarily related to the acquisition of

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Management's Discussion and Analysis of Financial Condition and Results of Operations *continued*

Yahoo's operating business (see "Special Items") and a net gain from dispositions of assets and businesses in 2019 (see "Special Items"), partially offset by increases in advertising expenses, sales commission and bad debt expense. The increase in sales commission expense during 2019 compared to 2018, was primarily due to a lower net deferral of commission costs as a result of the adoption of Topic 606 on January 1, 2018, using a modified retrospective approach.

Depreciation and Amortization Expense

Depreciation and amortization expense decreased \$721 million, or 4.1%, during 2019 compared to 2018, primarily due to the change in the mix of net depreciable assets.

Media Goodwill Impairment

The goodwill impairment charges recorded in 2019 and 2018 for Verizon Media were a result of the Company's annual impairment test performed in the fourth quarter (see "Critical Accounting Estimates").

Other Consolidated Results

Other Income (Expense), Net

Additional information relating to Other income (expense), net is as follows:

Years Ended December 31,	2019	2018	(dollars in millions)	
			Increase/(Decrease)	
			2019 vs. 2018	
Interest income	\$ 121	\$ 94	\$ 27	28.7%
Other components of net periodic benefit cost	627	3,068	(2,441)	(79.6)
Early debt extinguishment costs	(3,604)	(725)	(2,879)	nm
Other, net	(44)	(73)	29	39.7
Total	\$ (2,900)	\$ 2,364	\$ (5,264)	nm

nm - not meaningful

The change in Other income (expense), net during the year ended December 31, 2019, compared to the similar period in 2018, was primarily driven by early debt redemption costs of \$3.6 billion recorded during 2019, compared to \$725 million recorded during 2018 (see "Special Items") as well as pension and benefit charges of \$126 million recorded in 2019, compared with pension and benefit credits of \$2.1 billion recorded in 2018 (see "Special Items").

Interest Expense

Years Ended December 31,	2019	2018	(dollars in millions)	
			Increase/(Decrease)	
			2019 vs. 2018	
Total interest costs on debt balances	\$ 5,386	\$ 5,573	\$ (187)	(3.4)%
Less capitalized interest costs	656	740	(84)	(11.4)
Total	\$ 4,730	\$ 4,833	\$ (103)	(2.1)
Average debt outstanding	\$ 112,901	\$ 115,858		
Effective interest rate	4.8%	4.8%		

Total interest costs on debt balances decreased during 2019 primarily due to lower average debt balances.

Provision for Income Taxes

Years Ended December 31,	2019	2018	(dollars in millions)	
			Increase/(Decrease)	
			2019 vs. 2018	
Provision for income taxes	\$ 2,945	\$ 3,584	\$ (639)	(17.8)%
Effective income tax rate	13.0%	18.3%		

The effective income tax rate is calculated by dividing the provision for income taxes by income before income taxes. The effective income tax rate for 2019 was 13.0% compared to 18.3% for 2018. The decrease in the effective income tax rate and the provision for

income taxes was primarily due to the recognition of approximately \$2.2 billion of a non-recurring tax benefit in connection with the disposition of preferred stock, representing a minority interest in a foreign affiliate in 2019 compared to the non-recurring deferred tax benefit of approximately \$2.1 billion as a result of an internal reorganization of legal entities within the historical Wireless business, which was offset by a goodwill charge that is not deductible for tax purposes in 2018.

A reconciliation of the statutory federal income tax rate to the effective income tax rate for each period is included in Note 12 to the consolidated financial statements.

Consolidated Net Income, Consolidated EBITDA and Consolidated Adjusted EBITDA

Consolidated earnings before interest, taxes, depreciation and amortization expenses (Consolidated EBITDA) and Consolidated Adjusted EBITDA, which are presented below, are non-generally accepted accounting principles (GAAP) measures that we believe are useful to management, investors and other users of our financial information in evaluating operating profitability on a more variable cost basis as they exclude the depreciation and amortization expense related primarily to capital expenditures and acquisitions that occurred in prior years, as well as in evaluating operating performance in relation to Verizon's competitors. Consolidated EBITDA is calculated by adding back interest, taxes, and depreciation and amortization expenses to net income.

Consolidated Adjusted EBITDA is calculated by excluding from Consolidated EBITDA the effect of the following non-operational items: equity in losses of unconsolidated businesses and other income and expense, net, as well as the effect of special items. We believe that this measure is useful to management, investors and other users of our financial information in evaluating the effectiveness of our operations and underlying business trends in a manner that is consistent with management's evaluation of business performance. We believe that Consolidated Adjusted EBITDA is widely used by investors to compare a company's operating performance to its competitors by minimizing impacts caused by differences in capital structure, taxes and depreciation policies. Further, the exclusion of non-operational items and special items enables comparability to prior period performance and trend analysis. See "Special Items" for additional information.

It is management's intent to provide non-GAAP financial information to enhance the understanding of Verizon's GAAP financial information, and it should be considered by the reader in addition to, but not instead of, the financial statements prepared in accordance with GAAP. Each non-GAAP financial measure is presented along with the corresponding GAAP measure so as not to imply that more emphasis should be placed on the non-GAAP measure. We believe that non-GAAP measures provide relevant and useful information, which is used by management, investors and other users of our financial information, as well as by our management in assessing both consolidated and segment performance. The non-GAAP financial information presented may be determined or calculated differently by other companies and may not be directly comparable to that of other companies.

	(dollars in millions)	
Years Ended December 31,	2019	2018
Consolidated Net Income	\$ 19,788	\$ 16,039
Add:		
Provision for income taxes	2,945	3,584
Interest expense	4,730	4,833
Depreciation and amortization expense	16,682	17,403
Consolidated EBITDA	44,145	41,859
Add (Less):		
Other (income) expense, net†	2,900	(2,364)
Equity in losses of unconsolidated businesses‡	15	186
Severance charges	204	2,157
Acquisition and integration related charges§	–	531
Product realignment charges§	–	450
Impairment charges	186	4,591
Net gain from dispositions of assets and businesses	(261)	–
Consolidated Adjusted EBITDA	\$ 47,189	\$ 47,410

† Includes Pension and benefits mark-to-market adjustments and early debt redemption costs, where applicable.

‡ Includes Product realignment charges and impairment charges, where applicable.

§ Excludes depreciation and amortization expense.

The changes in Consolidated Net Income, Consolidated EBITDA and Consolidated Adjusted EBITDA in the table above were primarily a result of the factors described in connection with operating revenues and operating expenses.

Segment Results of Operations

We have two reportable segments that we operate and manage as strategic business units, Consumer and Business. We measure and evaluate our reportable segments based on segment operating income. The use of segment operating income is consistent with the chief operating decision maker's assessment of segment performance.

To aid in the understanding of segment performance as it relates to segment operating income, we use the following operating statistics to evaluate the overall effectiveness of our segments:

Wireless retail connections are retail customer device postpaid and prepaid connections. Retail connections under an account may include those from smartphones and basic phones (collectively, phones) as well as tablets and other Internet devices, including wearables and retail IoT devices.

Wireless retail postpaid connections are retail postpaid customer device connections. Retail connections under an account may include those from phones, as well as tablets and other Internet devices, including wearables and retail IoT devices.

Fios Internet connections are the total number of connections to the Internet using Fios Internet services.

Fios video connections are the total number of connections to traditional linear video programming using Fios video services.

Broadband connections are the total number of connections to the Internet using Digital Subscriber Line (DSL) and Fios Internet services.

Voice connections are the total number of traditional switched access lines in service and Fios digital voice connections.

Wireless retail connections, net additions are the total number of additional retail customer device postpaid and prepaid connections, less the number of device disconnects within the current period.

Wireless retail postpaid connections, net additions are the total number of additional retail customer device postpaid connections, less the number of device disconnects within the current period.

Churn is the rate at which service to either retail or postpaid retail connections is terminated on a monthly basis.

Wireless retail postpaid ARPA is the calculated average service revenue per account (ARPA) from retail postpaid accounts, which does not include recurring device payment plan billings related to the Verizon device payment program, plan billings related to total mobile protection packages or regulatory fees.

Wireless retail postpaid accounts are retail customers that are directly served and managed under the Verizon brand and use its services. Accounts include unlimited plans, shared data plans and corporate accounts, as well as legacy single connection plans and family plans. A single account may include monthly wireless services for a variety of connected devices.

Wireless retail postpaid connections per account is calculated by dividing the total number of retail postpaid connections by the number of retail postpaid accounts as of the end of the period.

Segment earnings before interest, taxes, depreciation and amortization (Segment EBITDA), which is presented below, is a non-GAAP measure and does not purport to be an alternative to operating income as a measure of operating performance. We believe this measure is useful to management, investors and other users of our financial information in evaluating operating profitability on a more variable cost basis as it excludes the depreciation and amortization expenses related primarily to capital expenditures and acquisitions that occurred in prior years, as well as in evaluating operating performance in relation to our competitors. Segment EBITDA is calculated by adding back depreciation and amortization expense to segment operating income. Segment EBITDA margin is calculated by dividing Segment EBITDA by total segment operating revenues. You can find additional information about our segments in Note 13 to the consolidated financial statements.

Verizon Consumer Group

Our Consumer segment provides consumer-focused wireless and wireline communications services and products. Our wireless services are provided across one of the most extensive wireless networks in the United States under the Verizon brand and through wholesale and other arrangements. Our wireline services are provided in nine states in the Mid-Atlantic and Northeastern U.S., as well as Washington D.C., over our 100% fiber-optic network under the Fios brand and over a traditional copper-based network to customers who are not served by Fios.

Operating Revenues and Selected Operating Statistics

Years Ended December 31,	2019	2018	(dollars in millions, except ARPA)	
			Increase/(Decrease)	
			2019 vs. 2018	
Service	\$ 65,383	\$ 64,223	\$ 1,160	1.8%
Wireless equipment	18,048	18,875	(827)	(4.4)
Other	7,625	6,664	961	14.4
Total Operating Revenues	\$ 91,056	\$ 89,762	\$ 1,294	1.4
Connections ('000):⁽¹⁾				
Wireless retail connections	94,544	94,507	37	–
Wireless retail postpaid connections	90,481	89,861	620	0.7
Fios Internet connections	5,902	5,760	142	2.5
Fios video connections	4,152	4,377	(225)	(5.1)
Broadband connections	6,467	6,460	7	0.1
Voice connections	5,754	6,332	(578)	(9.1)
Net Additions in Period ('000):⁽²⁾				
Wireless retail	379	372	7	1.9
Wireless retail postpaid	970	1,129	(159)	(14.1)
Wireless retail postpaid phones	737	498	239	48.0
Churn Rate:				
Wireless retail	1.28%	1.25%		
Wireless retail postpaid	1.05%	1.00%		
Wireless retail postpaid phones	0.79%	0.76%		
Account Statistics:				
Wireless retail postpaid ARPA	\$ 118.13	\$ 115.48	\$ 2.65	2.3
Wireless retail postpaid accounts ('000) ⁽¹⁾	33,875	34,086	(211)	(0.6)
Wireless retail postpaid connections per account ⁽¹⁾	2.67	2.64	0.03	1.1

⁽¹⁾ As of end of period⁽²⁾ Excluding acquisitions and adjustments

Consumer's total operating revenues increased \$1.3 billion, or 1.4%, during 2019 compared to 2018, primarily as a result of increases in Service and Other revenues, partially offset by a decrease in Wireless equipment revenue.

Service Revenue

Service revenue increased \$1.2 billion, or 1.8%, during 2019 compared to 2018, primarily due to increases in wireless service and Fios revenues, partially offset by decreases in wireline voice and DSL services.

Wireless service revenue increased \$1.3 billion, or 2.5%, during 2019 compared to 2018, due to increases in wireless access revenue, driven by customers shifting to higher access plans including unlimited plans and increases in the number of devices per account, the declining fixed-term subsidized plan base and growth from reseller accounts. Wireless retail postpaid ARPA increased 2.3%.

For the year ended December 31, 2019, Fios revenues totaled \$10.4 billion and increased \$92 million, or 0.9%, compared to 2018. This increase was due to a 2.5% increase in Fios Internet connections, reflecting increased demand in higher broadband speeds, partially offset by a 5.1% decrease in Fios video connections, reflecting the ongoing shift from traditional linear video to over-the-top (OTT) offerings.

Service revenue attributable to wireline voice and DSL broadband services declined during 2019, compared to 2018. The declines are primarily due to a decrease of 9.1% in voice connections resulting primarily from competition and technology substitution with wireless and competing Voice over Internet Protocol (VoIP) and cable telephony services.

Wireless Equipment Revenue

Wireless equipment revenue decreased \$827 million, or 4.4%, during 2019 compared to 2018, as a result of declines in wireless device sales primarily due to an elongation of the handset upgrade cycle and increased promotions. These decreases were partially offset by a shift to higher priced units in the mix of wireless devices sold.

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Other Revenue

Other revenue includes non-service revenues such as regulatory fees, cost recovery surcharges, revenues associated with our device protection package, leasing and interest on equipment financed under a device payment plan agreement when sold to the customer by an authorized agent.

Other revenue increased \$1.0 billion, or 14.4%, during 2019 compared to 2018, primarily due to pricing increases related to our wireless device protection plans, as well as regulatory fees.

Operating Expenses

Years Ended December 31,	2019	2018	(dollars in millions)	
			Increase/(Decrease)	
			2019 vs. 2018	
Cost of services	\$ 15,884	\$ 15,335	\$ 549	3.6%
Cost of wireless equipment	18,219	18,763	(544)	(2.9)
Selling, general and administrative expense	16,639	15,701	938	6.0
Depreciation and amortization expense	11,353	11,952	(599)	(5.0)
Total Operating Expenses	\$ 62,095	\$ 61,751	\$ 344	0.6

Cost of Services

Cost of services increased \$549 million, or 3.6%, during 2019 compared to 2018, primarily due to increases in rent expense as a result of adding capacity to the networks to support demand as well as an increase due to the adoption of the new lease accounting standard in 2019, increases in costs related to the device protection package offered to our wireless retail postpaid customers, as well as regulatory fees. These increases were partially offset by decreases in employee-related costs primarily due to the Voluntary Separation Program, as well as decreases in access costs and roaming.

Cost of Wireless Equipment

Cost of wireless equipment decreased \$544 million, or 2.9%, during 2019 compared to 2018, primarily as a result of declines in the number of wireless devices sold as a result of an elongation of the handset upgrade cycle. These decrease were partially offset by a shift to higher priced devices in the mix of wireless devices sold.

Selling, General and Administrative Expense

Selling, general and administrative expense increased \$938 million, or 6.0%, during 2019 compared to 2018, primarily due to increases in sales commission and bad debt expense, and an increase in advertising costs. The increase in sales commission expense during 2019 compared to 2018 was primarily due to a lower net deferral of commission costs as a result of the adoption of Topic 606 on January 1, 2018 using a modified retrospective approach. These increases were partially offset by decreases in employee-related costs primarily due to the Voluntary Separation Program.

Depreciation and Amortization Expense

Depreciation and amortization expense decreased \$599 million, or 5.0%, during 2019 compared to 2018, driven by the change in the mix of total Verizon depreciable assets and Consumer's usage of those assets.

Segment Operating Income and EBITDA

Years Ended December 31,	2019	2018	(dollars in millions)	
			Increase/(Decrease)	
			2019 vs. 2018	
Segment Operating Income	\$ 28,961	\$ 28,011	\$ 950	3.4%
Add Depreciation and amortization expense	11,353	11,952	(599)	(5.0)
Segment EBITDA	\$ 40,314	\$ 39,963	\$ 351	0.9
Segment operating income margin	31.8%	31.2%		
Segment EBITDA margin	44.3%	44.5%		

The changes in the table above during the periods presented were primarily a result of the factors described in connection with operating revenues and operating expenses.

Verizon Business Group

Our Business segment provides wireless and wireline communications services and products, video and data services, corporate networking solutions, security and managed network services, local and long distance voice services and network access to deliver

various IoT services and products. We provide these products and services to businesses, government customers and wireless and wireline carriers across the U.S. and select products and services to customers around the world. The Business segment is organized in four customer groups: Global Enterprise, Small and Medium Business, Public Sector and Other, and Wholesale.

Operating Revenues and Selected Operating Statistics

Years Ended December 31,	2019	2018	(dollars in millions)	
			Increase/(Decrease)	
			2019 vs. 2018	
Global Enterprise	\$ 10,818	\$ 11,201	\$ (383)	(3.4)%
Small and Medium Business	11,464	10,752	712	6.6
Public Sector and Other	5,922	5,833	89	1.5
Wholesale	3,239	3,748	(509)	(13.6)
Total Operating Revenues⁽¹⁾	\$ 31,443	\$ 31,534	\$ (91)	(0.3)
Connections ('000):⁽²⁾				
Wireless retail postpaid connections	25,217	23,492	1,725	7.3
Fios Internet connections	326	307	19	6.2
Fios video connections	77	74	3	4.1
Broadband connections	489	501	(12)	(2.4)
Voice connections	4,959	5,400	(441)	(8.2)
Net Additions in Period ('000):⁽³⁾				
Wireless retail postpaid	1,391	1,397	(6)	(0.4)
Wireless retail postpaid phones	698	625	73	11.7
Churn Rate:				
Wireless retail postpaid	1.24%	1.19%		
Wireless retail postpaid phones	0.99%	0.98%		

⁽¹⁾ Service and other revenues included in our Business segment amounted to approximately \$27.9 billion and \$28.1 billion for the years ended December 31, 2019 and 2018, respectively. Wireless equipment revenues included in our Business segment amounted to approximately \$3.5 billion and \$3.4 billion for the years ended December 31, 2019 and 2018, respectively.

⁽²⁾ As of end of period

⁽³⁾ Includes certain adjustments

Business revenues decreased \$91 million, or 0.3%, during 2019 compared to 2018, primarily due to decreases in Global Enterprise and Wholesale revenues, partially offset by increases in Small and Medium Business and Public Sector and Other revenues.

Global Enterprise

Global Enterprise offers services to large businesses, which are identified based on their size and volume of business with Verizon, as well as non-U.S. public sector customers.

Global Enterprise revenues decreased \$383 million, or 3.4%, during 2019 compared to 2018, primarily due to declines in traditional data and voice communication services as a result of competitive price pressures. These revenue decreases were partially offset by increases in wireless service revenue.

Small and Medium Business

Small and Medium Business offers wireless services and equipment, tailored voice and networking products, Fios services, IP networking, advanced voice solutions, security and managed information technology services to our U.S.-based customers that do not meet the requirements to be categorized as Global Enterprise.

Small and Medium Business revenues increased \$712 million, or 6.6%, during 2019 compared to 2018, primarily due to an increase in wireless postpaid service revenue of 11.7% as a result of increases in the amount of wireless retail postpaid connections. These increases were further driven by increased wireless equipment revenue resulting from a shift to higher priced units in the mix of wireless devices sold and increases in the number of wireless devices sold, increased revenue related to our wireless device protection package, as well as increased revenue related to Fios services. These revenue increases were partially offset by revenue declines related to the loss of voice and DSL service connections.

Small and Medium Business Fios revenues totaled \$915 million and increased \$110 million, or 13.7%, during 2019 compared to 2018, reflecting the increase in total connections, as well as increased demand for higher broadband speeds.

Public Sector and Other

Public Sector and Other offers wireless products and services as well as wireline connectivity and managed solutions to U.S. federal, state and local governments and educational institutions. These services include the business services and connectivity similar to

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the products and services offered by Global Enterprise, in each case, with features and pricing designed to address the needs of governments and educational institutions.

Public Sector and Other revenues increased \$89 million, or 1.5%, during 2019 compared to 2018, driven by increases in networking and wireless postpaid service revenue as a result of an increase in wireless retail postpaid connections.

Wholesale

Wholesale offers wireline communications services including data, voice, local dial tone and broadband services primarily to local, long distance, and wireless carriers that use our facilities to provide services to their customers.

Wholesale revenues decreased \$509 million, or 13.6%, during 2019 compared to 2018, primarily due to declines in core data and traditional voice services resulting from the effect of technology substitution and continuing contraction of market rates due to competition.

Operating Expenses

Years Ended December 31,	2019	2018	(dollars in millions)	
			Increase/(Decrease)	
			2019 vs. 2018	
Cost of services	\$ 10,655	\$ 10,859	\$ (204)	(1.9)%
Cost of wireless equipment	4,733	4,560	173	3.8
Selling, general and administrative expense	8,188	7,689	499	6.5
Depreciation and amortization expense	4,105	4,258	(153)	(3.6)
Total Operating Expenses	\$ 27,681	\$ 27,366	\$ 315	1.2

Cost of Services

Cost of services decreased \$204 million, or 1.9%, during 2019 compared to 2018, primarily due to lower access costs resulting from a decline in voice connections, as well as lower employee-related costs associated with the lower headcount resulting from the Voluntary Separation Program, offset by an increase in regulatory fees.

Cost of Wireless Equipment

Cost of wireless equipment increased \$173 million, or 3.8%, during 2019 compared to 2018, primarily driven by a shift to higher priced units in the mix of wireless devices sold and an increase in the number of wireless devices sold.

Selling, General and Administrative Expense

Selling, general and administrative expense increased \$499 million, or 6.5%, during 2019 compared to 2018, due to increases in advertising expenses and sales commission expense, which were partially offset by decreases in employee-related costs resulting from the Voluntary Separation Program. The increase in sales commission expense was primarily due to a lower net deferral of commission costs in 2019 as compared to 2018 as a result of the adoption of Topic 606 on January 1, 2018 using a modified retrospective approach.

Depreciation and Amortization Expense

Depreciation and amortization expense decreased \$153 million, or 3.6%, during 2019 compared to 2018, driven by the change in the mix of total Verizon depreciable assets and Business's usage of those assets.

Segment Operating Income and EBITDA

Years Ended December 31,	2019	2018	(dollars in millions)	
			Increase/(Decrease)	
			2019 vs. 2018	
Segment Operating Income	\$ 3,762	\$ 4,168	\$ (406)	(9.7)%
Add Depreciation and amortization expense	4,105	4,258	(153)	(3.6)
Segment EBITDA	\$ 7,867	\$ 8,426	\$ (559)	(6.6)
Segment operating income margin	12.0%	13.2%		
Segment EBITDA margin	25.0%	26.7%		

The changes in the table above during the periods presented were primarily a result of the factors described in connection with operating revenues and operating expenses.

Special Items

Special items included in Income Before (Provision) Benefit For Income Taxes were as follows:

Years Ended December 31,	(dollars in millions)	
	2019	2018
Severance, pension and benefits charges (credits)		
Selling, general and administrative expense	\$ 204	\$ 2,157
Other income (expense), net	126	(2,107)
Acquisition and integration related charges		
Selling, general and administrative expense	–	531
Depreciation and amortization expense	–	22
Product realignment charges		
Cost of services	–	303
Selling, general and administrative expense	–	147
Equity in losses of unconsolidated businesses	–	207
Depreciation and amortization expense	–	1
Impairment charges		
Media goodwill impairment	186	4,591
Equity in losses of unconsolidated businesses	50	–
Early debt redemption costs		
Other income (expense), net	3,604	725
Net gain from dispositions of assets and businesses		
Selling, general and administrative expense	(261)	–
Total	\$ 3,909	\$ 6,577

The Consolidated Adjusted EBITDA non-GAAP measure presented in the Consolidated Net Income, Consolidated EBITDA and Consolidated Adjusted EBITDA discussion (see "Consolidated Results of Operations") excludes all of the amounts included above, as described below.

The income and expenses related to special items included in our consolidated results of operations were as follows:

Years Ended December 31,	(dollars in millions)	
	2019	2018
Within Total Operating Expenses	\$ 129	\$ 7,752
Within Equity in losses of unconsolidated businesses	50	207
Within Other income (expense), net	3,730	(1,382)
Total	\$ 3,909	\$ 6,577

Severance, Pension and Benefits Charges (Credits)

During 2019, in accordance with our accounting policy to recognize actuarial gains and losses in the period in which they occur, we recorded net pre-tax pension and benefits charges of \$126 million in our pension and postretirement benefit plans. The charges were recorded in Other income (expense), net in our consolidated statements of income and were primarily driven by a decrease in our discount rate assumption used to determine the current year liabilities of our pension plans and postretirement benefit plans from a weighted-average of 4.4% at December 31, 2018 to a weighted-average of 3.3% at December 31, 2019 (\$4.3 billion), partially offset by the difference between our estimated return on assets and our actual return on assets (\$2.3 billion) and other assumption adjustments of \$1.9 billion, of which \$1.6 billion related to healthcare claims experience. During 2019, we also recorded net pre-tax severance charges of \$204 million in Selling, general and administrative expense in our consolidated statements of income.

During 2018, we recorded net pre-tax pension and benefits credits of \$2.1 billion in accordance with our accounting policy to recognize actuarial gains and losses in the period in which they occur. The pension and benefits remeasurement credits of \$2.3 billion, which were recorded in Other income (expense), net in our consolidated statements of income, were primarily driven by an increase in our discount rate assumption used to determine the current year liabilities of our pension plans and postretirement benefit plans from a weighted-average of 3.7% at December 31, 2017 to a weighted-average of 4.4% at December 31, 2018 (\$2.6 billion), and mortality and other assumption adjustments of \$1.7 billion, \$1.6 billion of which related to healthcare claims and trend adjustments, offset by the difference between our estimated return on assets of 7.0% and our actual return on assets of (2.7)%

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(\$1.9 billion). The credits were partially offset by \$177 million due to the effects of participants retiring under the Voluntary Separation Program. During 2018, we also recorded net pre-tax severance charges of \$2.2 billion in Selling, general and administrative expense, primarily driven by the Voluntary Separation Program for select U.S.-based management employees and other headcount reduction initiatives, which resulted in a severance charge of \$1.8 billion (\$1.4 billion after-tax), and \$339 million in severance costs recorded under other existing separation plans.

Due to the presentation of the other components of net periodic benefit cost, we recognize a portion of the pension and benefits charges (credits) in Other income (expense), net in our consolidated statements of income.

See Note 11 to the consolidated financial statements for additional information related to severance, pension and benefits charges (credits).

Acquisition and Integration Related Charges

Acquisition and integration related charges of \$553 million recorded during the year ended December 31, 2018 primarily related to the acquisition of Yahoo's operating business in June 2017.

Product Realignment Charges

Product realignment charges of \$658 million recorded during the year ended December 31, 2018 primarily related to the discontinuation of the go90 platform and associated content during the second quarter of 2018.

Impairment Charges

The impairment charges consist of write-downs of goodwill and other investments or assets. The goodwill impairment charges of \$186 million and \$4.6 billion recorded during the years ended December 31, 2019 and 2018, respectively, for Verizon Media were a result of the Company's annual impairment test performed in the fourth quarter (see "Critical Accounting Estimates"). In addition, we recorded an impairment charge of \$50 million in Equity in losses of unconsolidated businesses related to a media joint venture investment.

Early Debt Redemption Costs

During 2019 and 2018, we recorded early debt redemptions costs of \$3.6 billion and \$725 million, respectively.

We recognize early debt redemptions costs in Other income (expense), net in our consolidated statements of income. See Note 7 to the consolidated financial statements for additional information related to our early debt redemptions.

Net Gain from Dispositions of Assets and Businesses

During 2019, we recorded a pre-tax net gain from dispositions of assets and businesses of \$261 million in connection with the sale of various real estate properties and businesses.

Operating Environment and Trends

The telecommunications industry is highly competitive. We expect competition to remain intense as traditional and non-traditional participants seek increased market share. Our high-quality customer base and networks differentiate us from our competitors and give us the ability to plan and manage through changing economic and competitive conditions. We remain focused on executing on the fundamentals of the business: maintaining a high-quality customer base, delivering strong financial and operating results and strengthening our balance sheet. We will continue to invest for growth, which we believe is the key to creating value for our shareholders. We continue to lead in 4G LTE performance while building momentum for our 5G network. Our strategy lays the foundation for the future through investments in our Intelligent Edge Network that enable efficiencies throughout our core infrastructure and deliver flexibility to meet customer requirements.

The U.S. wireless market has achieved a high penetration of smartphones, which reduces the opportunity for new phone connection growth for the industry. We expect future revenue growth in the industry to be driven by expanding existing customer relationships, increasing the number of ways customers can connect with wireless networks and services and increasing the penetration of other connected devices including wearables, tablets and IoT devices. We expect 5G technology will provide a significant opportunity for growth in the industry in 2021 and beyond. With respect to our wireless connectivity products and services, we compete against other national wireless service providers, including AT&T Inc., Sprint Corporation and T-Mobile USA, Inc., as well as various regional wireless service providers. We also compete for retail activations with resellers that buy bulk wholesale service from wireless service providers, including Verizon, and resell it to their customers. Resellers may include cable companies. We face competition from other communications and technology companies seeking to increase their brand recognition and capture customer revenue with respect to the provision of wireless products and services, in addition to non-traditional offerings in mobile data. For example, Microsoft Corporation, Alphabet Inc., Apple Inc. and others are offering alternative means for making wireless voice calls that, in certain cases, can be used in lieu of the wireless provider's voice service, as well as alternative means of accessing video content.

With respect to wireless services and equipment, pricing plays an important role in the wireless competitive landscape. We compete in this area by offering our customers services and devices that we believe they will regard as the best available value for the price. As the demand for wireless services continues to grow, wireless service providers are offering a range of service plans at competitive prices. These service offerings will vary from time to time based on customer needs, technology changes and market conditions and may be provided as standard plans or as part of limited time promotional offers.

We expect future service revenue growth opportunities to arise from increased access revenue as customers shift to higher access plans, as well as from increased connections per account. Future service revenue growth opportunities will be dependent on expanding the penetration of our services, increasing the number of ways that our customers can connect with our networks and services and the development of new ecosystems. We and other wireless service providers, as well as equipment manufacturers, offer device payment options, which provide customers with the ability to pay for their device over a period of time, and some providers offer device leasing arrangements.

Current and potential competitors in the wireline service market include cable companies, wireless service providers, domestic and foreign telecommunications providers, satellite television companies, Internet service providers, over-the-top providers and other companies that offer network services and managed enterprise solutions.

In addition, companies with a global presence are increasingly competing with us in our wireline services. A relatively small number of telecommunications and integrated service providers with global operations serve customers in the global enterprise market and, to a lesser extent, the global wholesale market. We compete with these providers for large contracts to provide integrated solutions to global enterprises. Many of these companies have strong market presence, brand recognition and existing customer relationships, all of which contribute to intensifying competition that may affect our future revenue growth.

Despite this challenging environment, we expect that we will be able to grow key aspects of our wireline services. We continue to provide network reliability and offer products, which include fiber-optic Internet access, several video services, and voice services. Further, we will continue to offer our business and government customers more robust IP products and services, and advance our IoT strategies by leveraging business models that monetize usage on our networks at the connectivity, platform and solution layers.

The online advertising market continues to evolve as online users are migrating from traditional desktop to mobile and multiple-device usage. Also, there is a continued shift towards programmatic advertising which presents opportunities to connect online advertisers with the appropriate online users in a rapid environment. Our Media business competes with other online search engines, advertising platforms, digital video services and social networks. We are experiencing pressure from search and desktop usage and believe the pressure in these sectors will continue. We are implementing initiatives to realize synergies across all of our media assets and build services around our core content pillars to diversify revenue and return to growth.

We will also continue to focus on cost efficiencies to ensure we have the maximum flexibility to adjust to changes in the competitive and economic environments and maximize returns to shareholders.

2020 Connection Trends

In our Consumer segment, we expect to continue to attract new customers and maintain high-quality retail postpaid customers, capitalizing on demand for data services and providing our customers new ways of using wireless services in their daily lives. We expect that future connection growth will be driven by smartphones, tablets and other connected devices such as wearables. We believe the combination of our wireless network performance and Mix & Match unlimited plans provides a superior customer experience, supporting increased penetration of data services and the continued attraction and retention of higher valued retail postpaid connections. We expect to manage churn by providing a consistent, reliable experience on our wireless service and focusing on improving the customer experience through simplified pricing and continued focus in our distribution channels. We expect to continue to grow our Fios Internet connections as we seek to increase our penetration rates within our Fios service areas, further supported by the demand for higher speed internet connections. In Fios video, the business continues to face ongoing pressure as observed throughout the linear television market. We expect to manage market pressure by offering customers a choice of video service, including options such as Mix & Match on Fios and other offerings. We have experienced continuing access line and DSL losses as customers have disconnected both primary and secondary lines and switched to alternative technologies such as wireless, VoIP and cable for voice and data services.

In our Business segment, we offer wireless products and services to business and government customers across the U.S. We continue to grow our retail connections while facing a competitive environment. We expect to maintain connection growth in part by adding capacity and density to our 4G LTE network, in addition to leading the build-out of 5G technology. We expect this connection growth, combined with our industry-leading network assets, will provide additional opportunities to sell solutions, such as those around security, advanced communications and professional services. We expect to expand our existing services offered to business customers through our Intelligent Edge Network, our multi-use platform.

2020 Operating Revenue Trends

In our Consumer segment, we expect to see a continuation of the service revenue trends from 2019 as customers shift to higher access plans with additional services and increase the number of devices they connect with our networks and services. Equipment revenues are largely dependent on wireless device sales volumes, the mix of devices, promotions and upgrades, which are subject to

device lifecycles, iconic device launches and competition within the wireless industry. We anticipate an increase in wireless device upgrades in the second half of the year as we expand the availability and reach of our 5G network.

In our Business segment, we expect overall revenue growth in 2020 as wireless services and our high-quality fiber-based products will offset secular declines from legacy technologies and pressure from competition. We expect wireless revenue to expand, driven by connection growth led by Small and Medium Business. We expect our Fios products, through increased penetration, will also contribute to revenue growth. Legacy traditional wireline services continue to face secular pressures.

Our Media Business, Verizon Media, is primarily made up of digital advertising products. We are experiencing revenue pressure from search and desktop usage, which started to improve throughout 2019 and believe the pressure in those sectors will continue. We are focused on returning to revenue growth by implementing initiatives to realize synergies across all of our media assets and building services around our core content pillars. We expect positive growth in mobile services and products.

2020 Operating Expense and Cash Flow from Operations Trends

We expect our consolidated operating income margin and adjusted consolidated EBITDA margin to remain strong as we continue to undertake initiatives to reduce our overall cost structure by improving productivity and gaining efficiencies in our operations throughout the business in 2020 and beyond. Business Excellence initiatives include the adoption of the zero-based budgeting methodology, driving capital efficiencies from the architecture of the networks, evolving our Information Technology strategy and the continuing benefit from the Voluntary Separation Program. We believe our additional investments in our Business segment in both product simplification and continued focus on process improvements and new work tools will drive cost savings and create incremental growth opportunities in areas such as 5G and One Fiber. The goal of the Business Excellence initiative is to take \$10 billion of cumulative cash outflows out of the business over four years, beginning with 2018. As part of this initiative, we are focusing on both operating expenses and capital expenditures. Our Business Excellence initiatives produced cumulative cash savings of \$5.7 billion through the end of 2019 from a mix of capital and operational expenditure activities. The program remains on track to achieve our goal. Expenses related to programs funded through the reinvestment of program savings are expected to apply offsetting pressures to our margins.

The implementation of Topic 606 resulted in the deferral of commission expense in both our Consumer and Business segments. In 2020, we expect a smaller year-over-year benefit from the adoption of the standard due to the deferral of commission costs as compared to 2018 and 2019. The reduction in benefit creates a year-over-year headwind to operating income.

We create value for our shareholders by investing the cash flows generated by our business in opportunities and transactions that support continued profitable growth, thereby increasing customer satisfaction and usage of our products and services. In addition, we have used our cash flows to maintain and grow our dividend payout to shareholders. Verizon's Board of Directors increased the Company's quarterly dividend by 2.1% during 2019, making this the thirteenth consecutive year in which we have raised our dividend.

Our goal is to use our cash to create long-term value for our shareholders. We will continue to look for investment opportunities that will help us to grow the business, strengthen our balance sheet, acquire spectrum licenses (see "Cash Flows from Investing Activities"), pay dividends to our shareholders and, when appropriate, buy back shares of our outstanding common stock (see "Cash Flows from Financing Activities").

Capital Expenditures

Our 2020 capital program includes capital to fund advanced networks and services, including expanding our core networks, adding capacity and density to our 4G LTE network in order to stay ahead of our customers' increasing data demands and deploying our 5G network, transforming our structure to deploy the Intelligent Edge Network while reducing the cost to deliver services to our customers, and pursuing other opportunities to drive operating efficiencies. We expect that the new network architecture will simplify operations by eliminating legacy network elements, improve our 4G LTE coverage, speed the deployment of 5G technology, and create new enterprise opportunities in the business market. The level and the timing of the Company's capital expenditures within these broad categories can vary significantly as a result of a variety of factors outside of our control, such as material weather events, equipment availability from vendors and permits from local governments. Capital expenditures for 2020 are expected to be in the range of \$17.0 billion to \$18.0 billion, including the continued investment in our 5G network. Capital expenditures were \$17.9 billion in 2019 and \$16.7 billion in 2018. We believe that we have significant discretion over the amount and timing of our capital expenditures on a Company-wide basis as we are not subject to any agreement that would require significant capital expenditures on a designated schedule or upon the occurrence of designated events.

Consolidated Financial Condition

Years Ended December 31,	(dollars in millions)	
	2019	2018
Cash flows provided by (used in)		
Operating activities	\$ 35,746	\$ 34,339
Investing activities	(17,581)	(17,934)
Financing activities	(18,164)	(15,377)
Increase in cash, cash equivalents and restricted cash	\$ 1	\$ 1,028

We use the net cash generated from our operations to fund expansion and modernization of our networks, service and repay external financing, pay dividends, invest in new businesses and spectrum and, when appropriate, buy back shares of our outstanding common stock. Our sources of funds, primarily from operations and, to the extent necessary, from external financing arrangements, are sufficient to meet ongoing operating and investing requirements. We expect that our capital spending requirements will continue to be financed primarily through internally generated funds. Debt or equity financing may be needed to fund additional investments or development activities or to maintain an appropriate capital structure to ensure our financial flexibility. Our cash and cash equivalents are held both domestically and internationally, and are invested to maintain principal and provide liquidity. See "Market Risk" for additional information regarding our foreign currency risk management strategies.

Our available external financing arrangements include an active commercial paper program, credit available under credit facilities and other bank lines of credit, vendor financing arrangements, issuances of registered debt or equity securities, U.S. retail medium-term notes and other capital market securities that are privately-placed or offered overseas. In addition, we monetize our device payment plan agreement receivables through asset-backed debt transactions.

Cash Flows Provided By Operating Activities

Our primary source of funds continues to be cash generated from operations. Net cash provided by operating activities increased by \$1.4 billion during 2019, compared to the similar period in 2018, primarily due to an increase in earnings and a decrease in discretionary contributions to qualified employee benefit plans, offset by changes in working capital, which includes an increase in cash income taxes as well as severance payments as a result of the Voluntary Separation Program. We made \$300 million and \$1.7 billion in discretionary employee benefits contributions to our defined benefit pension plan during 2019 and 2018, respectively. As a result of the discretionary pension contributions, we expect that there will be no required pension funding until 2026, which will continue to benefit future cash flows. These contributions also improved the funded status of our qualified pension plan.

Cash Flows Used In Investing Activities

Capital Expenditures

Capital expenditures continue to relate primarily to the use of capital resources to facilitate the introduction of new products and services, enhance responsiveness to competitive challenges, maintain our existing infrastructure and increase the operating efficiency and productivity of our networks.

Capital expenditures, including capitalized software, were as follows:

Years Ended December 31,	(dollars in millions)	
	2019	2018
Capital expenditures (including capitalized software)	\$ 17,939	\$ 16,658
Total as a percentage of revenue	13.6%	12.7%

Capital expenditures increased in 2019 primarily due to an increase in investments to support multi-use fiber assets, which support the densification of our 4G LTE network and our 5G technology deployment. Our investments are primarily related to network infrastructure to support the business.

Acquisitions

During 2019 and 2018, we invested \$898 million and \$1.4 billion, respectively, in acquisitions of wireless licenses. During 2019 and 2018, we also invested an insignificant amount and \$230 million, respectively, in acquisitions of businesses, net of cash acquired.

In 2019, the FCC completed two millimeter wave spectrum license auctions. We paid approximately \$521 million for spectrum licenses in connection with these auctions. See Note 3 to the consolidated financial statements for additional information.

In January 2018, Verizon acquired NextLink Wireless LLC (NextLink) from a wholly-owned subsidiary of XO Holdings for approximately \$493 million, subject to certain adjustments, of which \$320 million (an option exercise price to acquire NextLink) was

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prepaid in the first quarter of 2017. The option exercise price represented the fair value of the option. The remaining cash consideration was paid at the closing of the transaction. The spectrum acquired as part of the transaction is being used for our 5G technology deployment.

In February 2018, Verizon acquired Straight Path Communications Inc. (Straight Path), a holder of millimeter wave spectrum configured for 5G wireless services for total consideration reflecting an enterprise value of approximately \$3.1 billion, which was primarily settled with Verizon shares but also included transaction costs payable in cash of approximately \$736 million, consisting primarily of a fee paid to the FCC. The spectrum acquired as part of the transaction is being used for our 5G technology deployment.

During 2019 and 2018, we completed various other acquisitions for an insignificant amount of cash consideration.

See "Acquisitions and Divestitures" for information on our acquisitions.

Dispositions

During 2019, we received gross proceeds of approximately \$1.0 billion for a sale-leaseback transaction for buildings and real estate. See Note 6 to the consolidated financial statements for additional information.

Cash Flows Used In Financing Activities

We seek to maintain a mix of fixed and variable rate debt to lower borrowing costs within reasonable risk parameters and to protect against earnings and cash flow volatility resulting from changes in market conditions. During 2019 and 2018, net cash used in financing activities was \$18.2 billion and \$15.4 billion, respectively.

2019

During 2019, our net cash used in financing activities of \$18.2 billion was primarily driven by:

- \$23.9 billion used for repayments, redemptions and repurchases of long-term borrowings and finance lease obligations, which included \$6.3 billion used for prepayments and repayments of asset-backed long-term borrowings;
- \$10.0 billion used for dividend payments; and
- \$1.8 billion used for net debt related costs.

These uses of cash were partially offset by proceeds from long-term borrowings of \$18.7 billion, which included \$8.6 billion of proceeds from our asset-backed debt transactions.

Proceeds from and Repayments, Redemptions, and Repurchases of Long-Term Borrowings

At December 31, 2019, our total debt decreased to \$111.5 billion as compared to \$113.1 billion at December 31, 2018. During both the years ended December 31, 2019 and 2018, our effective interest rate was 4.8%. The substantial majority of our total debt portfolio consists of fixed rate indebtedness, therefore, changes in interest rates do not have a material effect on our interest payments. See also "Market Risk" and Note 7 to the consolidated financial statements for additional information.

At December 31, 2019, approximately \$23.5 billion, or 21.1%, of the aggregate principal amount of our total debt portfolio consisted of foreign denominated debt, primarily the Euro and British Pound Sterling. We have entered into cross currency swaps on substantially all of our foreign denominated debt in order to fix our future interest and principal payments in U.S. dollars and mitigate the impact of foreign currency transaction gains or losses. See "Market Risk" for additional information.

Verizon may continue to repurchase debt securities issued by Verizon and its affiliates in the future through open market purchases, privately negotiated transactions, tender offers, exchange offers, or otherwise, upon such terms and at such prices as Verizon may from time to time determine for cash or other consideration.

Other, net

Other, net financing activities during 2019 includes early redemption costs, see "Special Items" for additional information, as well as cash paid on debt exchanges and derivative-related transactions. See Note 15 to the consolidated financial statements for additional information.

Dividends

The Verizon Board of Directors assesses the level of our dividend payments on a periodic basis taking into account such factors as long-term growth opportunities, internal cash requirements and the expectations of our shareholders. During the third quarter of 2019, the Board increased our quarterly dividend payment by 2.1% to \$0.6150 from \$0.6025 per share from the previous quarter. This is the thirteenth consecutive year that Verizon's Board of Directors has approved a quarterly dividend increase.

As in prior periods, dividend payments were a significant use of capital resources. During 2019, we paid \$10.0 billion in dividends.

2018

During 2018, our net cash used in financing activities of \$15.4 billion was primarily driven by:

- \$14.6 billion used for repayments, redemptions and repurchases of long-term borrowings and finance lease obligations, which included \$3.6 billion used for prepayments of asset-backed long-term borrowings; and
- \$9.8 billion used for dividend payments.

These uses of cash were partially offset by proceeds from long-term borrowings of \$10.8 billion, which included \$4.8 billion of proceeds from our asset-backed debt transactions.

Proceeds from and Repayments, Redemptions, and Repurchases of Long-Term Borrowings

At December 31, 2018, our total debt was \$113.1 billion, and during the year ended December 31, 2018, our effective interest rate was 4.8%. The substantial majority of our total debt portfolio consisted of fixed rate indebtedness, therefore, changes in interest rates did not have a material effect on our interest payments. See "Market Risk" and Note 7 to the consolidated financial statements for additional information.

At December 31, 2018, approximately \$17.1 billion, or 15.1%, of the aggregate principal amount of our total debt portfolio consisted of foreign denominated debt, primarily the Euro and British Pound Sterling. We have entered into cross currency swaps on a majority of our foreign denominated debt in order to fix our future interest and principal payments in U.S. dollars and mitigate the impact of foreign currency transaction gains or losses. See "Market Risk" for additional information.

Other, net

Other, net financing activities during 2018, included early debt redemption costs. See "Special Items" for additional information, as well as cash paid on debt exchanges and derivative-related transactions.

Dividends

During the third quarter of 2018, the Board increased our quarterly dividend payment by 2.1% to \$0.6025 per share.

As in prior periods, dividend payments were a significant use of capital resources. During 2018, we paid \$9.8 billion in dividends.

Asset-Backed Debt

As of December 31, 2019, the carrying value of our asset-backed debt was \$12.4 billion. Our asset-backed debt includes Asset-Backed Notes (ABS Notes) issued to third-party investors (Investors) and loans (ABS Financing Facilities) received from banks and their conduit facilities (collectively, the Banks). Our consolidated asset-backed debt bankruptcy remote legal entities (each, an ABS Entity or collectively, the ABS Entities) issue the debt or are otherwise party to the transaction documentation in connection with our asset-backed debt transactions. Under the terms of our asset-backed debt, Cellco Partnership (Cellco) and certain other affiliates of Verizon (collectively, the Originators) transfer device payment plan agreement receivables to one of the ABS Entities, which in turn transfers such receivables to another ABS Entity that issues the debt. Verizon entities retain the equity interests in the ABS Entities, which represent the rights to all funds not needed to make required payments on the asset-backed debt and other related payments and expenses.

Our asset-backed debt is secured by the transferred device payment plan agreement receivables and future collections on such receivables. The device payment plan agreement receivables transferred to the ABS Entities and related assets, consisting primarily of restricted cash, will only be available for payment of asset-backed debt and expenses related thereto, payments to the Originators in respect of additional transfers of device payment plan agreement receivables, and other obligations arising from our asset-backed debt transactions, and will not be available to pay other obligations or claims of Verizon's creditors until the associated asset-backed debt and other obligations are satisfied. The Investors or Banks, as applicable, which hold our asset-backed debt have legal recourse to the assets securing the debt, but do not have any recourse to Verizon with respect to the payment of principal and interest on the debt. Under a parent support agreement, Verizon has agreed to guarantee certain of the payment obligations of Cellco and the Originators to the ABS Entities.

Cash collections on the device payment plan agreement receivables collateralizing our asset-backed debt securities are required at certain specified times to be placed into segregated accounts. Deposits to the segregated accounts are considered restricted cash and are included in Prepaid expenses and other, and Other assets in our consolidated balance sheets.

Proceeds from our asset-backed debt transactions are reflected in Cash flows from financing activities in our consolidated statements of cash flows. The asset-backed debt issued and the assets securing this debt are included in our consolidated balance sheets. See Note 7 to the consolidated financial statements for additional information.

In May 2018, we entered into an ABS financing facility with a number of financial institutions (2018 ABS Financing Facility). One loan agreement was entered into in connection with the 2018 ABS Financing Facility. In May 2019, the \$540 million outstanding under the loan agreement was prepaid, and the loan agreement was terminated.

In September 2016, we entered into an ABS financing facility with a number of financial institutions (2016 ABS Financing Facility). Two loan agreements were entered into in connection with the 2016 ABS Financing Facility in September 2016 and May 2017. In April and May 2019, we paid off both the 2016 and 2017 loans for an aggregate of \$671 million, and the loan agreements were terminated.

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Management's Discussion and Analysis of Financial Condition and Results of Operations *continued*

In May 2019, the 2016 ABS Financing Facility was amended and restated (2019 ABS Financing Facility). One loan agreement was entered into in connection with the 2019 ABS Financing Facility. Under the 2019 loan agreement, we have the right to prepay all or a portion of the advances at any time without penalty, but in certain cases, with breakage costs. During 2019, we received \$4.8 billion of borrowings and prepaid \$1.5 billion under the 2019 loan agreement.

Long-Term Credit Facilities

(dollars in millions)	Maturities	At December 31, 2019		
		Facility Capacity	Unused Capacity	Principal Amount Outstanding
Verizon revolving credit facility ⁽¹⁾	2022	\$ 9,500	\$ 9,390	N/A
Various export credit facilities ⁽²⁾	2022-2027	5,500	–	4,471
Total		\$ 15,000	\$ 9,390	\$ 4,471

⁽¹⁾ The revolving credit facility does not require us to comply with financial covenants or maintain specified credit ratings, and it permits us to borrow even if our business has incurred a material adverse change. The revolving credit facility provides for the issuance of letters of credit.

⁽²⁾ During 2019 and 2018, we drew down \$1.5 billion and \$3.0 billion from these facilities, respectively. We use these credit facilities to finance equipment-related purchases.

Common Stock

Common stock has been used from time to time to satisfy some of the funding requirements of employee and shareholder plans. During the years ended December 31, 2019 and 2018, we issued 3.8 million and 3.5 million common shares from Treasury stock, respectively, which had an insignificant aggregate value.

In February 2020, the Verizon Board of Directors authorized a share buyback program to repurchase up to 100 million shares of the Company's common stock. The program will terminate when the aggregate number of shares purchased reaches 100 million, or a new share repurchase plan superseding the current plan is authorized, whichever is sooner. The program permits Verizon to repurchase shares over time, with the amount and timing of repurchases depending on market conditions and corporate needs. There were no repurchases of common stock during 2019 or 2018 under our previously authorized share buyback program.

Credit Ratings

Verizon's credit ratings did not change in 2019 or 2018.

Securities ratings assigned by rating organizations are expressions of opinion and are not recommendations to buy, sell or hold securities. A securities rating is subject to revision or withdrawal at any time by the assigning rating organization. Each rating should be evaluated independently of any other rating.

Covenants

Our credit agreements contain covenants that are typical for large, investment grade companies. These covenants include requirements to pay interest and principal in a timely fashion, pay taxes, maintain insurance with responsible and reputable insurance companies, preserve our corporate existence, keep appropriate books and records of financial transactions, maintain our properties, provide financial and other reports to our lenders, limit pledging and disposition of assets and mergers and consolidations, and other similar covenants.

We and our consolidated subsidiaries are in compliance with all of our restrictive covenants in our debt agreements.

Change In Cash, Cash Equivalents and Restricted Cash

Our Cash and cash equivalents at December 31, 2019 totaled \$2.6 billion, a \$151 million decrease compared to Cash and cash equivalents at December 31, 2018, primarily as a result of the factors discussed above.

Restricted cash at December 31, 2019 totaled \$1.3 billion, a \$152 million increase compared to restricted cash at December 31, 2018, primarily due to cash collections on the device payment plan agreement receivables that are required at certain specified times to be placed into segregated accounts.

Free Cash Flow

Free cash flow is a non-GAAP financial measure that reflects an additional way of viewing our liquidity that, when viewed with our GAAP results, provides a more complete understanding of factors and trends affecting our cash flows. Free cash flow is calculated by subtracting capital expenditures from net cash provided by operating activities. We believe it is a more conservative measure of cash flow since purchases of fixed assets are necessary for ongoing operations. Free cash flow has limitations due to the fact that it

does not represent the residual cash flow available for discretionary expenditures. For example, free cash flow does not incorporate payments made on finance lease obligations or cash payments for business acquisitions or wireless licenses. Therefore, we believe it is important to view free cash flow as a complement to our entire consolidated statements of cash flows.

The following table reconciles net cash provided by operating activities to Free cash flow:

Years Ended December 31,	(dollars in millions)	
	2019	2018
Net cash provided by operating activities	\$ 35,746	\$ 34,339
Less Capital expenditures (including capitalized software)	17,939	16,658
Free cash flow	\$ 17,807	\$ 17,681

The increase in free cash flow during 2019 is a reflection of the increase in operating cash flows, partially offset by the increase in capital expenditures discussed above.

Employee Benefit Plans Funded Status and Contributions

Employer Contributions

We operate numerous qualified and nonqualified pension plans and other postretirement benefit plans. These plans primarily relate to our domestic business units. During 2019 and 2018, contributions to our qualified pension plans were \$300 million and \$1.0 billion, respectively. We made contributions of \$71 million in 2019 to our nonqualified pension plans.

The Company's overall investment strategy is to achieve a mix of assets that allows us to meet projected benefit payments while taking into consideration risk and return. In an effort to reduce the risk of our portfolio strategy and better align assets with liabilities, we have adopted a liability driven pension strategy that seeks to better match cash flows from investments with projected benefit payments. We expect that the strategy will reduce the likelihood that assets will decline at a time when liabilities increase (referred to as liability hedging), with the goal to reduce the risk of underfunding to the plan and its participants and beneficiaries; however, we also expect the strategy to result in lower asset returns. Nonqualified pension contributions are estimated to be approximately \$70 million in 2020.

Contributions to our other postretirement benefit plans generally relate to payments for benefits on an as-incurred basis since these other postretirement benefit plans do not have funding requirements similar to the pension plans. We contributed \$449 million to our other postretirement benefit plans in 2019 and \$1.2 billion, including \$679 million discretionary contributions, in 2018. Contributions to our other postretirement benefit plans are estimated to be approximately \$700 million in 2020.

Leasing Arrangements

See Note 6 to the consolidated financial statements for a discussion of leasing arrangements.

Contractual Obligations

The following table provides a summary of our contractual obligations and commercial commitments at December 31, 2019. Additional detail about these items is included in the notes to the consolidated financial statements.

Contractual Obligations	(dollars in millions)				
	Payments Due By Period				
	Total	Less than 1 year	1 to 3 years	3 to 5 years	More than 5 years
Long-term debt ⁽¹⁾	\$ 110,865	\$ 10,470	\$ 16,431	\$ 9,803	\$ 74,161
Finance lease obligations ⁽²⁾	1,213	366	479	244	124
Total long-term debt, including current maturities	112,078	10,836	16,910	10,047	74,285
Interest on long-term debt ⁽¹⁾	62,450	4,578	8,383	7,426	42,063
Operating leases ⁽²⁾	25,968	4,099	7,127	5,485	9,257
Purchase obligations ⁽³⁾	18,769	8,384	7,448	1,441	1,496
Other long-term liabilities ⁽⁴⁾	4,135	694	1,692	1,749	–
Finance obligations ⁽⁵⁾	1,539	281	579	603	76
Total contractual obligations	\$ 224,939	\$ 28,872	\$ 42,139	\$ 26,751	\$ 127,177

⁽¹⁾ Items included in long-term debt with variable coupon rates exclude unamortized debt issuance costs, and are described in Note 7 to the consolidated financial statements.

⁽²⁾ See Note 6 to the consolidated financial statements for additional information.

- (3) Items included in purchase obligations are primarily commitments to purchase content and network services, equipment, software and marketing services, which will be used or sold in the ordinary course of business. These amounts do not represent our entire anticipated purchases in the future, but represent only those items that are the subject of contractual obligations. We also purchase products and services as needed with no firm commitment. For this reason, the amounts presented in this table alone do not provide a reliable indicator of our expected future cash outflows or changes in our expected cash position. See Note 16 to the consolidated financial statements for additional information.
- (4) Other long-term liabilities represent estimated postretirement benefit and qualified pension plan contributions. Estimated qualified pension plan contributions include expected minimum funding contributions, which commence in 2026 based on the plan's current funded status. Estimated postretirement benefit payments include expected future postretirement benefit payments. These estimated amounts: (1) are subject to change based on changes to assumptions and future plan performance, which could impact the timing or amounts of these payments; and (2) exclude expectations beyond 5 years due to uncertainty of the timing and amounts. See Note 11 to the consolidated financial statements for additional information.
- (5) Represents future minimum payments under the sublease arrangement for our tower transaction. See Note 6 to the consolidated financial statements for additional information.

We are not able to make a reasonable estimate of when the unrecognized tax benefits balance of \$2.9 billion and related interest and penalties will be settled with the respective taxing authorities until issues or examinations are further developed. See Note 12 to the consolidated financial statements for additional information.

Guarantees

We guarantee the debentures of our operating telephone company subsidiaries as well as the debt obligations of GTE LLC, as successor in interest to GTE Corporation, that were issued and outstanding prior to July 1, 2003. See Note 7 to the consolidated financial statements for additional information.

In connection with the execution of agreements for the sale of businesses and investments, Verizon ordinarily provides representations and warranties to the purchasers pertaining to a variety of nonfinancial matters, such as ownership of the securities being sold, as well as financial losses. See Note 16 to the consolidated financial statements for additional information.

As of December 31, 2019, letters of credit totaling approximately \$632 million, which were executed in the normal course of business and support several financing arrangements and payment obligations to third parties, were outstanding. See Note 16 to the consolidated financial statements for additional information.

Market Risk

We are exposed to various types of market risk in the normal course of business, including the impact of interest rate changes, foreign currency exchange rate fluctuations, changes in investment, equity and commodity prices and changes in corporate tax rates. We employ risk management strategies, which may include the use of a variety of derivatives including cross currency swaps, forward starting interest rate swaps, interest rate swaps, interest rate caps and foreign exchange forwards. We do not hold derivatives for trading purposes.

It is our general policy to enter into interest rate, foreign currency and other derivative transactions only to the extent necessary to achieve our desired objectives in optimizing exposure to various market risks. Our objectives include maintaining a mix of fixed and variable rate debt to lower borrowing costs within reasonable risk parameters and to protect against earnings and cash flow volatility resulting from changes in market conditions. We do not hedge our market risk exposure in a manner that would completely eliminate the effect of changes in interest rates and foreign exchange rates on our earnings.

Counterparties to our derivative contracts are major financial institutions with whom we have negotiated derivatives agreements (ISDA master agreements) and credit support annex (CSA) agreements which provide rules for collateral exchange. Negotiations and executions of new ISDA master agreements and CSA agreements with our counterparties continued during 2018. The CSA agreements contain rating based thresholds such that we or our counterparties may be required to hold or post collateral based upon changes in outstanding positions as compared to established thresholds and changes in credit ratings. At December 31, 2019, we held an insignificant amount and at December 31, 2018, we posted approximately \$0.1 billion of collateral related to derivative contracts under collateral exchange arrangements, which were recorded as Other current liabilities and Prepaid expenses and other, respectively, in our consolidated balance sheets. While we may be exposed to credit losses due to the nonperformance of our counterparties, we consider the risk remote and do not expect that any such nonperformance would result in a significant effect on our results of operations or financial condition due to our diversified pool of counterparties. See Note 9 to the consolidated financial statements for additional information regarding the derivative portfolio.

Interest Rate Risk

We are exposed to changes in interest rates, primarily on our short-term debt and the portion of long-term debt that carries floating interest rates. As of December 31, 2019, approximately 79% of the aggregate principal amount of our total debt portfolio consisted of fixed rate indebtedness, including the effect of interest rate swap agreements designated as hedges. The impact of a 100-basis-point change in interest rates affecting our floating rate debt would result in a change in annual interest expense, including our interest rate swap agreements that are designated as hedges, of approximately \$248 million. The interest rates on our existing long-term debt obligations are unaffected by changes to our credit ratings.

Certain of our floating rate debt and our interest rate derivative transactions utilize interest rates that are linked to the London Inter-Bank Offered Rate (LIBOR) as the benchmark rate. LIBOR is the subject of recent U.S. and international regulatory guidance and proposals for reform. These reforms and other pressures may cause LIBOR to become unavailable or to perform or be reported differently than in the past. The consequences of these developments cannot be entirely predicted but could include an increase in the cost of our floating rate debt or exposure under our interest rate derivative transactions. We do not anticipate a significant impact to our financial position given our current mix of variable and fixed-rate debt, taking into account the impact of our interest rate hedging.

The table that follows summarizes the fair values of our long-term debt, including current maturities, and interest rate swap derivatives as of December 31, 2019 and 2018. The table also provides a sensitivity analysis of the estimated fair values of these financial instruments assuming 100-basis-point upward and downward shifts in the yield curve. Our sensitivity analysis does not include the fair values of our commercial paper and bank loans, if any, because they are not significantly affected by changes in market interest rates.

	(dollars in millions)		
Long-term debt and related derivatives	Fair Value	Fair Value assuming + 100 basis point shift	Fair Value assuming - 100 basis point shift
At December 31, 2019	\$ 128,633	\$ 119,288	\$ 139,980
At December 31, 2018	119,195	111,250	128,957

Interest Rate Swaps

We enter into interest rate swaps to achieve a targeted mix of fixed and variable rate debt. We principally receive fixed rates and pay variable rates that are currently based on LIBOR, resulting in a net increase or decrease to Interest expense. These swaps are designated as fair value hedges and hedge against interest rate risk exposure of designated debt issuances. At December 31, 2019, the fair value of the asset and liability of these contracts were \$568 million and \$173 million, respectively. At December 31, 2018, the fair value of the asset and liability of these contracts were insignificant and \$813 million, respectively. At December 31, 2019 and 2018, the total notional amount of the interest rate swaps was \$17.0 billion and \$19.8 billion, respectively.

Forward Starting Interest Rate Swaps

We have entered into forward starting interest rate swaps designated as cash flow hedges in order to manage our exposure to interest rate changes on future forecasted transactions. At December 31, 2019 and 2018, the fair value of the liability of these contracts was \$604 million and \$60 million, respectively. At December 31, 2019 and 2018, the total notional amount of the forward starting interest rate swaps was \$3.0 billion and \$4.0 billion, respectively.

Interest Rate Caps

We also have interest rate caps which we use as an economic hedge but for which we have elected not to apply hedge accounting. We enter into interest rate caps to mitigate our interest exposure to interest rate increases on our ABS Financing Facility and ABS Notes. The fair value of the asset and liability of these contracts was insignificant at both December 31, 2019 and 2018. At December 31, 2019 and 2018, the total notional value of these contracts was \$679 million and \$2.2 billion, respectively.

Foreign Currency Translation

The functional currency for our foreign operations is primarily the local currency. The translation of income statement and balance sheet amounts of our foreign operations into U.S. dollars is recorded as cumulative translation adjustments, which are included in Accumulated other comprehensive income in our consolidated balance sheets. Gains and losses on foreign currency transactions are recorded in the consolidated statements of income in Other income (expense), net. At December 31, 2019, our primary translation exposure was to the British Pound Sterling, Euro, Australian Dollar and Japanese Yen.

Cross Currency Swaps

We have entered into cross currency swaps designated as cash flow hedges to exchange our British Pound Sterling, Euro, Swiss Franc and Australian Dollar-denominated cash flows into U.S. dollars and to fix our cash payments in U.S. dollars, as well as to mitigate the impact of foreign currency transaction gains or losses. The fair value of the asset of these contracts was \$211 million and \$220 million at December 31, 2019 and 2018, respectively. At December 31, 2019 and 2018, the fair value of the liability of these contracts was \$912 million and \$536 million, respectively. At December 31, 2019 and 2018, the total notional amount of the cross currency swaps was \$23.1 billion and \$16.6 billion, respectively.

Foreign Exchange Forwards

We also have foreign exchange forwards which we use as an economic hedge but for which we have elected not to apply hedge accounting. We enter into British Pound Sterling and Euro foreign exchange forwards to mitigate our foreign exchange rate risk

related to non-functional currency denominated monetary assets and liabilities of international subsidiaries. At December 31, 2019, the fair value of the asset of these contracts was insignificant. At December 31, 2019 and 2018, the total notional amount of the foreign exchange forwards was \$1.1 billion and \$600 million, respectively.

Critical Accounting Estimates and Recently Issued Accounting Standards

Critical Accounting Estimates

A summary of the critical accounting estimates used in preparing our financial statements is as follows:

Wireless Licenses and Goodwill

Wireless licenses and Goodwill are a significant component of our consolidated assets. Both our wireless licenses and goodwill are treated as indefinite-lived intangible assets and, therefore are not amortized, but rather are tested for impairment annually in the fourth fiscal quarter, unless there are events requiring an earlier assessment or changes in circumstances during an interim period providing impairment indicators are present. We believe our estimates and assumptions are reasonable and represent appropriate marketplace considerations as of the valuation date. Although we use consistent methodologies in developing the assumptions and estimates underlying the fair value calculations used in our impairment tests, these estimates and assumptions are uncertain by nature, may change over time and can vary from actual results. It is possible that in the future there may be changes in our estimates and assumptions, including the timing and amount of future cash flows, margins, growth rates, market participant assumptions, comparable benchmark companies and related multiples and discount rates, which could result in different fair value estimates. Significant and adverse changes to any one or more of the above-noted estimates and assumptions could result in a goodwill impairment for one or more of our reporting units.

Wireless Licenses

The carrying value of our wireless licenses was approximately \$95.1 billion as of December 31, 2019. We aggregate our wireless licenses into one single unit of accounting, as we utilize our wireless licenses on an integrated basis as part of our nationwide wireless network. Our wireless licenses provide us with the exclusive right to utilize certain radio frequency spectrum to provide wireless communication services. There are currently no legal, regulatory, contractual, competitive, economic or other factors that limit the useful life of our wireless licenses.

In 2019, we performed a qualitative impairment assessment to determine whether it is more likely than not that the fair value of our wireless licenses was less than the carrying amount. As part of our assessment we considered several qualitative factors including the historical business enterprise value of our wireless business, macroeconomic conditions (including changes in interest rates and discount rates), industry and market considerations (including industry revenue and EBITDA margin projections), the recent and projected financial performance of our wireless business as a whole, as well as other factors.

In 2018, our quantitative impairment test consisted of comparing the estimated fair value of our aggregate wireless licenses to the aggregated carrying amount as of the test date.

Our impairment test in 2019 indicated that it is more likely than not that the fair value of our wireless licenses remained above their carrying value and, therefore, did not result in an impairment. Our impairment test in 2018 indicated that the fair value of our wireless licenses significantly exceeded their carrying value and, therefore, did not result in an impairment.

Under our quantitative assessment, we estimated the fair value of our wireless licenses using the Greenfield approach. The Greenfield approach is an income-based valuation approach that values the wireless licenses by calculating the cash flow generating potential of a hypothetical start-up company that goes into business with no assets except the wireless licenses to be valued. A discounted cash flow analysis is used to estimate what a marketplace participant would be willing to pay to purchase the aggregated wireless licenses as of the valuation date. As a result, we were required to make significant estimates about future cash flows specifically associated with our wireless licenses, an appropriate discount rate based on the risk associated with those estimated cash flows and assumed terminal value and growth rates. We considered current and expected future economic conditions, current and expected availability of wireless network technology and infrastructure and related equipment and the costs thereof as well as other relevant factors in estimating future cash flows. The discount rate represented our estimate of the weighted-average cost of capital (WACC), or expected return, that a marketplace participant would have required as of the valuation date. We developed the discount rate based on our consideration of the cost of debt and equity of a group of guideline companies as of the valuation date. Accordingly, our discount rate incorporated our estimate of the expected return a marketplace participant would have required as of the valuation date, including the risk premium associated with the current and expected economic conditions as of the valuation date. The terminal value growth rate represented our estimate of the marketplace's long-term growth rate.

Goodwill

In November 2018, we announced a strategic reorganization of our business. The Company began reporting externally under the new structure as of April 1, 2019 which resulted in certain changes to our operating segments and reporting units. Upon the date of reorganization, the goodwill of our historical Wireless reporting unit, historical Wireline reporting unit and historical Verizon Connect

reporting unit were reallocated to our new Consumer and Business reporting units using a relative fair value approach. At December 31, 2019, the balance of our goodwill was approximately \$24.4 billion, of which \$17.1 billion was in our Consumer reporting unit and \$7.3 billion was in our Business reporting unit. To determine if goodwill is potentially impaired, we have the option to perform a qualitative assessment to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value. If we elect not to conduct the qualitative assessment or if indications of a potential impairment exist, the determination of whether an impairment has occurred requires the determination of the fair value of each the reporting unit being assessed.

Under the qualitative assessment, we consider several qualitative factors, including the business enterprise value of the reporting unit from the last quantitative test and the excess of fair value over carrying value from this test, macroeconomic conditions (including changes in interest rates and discount rates), industry and market considerations (including industry revenue and EBITDA margin projections), the recent and projected financial performance of the reporting unit, as well as other factors.

Under our quantitative assessment, the fair value of the reporting unit is calculated using a market approach and a discounted cash flow method. The market approach includes the use of comparative multiples to corroborate discounted cash flow results. The discounted cash flow method is based on the present value of two components—projected cash flows and a terminal value. The terminal value represents the expected normalized future cash flows of the reporting unit beyond the cash flows from the discrete projection period. The fair value of the reporting unit is calculated based on the sum of the present value of the cash flows from the discrete period and the present value of the terminal value. The discount rate represented our estimate of the WACC, or expected return, that a marketplace participant would have required as of the valuation date. The application of our goodwill impairment test required key assumptions underlying our valuation model. The discounted cash flow analysis factored in assumptions on discount rates and terminal growth rates to reflect risk profiles of key strategic revenue and cost initiatives, as well as revenue and EBITDA growth relative to history and market trends and expectations. The market multiples approach incorporated significant judgment involved in the selection comparable public company multiples and benchmarks. The selection of companies was influenced by differences in growth and profitability, and volatility in market prices of peer companies. These valuation inputs are inherently uncertain, and an adverse change in one or a combination of these inputs could trigger a goodwill impairment loss in the future.

A projected sustained decline in a reporting unit's revenues and earnings could have a significant negative impact on its fair value and may result in impairment charges. Such a decline could be driven by, among other things: (1) further anticipated decreases in service pricing, sales volumes and long-term growth rate as a result of competitive pressures or other factors; or (2) the inability to achieve or delays in achieving the goals in strategic initiatives. Also, adverse changes to macroeconomic factors, such as increases to long-term interest rates, would also negatively impact the fair value of the reporting unit.

We performed impairment assessments of the impacted reporting units, specifically our historical Wireless, historical Wireline and historical Connect reporting units on March 31, 2019, immediately before our strategic reorganization became effective. Our impairment assessments indicated that the fair value for each of our historical Wireless, historical Wireline and historical Connect reporting units exceeded their respective carrying values, and therefore did not result in a goodwill impairment. We then performed quantitative assessments of our Consumer and Business reporting units on April 1, 2019, immediately following our strategic reorganization. Our impairment assessments indicated that the fair value for each of our Consumer and Business reporting units exceeded their respective carrying values and therefore, did not result in a goodwill impairment. Our Media reporting unit was not impacted by the strategic reorganization and there was no indicator of impairment as of the reorganization date.

We performed qualitative impairment assessments for our Consumer and Business reporting units during the fourth quarter of 2019. Our qualitative assessments indicated that it was more likely than not that the fair values for our Consumer and Business reporting units exceeded their respective carrying values and, therefore, did not result in an impairment. We performed quantitative impairment assessments for our Media reporting unit in 2019 and 2018. For details on our Media reporting unit, refer to the discussion below.

Our Media business, Verizon Media, experienced increased competitive and market pressures throughout 2018 that resulted in lower than expected revenues and earnings. These pressures were expected to continue and have resulted in a loss of market positioning to our competitors in the digital advertising business. Our Media business also achieved lower than expected benefits from the integration of the Yahoo Inc. and AOL Inc. (AOL) businesses.

As of August 2018, Hans Vestberg became Chief Executive Officer of Verizon, and as of October 2018, K. Guru Gowrappan was appointed Chief Executive Officer of our Media business. In connection with Verizon's annual budget process during the fourth quarter of 2019 and 2018, the leadership at both Verizon Media and Verizon completed a comprehensive five-year strategic planning review of Verizon Media's business prospects resulting in unfavorable adjustments to Verizon Media's financial projections. These revised projections were used as a key input into Verizon Media's annual goodwill impairment tests performed in the fourth quarter of 2019 and 2018.

During the fourth quarter of 2019 and 2018, consistent with our accounting policy, we applied a combination of a market approach and a discounted cash flow method reflecting current assumptions and inputs, including our revised projections, discount rate and expected growth rates, which resulted in the determination that the fair value of the Media reporting unit was less than its carrying amount. As a result, we recorded a non-cash goodwill impairment charge of approximately \$186 million (\$176 million after-tax) in the fourth quarter of 2019 and a charge of \$4.6 billion (\$4.5 billion after-tax) in the fourth quarter of 2018 in our consolidated statements of income. The goodwill balance of the Media reporting unit has been fully written off as a result of these impairment charges.

2019 Annual Report

Management's Discussion and Analysis of Financial Condition and Results of Operations *continued*

We performed a quantitative impairment assessment for all of the other reporting units in 2018. Our impairment tests indicated that the fair value for each of our historical Wireless, historical Wireline and historical Connect reporting units exceeded their respective carrying value and, therefore, did not result in an impairment.

Pension and Other Postretirement Benefit Plans

We maintain benefit plans for most of our employees, including, for certain employees, pension and other postretirement benefit plans. At December 31, 2019, in the aggregate, pension plan benefit obligations exceeded the fair value of pension plan assets, which will result in future pension plan expense. Other postretirement benefit plans have larger benefit obligations than plan assets, resulting in expense. Significant benefit plan assumptions, including the discount rate used, the long-term rate of return on plan assets, the determination of the substantive plan and health care trend rates are periodically updated and impact the amount of benefit plan income, expense, assets and obligations. Changes to one or more of these assumptions could significantly impact our accounting for pension and other postretirement benefits. A sensitivity analysis of the impact of changes in these assumptions on the benefit obligations and expense (income) recorded, as well as on the funded status due to an increase or a decrease in the actual versus expected return on plan assets as of December 31, 2019 and for the year then ended pertaining to Verizon's pension and postretirement benefit plans, is provided in the table below.

(dollars in millions)	Percentage point change	Increase/(decrease) at December 31, 2019*
Pension plans discount rate	+0.50	\$ (1,137)
	-0.50	1,266
Rate of return on pension plan assets	+1.00	(167)
	-1.00	167
Postretirement plans discount rate	+0.50	(858)
	-0.50	948
Rate of return on postretirement plan assets	+1.00	(9)
	-1.00	9
Health care trend rates	+1.00	626
	-1.00	(696)

* In determining its pension and other postretirement obligation, the Company used a weighted-average discount rate of 3.3%. The rate was selected to approximate the composite interest rates available on a selection of high-quality bonds available in the market at December 31, 2019. The bonds selected had maturities that coincided with the time periods during which benefits payments are expected to occur, were non-callable and available in sufficient quantities to ensure marketability (at least \$300 million par outstanding).

The annual measurement date for both our pension and other postretirement benefits is December 31. We use the full yield curve approach to estimate the interest cost component of net periodic benefit cost for pension and other postretirement benefits. The full yield curve approach refines our estimate of interest cost by applying the individual spot rates from a yield curve composed of the rates of return on several hundred high-quality fixed income corporate bonds available at the measurement date. These individual spot rates align with the timing of each future cash outflow for benefit payments and therefore provide a more precise estimate of interest cost.

Income Taxes

Our current and deferred income taxes and associated valuation allowances are impacted by events and transactions arising in the normal course of business as well as in connection with the adoption of new accounting standards, changes in tax laws and rates, acquisitions and dispositions of businesses and non-recurring items. As a global commercial enterprise, our income tax rate and the classification of income taxes can be affected by many factors, including estimates of the timing and realization of deferred income tax assets and the timing and amount of income tax payments. We account for tax benefits taken or expected to be taken in our tax returns in accordance with the accounting standard relating to the uncertainty in income taxes, which requires the use of a two-step approach for recognizing and measuring tax benefits taken or expected to be taken in a tax return. We review and adjust our liability for unrecognized tax benefits based on our best judgment given the facts, circumstances and information available at each reporting date. To the extent that the final outcome of these tax positions is different than the amounts recorded, such differences may impact income tax expense and actual tax payments. We recognize any interest and penalties accrued related to unrecognized tax benefits in income tax expense. Actual tax payments may materially differ from estimated liabilities as a result of changes in tax laws as well as unanticipated transactions impacting related income tax balances. See Note 12 to the consolidated financial statements for additional information.

Property, Plant and Equipment

Our Property, plant and equipment balance represents a significant component of our consolidated assets. We record Property, plant and equipment at cost. We depreciate Property, plant and equipment on a straight-line basis over the estimated useful life of

the assets. We expect that a one year increase in estimated useful lives of our Property, plant and equipment would result in a decrease to our 2019 depreciation expense of \$2.7 billion and that a one year decrease would result in an increase of approximately \$4.7 billion in our 2019 depreciation expense.

Accounts Receivable

We maintain allowances for uncollectible accounts receivable, including our direct-channel device payment plan agreement receivables, for estimated losses resulting from the failure or inability of our customers to make required payments. Indirect-channel device payment loans are considered financial instruments and are initially recorded at fair value net of imputed interest, and credit losses are recorded as incurred. However, loan balances are assessed quarterly for impairment and an allowance is recorded if the loan is considered impaired. Our allowance for uncollectible accounts receivable is based on management's assessment of the collectability of specific customer accounts and includes consideration of the credit worthiness and financial condition of those customers. We record an allowance to reduce the receivables to the amount that is reasonably believed to be collectible. We also record an allowance for all other receivables based on multiple factors including historical experience with bad debts, the general economic environment and the aging of such receivables. Similar to traditional service revenue, we record direct device payment plan agreement bad debt expense based on an estimate of the percentage of equipment revenue that will not be collected. This estimate is based on a number of factors including historical write-off experience, credit quality of the customer base and other factors such as macroeconomic conditions. If there is a deterioration of our customers' financial condition or if future actual default rates on receivables in general differ from those currently anticipated, we may have to adjust our allowance for doubtful accounts, which would affect earnings in the period the adjustments are made.

Recently Issued Accounting Standards

See Note 1 to the consolidated financial statements for a discussion of recently issued accounting standard updates not yet adopted as of December 31, 2019.

Acquisitions and Divestitures

Acquisition of AOL Inc.

In May 2015, we entered into an Agreement and Plan of Merger with AOL Inc. pursuant to which we commenced a tender offer to acquire all of the outstanding shares of common stock of AOL at a price of \$50.00 per share, net to the seller in cash, without interest and less any applicable withholding taxes.

On June 23, 2015, we completed the tender offer and merger, and AOL became a wholly-owned subsidiary of Verizon. The aggregate cash consideration paid by Verizon at the closing of these transactions was approximately \$3.8 billion. Holders of approximately 6.6 million shares exercised appraisal rights under Delaware law. In September 2018, we obtained court approval to settle this matter for total cash consideration of \$219 million, of which an insignificant amount relates to interest, resulting in an insignificant gain. We paid the cash consideration in October 2018.

XO Holdings

In February 2016, we entered into a purchase agreement to acquire XO Holdings' wireline business (XO), which owned and operated one of the largest fiber-based IP and Ethernet networks in the U.S. Concurrently, we entered into a separate agreement to utilize certain wireless spectrum from a wholly-owned subsidiary of XO Holdings, NextLink, that held XO's millimeter-wave wireless spectrum. The agreement included an option, subject to certain conditions, to acquire NextLink. In February 2017, we completed our acquisition of XO for total cash consideration of approximately \$1.5 billion, of which \$100 million was paid in 2015, and we prepaid \$320 million in connection with the NextLink option which represented the fair value of the option.

In April 2017, we exercised our option to buy NextLink for approximately \$493 million, subject to certain adjustments, of which \$320 million was prepaid in the first quarter of 2017. The transaction closed in January 2018. The acquisition of NextLink was accounted for as an asset acquisition, as substantially all of the value related to the acquired spectrum. Upon closing, we recorded approximately \$657 million of wireless licenses, \$110 million of a deferred tax liability and \$58 million of other liabilities. See Note 3 to the consolidated financial statements for additional information.

Straight Path

In May 2017, we entered into a purchase agreement to acquire Straight Path, a holder of millimeter wave spectrum configured for 5G wireless services, for total consideration reflecting an enterprise value of approximately \$3.1 billion. Under the terms of the purchase agreement, we agreed to pay: (1) Straight Path shareholders \$184.00 per share, payable in Verizon shares; and (2) certain transaction costs payable in cash of approximately \$736 million, consisting primarily of a fee to be paid to the FCC. The transaction closed in February 2018 at which time we issued approximately 49 million shares of Verizon common stock, valued at approximately \$2.4 billion, and paid the associated cash consideration. See Note 3 to the consolidated financial statements for additional information.

Spectrum License Transactions

From time to time, we enter into agreements to buy, sell or exchange spectrum licenses. We believe these spectrum license transactions have allowed us to continue to enhance the reliability of our wireless network while also resulting in a more efficient use of spectrum. See Note 3 to the consolidated financial statements for additional information regarding our spectrum license transactions.

Other

From time to time, we enter into strategic agreements to acquire various other businesses and investments. See Note 3 to the consolidated financial statements for additional information.

Cautionary Statement Concerning Forward-Looking Statements

In this report we have made forward-looking statements. These statements are based on our estimates and assumptions and are subject to risks and uncertainties. Forward-looking statements include the information concerning our possible or assumed future results of operations. Forward-looking statements also include those preceded or followed by the words "anticipates," "believes," "estimates," "expects," "hopes" or similar expressions. For those statements, we claim the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995. We undertake no obligation to revise or publicly release the results of any revision to these forward-looking statements, except as required by law. Given these risks and uncertainties, readers are cautioned not to place undue reliance on such forward-looking statements.

The following important factors, along with those discussed elsewhere in this report and in other filings with the SEC, could affect future results and could cause those results to differ materially from those expressed in the forward-looking statements:

- cyber attacks impacting our networks or systems and any resulting financial or reputational impact;
- natural disasters, terrorist attacks or acts of war or significant litigation and any resulting financial or reputational impact;
- disruption of our key suppliers' or vendors' provisioning of products or services;
- material adverse changes in labor matters and any resulting financial or operational impact;
- the effects of competition in the markets in which we operate;
- failure to take advantage of developments in technology and address changes in consumer demand;
- performance issues or delays in the deployment of our 5G network resulting in significant costs or a reduction in the anticipated benefits of the enhancement to our networks;
- the inability to implement our business strategy;
- adverse conditions in the U.S. and international economies;
- changes in the regulatory environment in which we operate, including any increase in restrictions on our ability to operate our networks;
- our high level of indebtedness;
- an adverse change in the ratings afforded our debt securities by nationally accredited ratings organizations or adverse conditions in the credit markets affecting the cost, including interest rates, and/or availability of further financing;
- significant increases in benefit plan costs or lower investment returns on plan assets;
- changes in tax laws or treaties, or in their interpretation; and
- changes in accounting assumptions that regulatory agencies, including the SEC, may require or that result from changes in the accounting rules or their application, which could result in an impact on earnings.

Report of Management on Internal Control Over Financial Reporting

We, the management of Verizon Communications Inc., are responsible for establishing and maintaining adequate internal control over financial reporting of the company. Management has evaluated internal control over financial reporting of the company using the criteria for effective internal control established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission in 2013.

Management has assessed the effectiveness of the company's internal control over financial reporting as of December 31, 2019. Based on this assessment, we believe that the internal control over financial reporting of the company is effective as of December 31, 2019. In connection with this assessment, there were no material weaknesses in the company's internal control over financial reporting identified by management. The company's financial statements included in this Annual Report have been audited by Ernst & Young LLP, independent registered public accounting firm. Ernst & Young LLP has also provided an attestation report on the company's internal control over financial reporting.



Hans E. Vestberg

Chairman and Chief Executive Officer



Matthew D. Ellis

Executive Vice President and
Chief Financial Officer



Anthony T. Skiadas

Senior Vice President and Controller

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Verizon Communications Inc.:

Opinion on Internal Control Over Financial Reporting

We have audited Verizon Communications Inc. and subsidiaries' (Verizon) internal control over financial reporting as of December 31, 2019, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Verizon maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of Verizon as of December 31, 2019 and 2018, the related consolidated statements of income, comprehensive income, cash flows, and changes in equity for each of the three years in the period ended December 31, 2019, and the related notes and our report dated February 21, 2020 expressed an unqualified opinion thereon.

Basis for Opinion

Verizon's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Report of Management on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on Verizon's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to Verizon in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

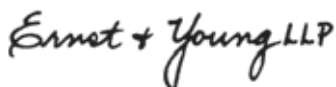
We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

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

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 (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) 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 (3) 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.

The logo for Ernst & Young LLP, featuring the company name in a stylized, handwritten-style font.

Ernst & Young LLP
New York, New York

February 21, 2020

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Verizon Communications Inc.:

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Verizon Communications Inc. and subsidiaries (Verizon) as of December 31, 2019 and 2018, the related consolidated statements of income, comprehensive income, cash flows, and changes in equity for each of the three years in the period ended December 31, 2019, and the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of Verizon at December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), Verizon’s internal control over financial reporting as of December 31, 2019, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 21, 2020 expressed an unqualified opinion thereon.

Adoption of New Accounting Standards

ASU No. 2016-02

As discussed in Note 1 to the consolidated financial statements, effective January 1, 2019, Verizon changed its method of accounting for leases due to the adoption of Accounting Standards Update (ASU) No. 2016-02, Leases (Topic 842), and the related amendments, using the modified retrospective method.

ASU No. 2014-09

As discussed in Note 1 to the consolidated financial statements, effective January 1, 2018 Verizon changed its method for recognizing revenue as a result of the adoption of ASU No. 2014-09, Revenue from Contracts with Customers (Topic 606), and the amendments in ASUs 2015-14, 2016-08, 2016-10 and 2016-12 using the modified retrospective method.

Basis for Opinion

These financial statements are the responsibility of Verizon’s management. Our responsibility is to express an opinion on Verizon’s financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to Verizon 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 audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the 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 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 financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Impairment Evaluation for Wireline Goodwill

Description of the Matter

At March 31, 2019, the Company’s goodwill related to its historical Wireline reporting unit was \$3.9 billion and represented 1.4% of total assets. As discussed in Notes 1 and 4 of the consolidated financial statements, goodwill is not amortized but rather is tested for impairment at the reporting unit level at least annually, or more frequently if impairment indicators are present. The impairment test compares the fair value of the reporting unit (calculated using a combination of a market approach and a discounted cash flow method) to its carrying amount. Effective April 1, 2019, the Company transitioned to its new segment reporting structure, which resulted in certain changes to its operating segments and reporting units. On March 31, 2019 the Company performed an impairment assessment of the impacted reporting units, including the Wireline reporting unit, immediately before the segment reorganization became effective.

Auditing management’s goodwill impairment test was complex and highly judgmental due to the inherent subjectivity of developing an estimate of the fair value of the reporting unit, which is based on assumptions about future conditions, transactions, or events whose outcome is uncertain and will therefore be subject to change over time. In particular, the fair value estimate was sensitive to significant assumptions such as the weighted average cost of capital, revenue growth rate and operating margin, which are affected by expected future market or economic conditions.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company’s goodwill impairment review process. For example, we tested controls over the Company’s development of prospective financial information and management’s review of other key assumptions.

To test the estimated fair value of the Company’s Wireline reporting unit prior to segment reorganization, our audit procedures included, among others, assessing the suitability and application of the valuation methodologies selected and evaluating the significant assumptions discussed above and underlying data

used by the Company in its analysis. We compared the significant assumptions used by management to current industry and economic trends, changes in the Company's business model, customer base or product mix and other relevant factors. We performed sensitivity analyses of significant assumptions to determine what changes in assumptions are particularly sensitive when assessing the likelihood of impairment, or when calculating the amount of an impairment. In addition, we involved a valuation specialist to assist in the evaluation of the assumptions and other relevant information that are most significant to the fair value estimate. We also assessed the historical accuracy of management's forecasts of financial results used in developing prior fair value estimates to assist in evaluating the reliability of the current forecasts.

Valuation of Employee Benefit Obligations

Description of the Matter

The Company sponsors several pension plans and other post-employment benefit plans. At December 31, 2019, the Company's aggregate defined benefit pension obligation was \$21.2 billion and exceeded the fair value of pension plan assets of \$19.4 billion, resulting in an unfunded defined benefit pension obligation of \$1.8 billion. Also, at December 31, 2019, the other postretirement benefits obligation was approximately \$15.7 billion. As explained in Note 11 of the consolidated financial statements, the Company updates the estimates used to measure employee benefit obligations and plan assets in the fourth quarter and upon a remeasurement event to reflect the actual return on plan assets and updated actuarial assumptions.

Auditing the employee benefit obligations was complex due to the highly judgmental nature of the actuarial assumptions (e.g., discount rate, health care cost trends, per capita claims cost trends and mortality rates) used in the measurement process. These assumptions had a significant effect on the projected benefit obligation.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the employee benefits obligation valuation process. For example, we tested controls over management's review of the employee benefit obligation calculations, the significant actuarial assumptions and the data inputs provided to the actuary.

To test the employee benefit obligations, our audit procedures included, among others, evaluating the methodologies used, the significant actuarial assumptions discussed above and the underlying data used by the Company. We compared the actuarial assumptions used by management to historical trends, current economic factors and evaluated the change in the employee benefit obligations from prior year due to the change in service cost, interest cost, actuarial gains and losses, benefit payments, contributions and other activities. In addition, we involved an actuarial specialist to assist in evaluating management's methodology for determining the discount rate that reflects the maturity and duration of the benefit payments and is used to measure the employee benefit obligations. As part of this assessment, we compared the projected cash flows to prior year projections and compared the current year benefits paid to the prior year projected cash flows. To evaluate the health care cost trends, per capita claims cost trends and the mortality rates, we involved an actuarial specialist to assist in evaluating the assumptions and assessed whether the information is consistent with publicly available information, and whether any market data adjusted for entity-specific adjustments were applied. We also tested the completeness and accuracy of the underlying data, including the participant data provided to management's actuarial specialists.

Income Taxes - Benefit from the disposition of stock of a foreign affiliate

Description of the Matter

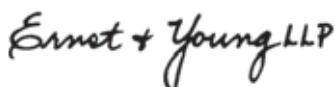
As described in Note 12 to the consolidated financial statements, during the fourth quarter of 2019 the Company sold a minority interest in a foreign affiliate to unrelated parties resulting in the recognition of a tax benefit of approximately \$2.2 billion.

Auditing the recognition and measurement of this income tax benefit required significant auditor judgment because the determination of whether the tax positions' technical merits are more likely than not to be sustained in an audit by a taxing authority is based on the application and interpretation of the relevant tax laws to the facts of the specific transaction.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company's income tax processes. For example, we tested controls over management's review of the income tax technical merits of the transaction and the related recognition and measurement of the income tax benefit.

To test the income tax benefit related to this transaction, our audit procedures included, among others, assessing the suitability and application of tax laws and legal rulings and evaluating the related conclusions. In addition, we involved our tax professionals to assist in the review and evaluation of management's third-party tax opinions and memoranda and other relevant agreements. We tested the completeness and accuracy of the data and calculations used to determine the amount of the income tax benefit recognized.



Ernst & Young LLP

We have served as Verizon's auditor since 2000.
New York, New York

February 21, 2020

Consolidated Statements of Income

(dollars in millions, except per share amounts)

Years Ended December 31,	2019	2018	2017
Operating Revenues			
Service revenues and other	\$ 110,305	\$ 108,605	\$ 107,145
Wireless equipment revenues	21,563	22,258	18,889
Total Operating Revenues	131,868	130,863	126,034
Operating Expenses			
Cost of services (exclusive of items shown below)	31,772	32,185	30,916
Cost of wireless equipment	22,954	23,323	22,147
Selling, general and administrative expense (including net gain/(loss) on sale of divested businesses of \$(94), \$0 and \$1,774, respectively)	29,896	31,083	28,592
Depreciation and amortization expense	16,682	17,403	16,954
Media goodwill impairment	186	4,591	—
Total Operating Expenses	101,490	108,585	98,609
Operating Income	30,378	22,278	27,425
Equity in losses of unconsolidated businesses	(15)	(186)	(77)
Other income (expense), net	(2,900)	2,364	(2,021)
Interest expense	(4,730)	(4,833)	(4,733)
Income Before (Provision) Benefit For Income Taxes	22,733	19,623	20,594
(Provision) benefit for income taxes	(2,945)	(3,584)	9,956
Net Income	\$ 19,788	\$ 16,039	\$ 30,550
Net income attributable to noncontrolling interests	\$ 523	\$ 511	\$ 449
Net income attributable to Verizon	19,265	15,528	30,101
Net Income	\$ 19,788	\$ 16,039	\$ 30,550
Basic Earnings Per Common Share			
Net income attributable to Verizon	\$ 4.66	\$ 3.76	\$ 7.37
Weighted-average shares outstanding (in millions)	4,138	4,128	4,084
Diluted Earnings Per Common Share			
Net income attributable to Verizon	\$ 4.65	\$ 3.76	\$ 7.36
Weighted-average shares outstanding (in millions)	4,140	4,132	4,089

See Notes to Consolidated Financial Statements

Consolidated Statements of Comprehensive Income

	(dollars in millions)		
Years Ended December 31,	2019	2018	2017
Net Income	\$ 19,788	\$ 16,039	\$ 30,550
Other Comprehensive Loss, Net of Tax (Expense) Benefit			
Foreign currency translation adjustments, net of tax of \$(21), \$(11) and \$30	16	(117)	245
Unrealized gain (loss) on cash flow hedges, net of tax of \$265, \$(19) and \$20	(736)	55	(31)
Unrealized gain (loss) on marketable securities, net of tax of \$(2), \$0 and \$10	7	1	(14)
Defined benefit pension and postretirement plans, net of tax of \$219, \$284 and \$144	(659)	(858)	(214)
Other comprehensive loss attributable to Verizon	(1,372)	(919)	(14)
Total Comprehensive Income	\$ 18,416	\$ 15,120	\$ 30,536
Comprehensive income attributable to noncontrolling interests	\$ 523	\$ 511	\$ 449
Comprehensive income attributable to Verizon	17,893	14,609	30,087
Total Comprehensive Income	\$ 18,416	\$ 15,120	\$ 30,536

See Notes to Consolidated Financial Statements

Consolidated Balance Sheets

(dollars in millions, except per share amounts)

At December 31,	2019	2018
Assets		
Current assets		
Cash and cash equivalents	\$ 2,594	\$ 2,745
Accounts receivable, net of allowances of \$733 and \$765	25,429	25,102
Inventories	1,422	1,336
Prepaid expenses and other	8,028	5,453
Total current assets	37,473	34,636
Property, plant and equipment	265,734	252,835
Less accumulated depreciation	173,819	163,549
Property, plant and equipment, net	91,915	89,286
Investments in unconsolidated businesses	558	671
Wireless licenses	95,059	94,130
Goodwill	24,389	24,614
Other intangible assets, net	9,498	9,775
Operating lease right-of-use assets	22,694	–
Other assets	10,141	11,717
Total assets	\$ 291,727	\$ 264,829
Liabilities and Equity		
Current liabilities		
Debt maturing within one year	\$ 10,777	\$ 7,190
Accounts payable and accrued liabilities	21,806	22,501
Current operating lease liabilities	3,261	–
Other current liabilities	9,024	8,239
Total current liabilities	44,868	37,930
Long-term debt	100,712	105,873
Employee benefit obligations	17,952	18,599
Deferred income taxes	34,703	33,795
Non-current operating lease liabilities	18,393	–
Other liabilities	12,264	13,922
Total long-term liabilities	184,024	172,189
Commitments and Contingencies (Note 16)		
Equity		
Series preferred stock (\$0.10 par value; 250,000,000 shares authorized; none issued)	–	–
Common stock (\$0.10 par value; 6,250,000,000 shares authorized in each period; 4,291,433,646 issued in each period)	429	429
Additional paid in capital	13,419	13,437
Retained earnings	53,147	43,542
Accumulated other comprehensive income	998	2,370
Common stock in treasury, at cost (155,605,527 and 159,400,267 shares outstanding)	(6,820)	(6,986)
Deferred compensation – employee stock ownership plans and other	222	353
Noncontrolling interests	1,440	1,565
Total equity	62,835	54,710
Total liabilities and equity	\$ 291,727	\$ 264,829

See Notes to Consolidated Financial Statements

Consolidated Statements of Cash Flows

(dollars in millions)

Years Ended December 31,	2019	2018	2017
Cash Flows from Operating Activities			
Net Income	\$ 19,788	\$ 16,039	\$ 30,550
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization expense	16,682	17,403	16,954
Employee retirement benefits	(284)	(2,657)	440
Deferred income taxes	1,232	389	(14,463)
Provision for uncollectible accounts	1,588	980	1,167
Equity in losses of unconsolidated businesses, net of dividends received	74	231	117
Net loss (gain) on sale of divested businesses	94	–	(1,774)
Media goodwill impairment	186	4,591	–
Changes in current assets and liabilities, net of effects from acquisition/disposition of businesses:			
Accounts receivable	(1,471)	(2,667)	(5,674)
Inventories	(76)	(324)	168
Prepaid expenses and other	(2,807)	37	27
Accounts payable and accrued liabilities and Other current liabilities	(2,359)	1,777	(459)
Discretionary employee benefits contributions	(300)	(1,679)	(3,411)
Other, net	3,399	219	676
Net cash provided by operating activities	35,746	34,339	24,318
Cash Flows from Investing Activities			
Capital expenditures (including capitalized software)	(17,939)	(16,658)	(17,247)
Acquisitions of businesses, net of cash acquired	(29)	(230)	(5,880)
Acquisitions of wireless licenses	(898)	(1,429)	(583)
Proceeds from dispositions of businesses	28	–	3,614
Other, net	1,257	383	1,640
Net cash used in investing activities	(17,581)	(17,934)	(18,456)
Cash Flows from Financing Activities			
Proceeds from long-term borrowings	10,079	5,967	27,707
Proceeds from asset-backed long-term borrowings	8,576	4,810	4,290
Repayments of long-term borrowings and finance lease obligations	(17,584)	(10,923)	(23,837)
Repayments of asset-backed long-term borrowings	(6,302)	(3,635)	(400)
Dividends paid	(10,016)	(9,772)	(9,472)
Other, net	(2,917)	(1,824)	(4,439)
Net cash used in financing activities	(18,164)	(15,377)	(6,151)
Increase (decrease) in cash, cash equivalents and restricted cash	1	1,028	(289)
Cash, cash equivalents and restricted cash, beginning of period	3,916	2,888	3,177
Cash, cash equivalents and restricted cash, end of period (Note 1)	\$ 3,917	\$ 3,916	\$ 2,888

See Notes to Consolidated Financial Statements

Consolidated Statements of Changes in Equity

(dollars in millions, except per share amounts, and shares in thousands)

Years Ended December 31,	2019		2018		2017	
	Shares	Amount	Shares	Amount	Shares	Amount
Common Stock						
Balance at beginning of year	4,291,434	\$ 429	4,242,374	\$ 424	4,242,374	\$ 424
Common shares issued	–	–	49,060	5	–	–
Balance at end of year	4,291,434	429	4,291,434	429	4,242,374	424
Additional Paid In Capital						
Balance at beginning of year		13,437		11,101		11,182
Other		(18)		2,336		(81)
Balance at end of year		13,419		13,437		11,101
Retained Earnings						
Balance at beginning of year		43,542		35,635		15,059
Opening balance sheet adjustment (Note 1)		410		2,232		–
Adjusted opening balance		43,952		37,867		15,059
Net income attributable to Verizon		19,265		15,528		30,101
Dividends declared (\$2.435, \$2.385, \$2.335 per share)		(10,070)		(9,853)		(9,525)
Balance at end of year		53,147		43,542		35,635
Accumulated Other Comprehensive Income						
Balance at beginning of year attributable to Verizon		2,370		2,659		2,673
Opening balance sheet adjustment (Note 1)		–		630		–
Adjusted opening balance		2,370		3,289		2,673
Foreign currency translation adjustments		16		(117)		245
Unrealized gain (loss) on cash flow hedges		(736)		55		(31)
Unrealized gain (loss) on marketable securities		7		1		(14)
Defined benefit pension and postretirement plans		(659)		(858)		(214)
Other comprehensive loss		(1,372)		(919)		(14)
Balance at end of year attributable to Verizon		998		2,370		2,659
Treasury Stock						
Balance at beginning of year	(159,400)	(6,986)	(162,898)	(7,139)	(165,690)	(7,263)
Employee plans (Note 14)	3,790	166	3,494	153	2,787	124
Shareholder plans (Note 14)	4	–	4	–	5	–
Balance at end of year	(155,606)	(6,820)	(159,400)	(6,986)	(162,898)	(7,139)
Deferred Compensation-ESOPs and Other						
Balance at beginning of year		353		416		449
Restricted stock equity grant		140		162		157
Amortization		(271)		(225)		(190)
Balance at end of year		222		353		416
Noncontrolling Interests						
Balance at beginning of year		1,565		1,591		1,508
Opening balance sheet adjustment (Note 1)		1		44		–
Adjusted opening balance		1,566		1,635		1,508
Total comprehensive income		523		511		449
Distributions and other		(649)		(581)		(366)
Balance at end of year		1,440		1,565		1,591
Total Equity		\$ 62,835		\$ 54,710		\$ 44,687

See Notes to Consolidated Financial Statements

Notes to Consolidated Financial Statements

Note 1. Description of Business and Summary of Significant Accounting Policies

Description of Business

Verizon Communications Inc. (Verizon or the Company) is a holding company that, acting through its subsidiaries, is one of the world's leading providers of communications, information and entertainment products and services to consumers, businesses and government entities. With a presence around the world, we offer voice, data and video services and solutions on our networks that are designed to meet customers' demand for mobility, reliable network connectivity, security and control.

In November 2018, we announced a strategic reorganization of our business. Under the new structure, effective April 1, 2019, there are two reportable segments that we operate and manage as strategic business units - Verizon Consumer Group (Consumer) and Verizon Business Group (Business).

Our Consumer segment provides consumer-focused wireless and wireline communications services and products. Our wireless services are provided across one of the most extensive wireless networks in the United States (U.S.) under the Verizon brand and through wholesale and other arrangements. Our wireline services are provided in nine states in the Mid-Atlantic and Northeastern U.S., as well as Washington D.C., over our 100% fiber-optic network under the Fios brand and over a traditional copper-based network to customers who are not served by Fios. Our Consumer segment's wireless and wireline products and services are available to our retail customers, as well as resellers that purchase wireless network access from us on a wholesale basis.

Our Business segment provides wireless and wireline communications services and products, video and data services, corporate networking solutions, security and managed network services, local and long distance voice services and network access to deliver various Internet of Things (IoT) services and products. We provide these products and services to businesses, government customers and wireless and wireline carriers across the U.S. and select products and services to customers around the world.

Consolidation

The method of accounting applied to investments, whether consolidated or equity, involves an evaluation of all significant terms of the investments that explicitly grant or suggest evidence of control or influence over the operations of the investee. The consolidated financial statements include our controlled subsidiaries, as well as variable interest entities (VIE) where we are deemed to be the primary beneficiary. For controlled subsidiaries that are not wholly-owned, the noncontrolling interests are included in Net income and Total equity. Investments in businesses that we do not control, but have the ability to exercise significant influence over operating and financial policies, are accounted for using the equity method. Equity method investments are included in Investments in unconsolidated businesses in our consolidated balance sheets. All significant intercompany accounts and transactions have been eliminated.

Use of Estimates

We prepare our financial statements using U.S. generally accepted accounting principles (GAAP), which requires management to make estimates and assumptions that affect reported amounts and disclosures. Actual results could differ from those estimates.

Examples of significant estimates include the allowance for doubtful accounts, the recoverability of property, plant and equipment, the incremental borrowing rate for the lease liability, the recoverability of intangible assets and other long-lived assets, fair value measurements, including those related to financial instruments, goodwill, spectrum licenses and intangible assets, unrecognized tax benefits, valuation allowances on tax assets, pension and postretirement benefit obligations, contingencies and the identification and valuation of assets acquired and liabilities assumed in connection with business combinations.

Revenue Recognition

We earn revenue from contracts with customers, primarily through the provision of telecommunications and other services and through the sale of wireless equipment. These services include a variety of communication and connectivity services for our Consumer and Business customers including other carriers that use our facilities to provide services to their customers, as well as professional and integrated managed services for our large enterprises and government customers. We account for these revenues under Accounting Standards Update (ASU) 2014-09, "Revenue from Contracts with Customers" (Topic 606), which we adopted on January 1, 2018, using the modified retrospective approach. This standard update, along with related subsequently issued updates, clarifies the principles for recognizing revenue and develops a common revenue standard for GAAP. The standard update also amends current guidance for the recognition of costs to obtain and fulfill contracts with customers such that incremental costs of obtaining and direct costs of fulfilling contracts with customers are deferred and amortized consistent with the transfer of the related good or service.

We also earn revenues that are not accounted for under Topic 606 from leasing arrangements (such as those for towers and equipment), captive reinsurance arrangements primarily related to wireless device insurance and the interest on equipment financed under a device payment plan agreement when sold to the customer by an authorized agent.

Nature of Products and Services

Telecommunications

Service

We offer wireless services through a variety of plans on a postpaid or prepaid basis. For wireless service, we recognize revenue using an output method, either as the service allowance units are used or as time elapses, because it reflects the pattern by which we satisfy our performance obligation through the transfer of service to the customer. Monthly service is generally billed in advance, which results in a contract liability. See Note 2 for additional information. For postpaid plans, where monthly usage exceeds the allowance, the overage usage represents options held by the customer for incremental services and the usage-based fee is recognized when the customer exercises the option (typically on a month-to-month basis).

For our contracts related to wireline communication and connectivity services, in general, fixed monthly fees for service are billed one month in advance, which results in a contract liability, and service revenue is recognized over the enforceable contract term as the service is rendered, as the customer simultaneously receives and consumes the benefits of the services through network access and usage. While substantially all of our wireline service revenue contracts are the result of providing access to our networks, revenue from services that are not fixed in amount and, instead, are based on usage are generally billed in arrears and recognized as the usage occurs.

Equipment

We sell wireless devices and accessories under the Verizon brand. Equipment revenue is generally recognized when the products are delivered to and accepted by the customer, as this is when control passes to the customer. In addition to offering the sale of equipment on a standalone basis, we have two primary offerings through which customers pay for a wireless device, in connection with a service contract: fixed-term plans and device payment plans.

Under a fixed-term plan, the customer is sold the wireless device without any upfront charge or at a discounted price in exchange for entering into a fixed-term service contract (typically for a term of 24 months or less).

Under a device payment plan, the customer is sold the wireless device in exchange for a non-interest-bearing installment note, which is repaid by the customer, typically over a 24-month term, and concurrently enters into a month-to-month contract for wireless service. We may offer certain promotions that provide billing credits applied over a specified term, contingent upon the customer maintaining service. The credits are included in the transaction price, which are allocated to the performance obligations based on their relative selling price and are recognized when earned.

A financing component exists in both our fixed-term plans and device payment plans because the timing of the payment for the device, which occurs over the contract term, differs from the satisfaction of the performance obligation, which occurs at contract inception upon transfer of the device to the customer. We periodically assess, at the contract level, the significance of the financing component inherent in our fixed-term and device payment plan receivable based on qualitative and quantitative considerations related to our customer classes. These considerations include assessing the commercial objective of our plans, the term and duration of financing provided, interest rates prevailing in the marketplace, and credit risks of our customer classes, all of which impact our selection of appropriate discount rates. Based on current facts and circumstances, we determined that the financing component in our existing wireless device payments and fixed-term contracts sold through the direct channel is not significant and therefore is not accounted for separately. See Note 8 for additional information on the interest on equipment financed on a device payment plan agreement when sold to the customer by an authorized agent in our indirect channel.

Wireless Contracts

For our wireless contracts, total contract revenue, which represents the transaction price for wireless service and wireless equipment, is allocated between service and equipment revenue based on their estimated standalone selling prices. We estimate the standalone selling price of the device or accessory to be its retail price excluding subsidies or conditional purchase discounts. We estimate the standalone selling price of wireless service to be the price that we offer to customers on month-to-month contracts that can be cancelled at any time without penalty (i.e., when there is no fixed-term for service) or when service is procured without the concurrent purchase of a wireless device. In addition, we also assess whether the service term is impacted by certain legally enforceable rights and obligations in our contract with customers, such as penalties that a customer would have to pay to early terminate a fixed-term contract or billing credits that would cease if the month-to-month wireless service is canceled. The assessment of these legally enforceable rights and obligations involves judgment and impacts our determination of the transaction price and related disclosures.

From time to time, we may offer certain promotions that provide our customers on device payment plans with the right to upgrade to a new device after paying a specified portion of their device payment plan agreement amount and trading in their device in good working order. We account for this trade-in right as a guarantee obligation. The full amount of the trade-in right's fair value is recognized as a guarantee liability and results in a reduction to the revenue recognized upon the sale of the device. The guarantee liability was insignificant at December 31, 2019 and 2018. The total transaction price is reduced by the guarantee, which is accounted for outside the scope of Topic 606, and the remaining transaction price is allocated between the performance obligations within the contract.

Our fixed-term plans generally include the sale of a wireless device at subsidized prices. This results in the creation of a contract asset at the time of sale, which represents the recognition of equipment revenue in excess of amounts billed.

For our device payment plans, billing credits are accounted for as consideration payable to a customer and are included in the determination of total transaction price, resulting in a contract liability.

We may provide a right of return on our products and services for a short time period after a sale. These rights are accounted for as variable consideration when determining the transaction price, and accordingly we recognize revenue based on the estimated amount to which we expect to be entitled after considering expected returns. Returns and credits are estimated at contract inception and updated at the end of each reporting period as additional information becomes available. We also may provide credits or incentives on our products and services for contracts with resellers, which are accounted for as variable consideration when estimating the amount of revenue to recognize.

Wireline Contracts

Total consideration for wireline services that are bundled in a single contract is allocated to each performance obligation based on our standalone selling price for each service. While many contracts include one or more service performance obligations, the revenue recognition pattern is generally not impacted by the allocation since the services are generally satisfied over the same period of time. We estimate the standalone selling price to be the price of the services when sold on a standalone basis without any promotional discount. In addition, we also assess whether the service term is impacted by certain legally enforceable rights and obligations in our contract with customers such as penalties that a customer would have to pay to early terminate a fixed-term contract. The assessment of these legally enforceable rights and obligations involves judgment and impacts our determination of transaction price and related disclosures.

We may provide performance-based credits or incentives on our products and services for contracts with our Business customers, which are accounted for as variable consideration when estimating the transaction price. Credits are estimated at contract inception and are updated at the end of each reporting period as additional information becomes available.

Wireless and Wireline Contracts

For offers that include third-party providers, we evaluate whether we are acting as the principal or as the agent with respect to the goods or services provided to the customer. This principal-versus-agent assessment involves judgment and focuses on whether the facts and circumstances of the arrangement indicate that the goods or services were controlled by us prior to transferring them to the customer. To evaluate if we have control, we consider various factors including whether we are primarily responsible for fulfillment, bear risk of loss and have discretion over pricing.

Other

Advertising revenues are generated through display advertising and search advertising. Display advertising revenue is generated by the display of graphical advertisements and other performance-based advertising. Search advertising revenue is generated when a consumer clicks on a text-based advertisement on the search results page. Our Media business, Verizon Media, primarily earns revenue through display advertising on Verizon Media properties, as well as on third-party properties through our advertising platforms, search advertising and subscription arrangements. Revenue for display and search advertising contracts is recognized as ads are delivered, while subscription contracts are recognized over time. We are generally the principal in transactions carried out through our advertising platforms, and therefore report gross revenue based on the amount billed to our customers. The control and transfer of digital advertising inventory occurs in a rapid, real-time environment, where our proprietary technology enables us to identify, enhance, verify and solely control digital advertising inventory that we then sell to our customers. Our control is further supported by us being primarily responsible to our customers for fulfillment and the fact that we can exercise a level of discretion over pricing.

We offer telematics services including smart fleet management and optimization software. Telematics service revenue is generated primarily through subscription contracts. We recognize revenue over time for our subscription contracts.

We report taxes collected from customers on behalf of governmental authorities on revenue-producing transactions on a net basis.

Maintenance and Repairs

We charge the cost of maintenance and repairs, including the cost of replacing minor items not constituting substantial betterments, principally to Cost of services as these costs are incurred.

Advertising Costs

Costs for advertising products and services, as well as other promotional and sponsorship costs, are charged to Selling, general and administrative expense in the periods in which they are incurred. See Note 15 for additional information.

Earnings Per Common Share

Basic earnings per common share are based on the weighted-average number of shares outstanding during the period. Where appropriate, diluted earnings per common share include the dilutive effect of shares issuable under our stock-based compensation plans.

There were a total of approximately 2 million, 4 million and 5 million outstanding dilutive securities, primarily consisting of restricted stock units, included in the computation of diluted earnings per common share for the years ended December 31, 2019, 2018 and 2017, respectively.

Cash, Cash Equivalents and Restricted Cash

We consider all highly liquid investments with an original maturity of 90 days or less when purchased to be cash equivalents. Cash equivalents are stated at cost, which approximates quoted market value and includes amounts held in money market funds.

Cash collections on the device payment plan agreement receivables collateralizing asset-backed debt securities are required at certain specified times to be placed into segregated accounts. Deposits to the segregated accounts are considered restricted cash and are included in Prepaid expenses and other and Other assets in our consolidated balance sheets.

Cash, cash equivalents and restricted cash are included in the following line items in the consolidated balance sheets:

	(dollars in millions)		
At December 31,	2019	2018	Increase / (Decrease)
Cash and cash equivalents	\$ 2,594	\$ 2,745	\$ (151)
Restricted cash:			
Prepaid expenses and other	1,221	1,047	174
Other assets	102	124	(22)
Cash, cash equivalents and restricted cash	\$ 3,917	\$ 3,916	\$ 1

Investments in Debt and Equity Securities

Investments in equity securities that are not accounted for under equity method accounting or result in consolidation are to be measured at fair value. For investments in equity securities without readily determinable fair values, Verizon elects the measurement alternative permitted under GAAP to measure these investments at cost, less any impairment, plus or minus changes resulting from observable price changes in orderly transactions for an identical or similar investment of the same issuer. For investments in debt securities without quoted prices, Verizon uses an alternative matrix pricing method. Investments in equity securities that do not result in consolidation of the investee are included in Investments in unconsolidated businesses and debt securities are included in Other assets in our consolidated balance sheets.

Allowance for Doubtful Accounts

Accounts receivable are recorded in the consolidated financial statements at cost net of an allowance for credit losses, with the exception of indirect-channel device payment plan loans. We maintain allowances for uncollectible accounts receivable, including our direct-channel device payment plan agreement receivables, for estimated losses resulting from the failure or inability of our customers to make required payments. Indirect-channel device payment loans are considered financial instruments and are initially recorded at fair value net of imputed interest, and credit losses are recorded as incurred. However, loan balances are assessed quarterly for impairment and an allowance is recorded if the loan is considered impaired. Our allowance for uncollectible accounts receivable is based on management's assessment of the collectability of specific customer accounts and includes consideration of the credit worthiness and financial condition of those customers. We record an allowance to reduce the receivables to the amount that is reasonably believed to be collectible. We also record an allowance for all other receivables based on multiple factors including historical experience with bad debts, the general economic environment and the aging of such receivables. Similar to traditional service revenue, we record direct device payment plan agreement bad debt expense based on an estimate of the percentage of equipment revenue that will not be collected. This estimate is based on a number of factors including historical write-off experience, credit quality of the customer base and other factors such as macroeconomic conditions. We monitor the aging of our accounts with device payment plan agreement receivables and write-off account balances if collection efforts are unsuccessful and future collection is unlikely.

Inventories

Inventory consists of wireless and wireline equipment held for sale, which is carried at the lower of cost (determined principally on either an average cost or first-in, first-out basis) or net realizable value.

Plant and Depreciation

We record property, plant and equipment at cost. Property, plant and equipment are generally depreciated on a straight-line basis.

Leasehold improvements are amortized over the shorter of the estimated life of the improvement or the remaining term of the related lease, calculated from the time the asset was placed in service.

When depreciable assets are retired or otherwise disposed of, the related cost and accumulated depreciation are deducted from the property, plant and equipment accounts and any gains or losses on disposition are recognized in income.

We capitalize and depreciate network software purchased or developed within property, plant and equipment assets. We also capitalize interest associated with the acquisition or construction of network-related assets. Capitalized interest is reported as a reduction in interest expense and depreciated as part of the cost of the network-related assets.

In connection with our ongoing review of the estimated useful lives of property, plant and equipment during 2018, we determined that the average useful lives of certain assets would be increased. These changes in estimates were applied prospectively in 2018 and resulted in a decrease to depreciation expense of \$271 million for the year ended December 31, 2018. While the timing and extent of current deployment plans are subject to ongoing analysis and modification, we believe that the current estimates of useful lives are reasonable.

Computer Software Costs

We capitalize the cost of internal-use network and non-network software that has a useful life in excess of one year. Subsequent additions, modifications or upgrades to internal-use network and non-network software are capitalized only to the extent that they allow the software to perform a task it previously did not perform. Planning, software maintenance and training costs are expensed in the period in which they are incurred. Also, we capitalize interest associated with the development of internal-use network and non-network software. Capitalized non-network internal-use software costs are amortized using the straight-line method over a period of 3 to 7 years and are included in Other intangible assets, net in our consolidated balance sheets. For a discussion of our impairment policy for capitalized software costs, see "Goodwill and Other Intangible Assets" below. Also, see Note 4 for additional information of internal-use non-network software reflected in our consolidated balance sheets.

Goodwill and Other Intangible Assets

Goodwill

Goodwill is the excess of the acquisition cost of businesses over the fair value of the identifiable net assets acquired. Impairment testing for goodwill is performed annually in the fourth quarter or more frequently if impairment indicators are present.

To determine if goodwill is potentially impaired, we have the option to perform a qualitative assessment. However, we may elect to bypass the qualitative assessment and perform a quantitative impairment test even if no indications of a potential impairment exist. The quantitative impairment test for goodwill is performed at the reporting unit level and compares the fair value of the reporting unit (calculated using a combination of a market approach and a discounted cash flow method) to its carrying value. Estimated fair values of reporting units are Level 3 measures in the fair value hierarchy, see Fair Value Measurements discussion below for additional information.

Under the qualitative assessment, we consider several qualitative factors, including the business enterprise value of the reporting unit from the last quantitative test and the excess of fair value over carrying value from this test, macroeconomic conditions (including changes in interest rates and discount rates), industry and market considerations (including industry revenue and Earnings before interest, taxes, depreciation and amortization (EBITDA) margin projections), the recent and projected financial performance of the reporting unit, as well as other factors.

The market approach includes the use of comparative multiples of guideline companies to corroborate discounted cash flow results. The discounted cash flow method is based on the present value of two components, a projected cash flows and a terminal value. The terminal value represents the expected normalized future cash flows of the reporting unit beyond the cash flows from the discrete projection period. The fair value of the reporting unit is calculated based on the sum of the present value of the cash flows from the discrete period and the present value of the terminal value. The discount rate represents our estimate of the weighted-average cost of capital, or expected return, that a marketplace participant would have required as of the valuation date. If the carrying value exceeds the fair value, an impairment charge is booked for the excess carrying value over fair value, limited to the total amount of goodwill of that reporting unit. During the fourth quarter each year, we update our five-year strategic planning review for each of our reporting units. Those plans consider current economic conditions and trends, estimated future operating results, our view of growth-rates and-anticipated future economic and regulatory conditions.

See Note 4 for additional information regarding our goodwill impairment testing.

Intangible Assets Not Subject to Amortization

A significant portion of our intangible assets are wireless licenses that provide our wireless operations with the exclusive right to utilize designated radio frequency spectrum to provide wireless communication services. While licenses are issued for only a fixed

time, generally ten years, such licenses are subject to renewal by the Federal Communications Commission (FCC). License renewals have occurred routinely and at nominal cost. Moreover, we have determined that there are currently no legal, regulatory, contractual, competitive, economic or other factors that limit the useful life of our wireless licenses. As a result, we treat the wireless licenses as an indefinite-lived intangible asset. We re-evaluate the useful life determination for wireless licenses each year to determine whether events and circumstances continue to support an indefinite useful life. We aggregate our wireless licenses into one single unit of accounting, as we utilize our wireless licenses on an integrated basis as part of our nationwide wireless network.

We test our wireless licenses for potential impairment annually or more frequently if impairment indicators are present. We have the option to first perform a qualitative assessment to determine whether it is necessary to perform a quantitative impairment test. However, we may elect to bypass the qualitative assessment in any period and proceed directly to performing the quantitative impairment test. Our quantitative assessment consists of comparing the estimated fair value of our aggregate wireless licenses to the aggregated carrying amount as of the test date. Using a quantitative assessment, we estimate the fair value of our aggregate wireless licenses using the Greenfield approach. The Greenfield approach is an income based valuation approach that values the wireless licenses by calculating the cash flow generating potential of a hypothetical start-up company that goes into business with no assets except the wireless licenses to be valued. A discounted cash flow analysis is used to estimate what a marketplace participant would be willing to pay to purchase the aggregated wireless licenses as of the valuation date. If the estimated fair value of the aggregated wireless licenses is less than the aggregated carrying amount of the wireless licenses, then an impairment charge is recognized. As part of our qualitative assessment, we consider several qualitative factors including the business enterprise value of our historical Wireless segment, macroeconomic conditions (including changes in interest rates and discount rates), industry and market considerations (including industry revenue and EBITDA margin projections), the recent and projected financial performance of our historical Wireless segment, as well as other factors. See Note 4 for additional information regarding our impairment tests.

Interest expense incurred while qualifying activities are performed to ready wireless licenses for their intended use is capitalized as part of wireless licenses. The capitalization period ends when the development is discontinued or substantially completed and the license is ready for its intended use.

Wireless licenses can be purchased through public auctions conducted by the FCC. Deposits required to participate in these auctions and purchase licenses are recorded as other non-current assets until the corresponding licenses are received and within Net cash used in investing activities in our consolidated statements of cash flows.

Intangible Assets Subject to Amortization and Long-Lived Assets

Our intangible assets that do not have indefinite lives (primarily customer lists and non-network internal-use software) are amortized over their estimated useful lives. All of our intangible assets subject to amortization and other long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable. If any indications of impairment are present, we would test for recoverability by comparing the carrying amount of the asset group to the net undiscounted cash flows expected to be generated from the asset group. If those net undiscounted cash flows do not exceed the carrying amount, we would perform the next step, which is to determine the fair value of the asset and record an impairment, if any. We re-evaluate the useful life determinations for these intangible assets each year to determine whether events and circumstances warrant a revision to their remaining useful lives.

For information related to the carrying amount of goodwill, wireless licenses and other intangible assets, as well as the major components and average useful lives of our other acquired intangible assets, see Note 4.

Fair Value Measurements

Fair value of financial and non-financial assets and liabilities is defined as an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. The three-tier hierarchy for inputs used in measuring fair value, which prioritizes the inputs used in the methodologies of measuring fair value for assets and liabilities, is as follows:

Level 1 - Quoted prices in active markets for identical assets or liabilities

Level 2 - Observable inputs other than quoted prices in active markets for identical assets and liabilities

Level 3 - Unobservable pricing inputs in the market

Financial assets and financial liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurements. Our assessment of the significance of a particular input to the fair value measurements requires judgment and may affect the valuation of the assets and liabilities being measured and their categorization within the fair value hierarchy.

Income Taxes

Our effective tax rate is based on pre-tax income, statutory tax rates, tax laws and regulations and tax planning strategies available to us in the various jurisdictions in which we operate.

Deferred income taxes are provided for temporary differences in the basis between financial statement and income tax assets and liabilities. Deferred income taxes are recalculated annually at tax rates in effect for the years in which those tax assets and liabilities are expected to be realized or settled. We record valuation allowances to reduce our deferred tax assets to the amount that is more likely than not to be realized.

We use a two-step approach for recognizing and measuring tax benefits taken or expected to be taken in a tax return. The first step is recognition: we determine whether it is more likely than not that a tax position will be sustained upon examination, including resolution of any related appeals or litigation processes, based on the technical merits of the position. In evaluating whether a tax position has met the more-likely-than-not recognition threshold, we presume that the position will be examined by the appropriate taxing authority that has full knowledge of all relevant information. The second step is measurement: a tax position that meets the more-likely-than-not recognition threshold is measured to determine the amount of benefit to recognize in the financial statements. The tax position is measured at the largest amount of benefit that is greater than 50 percent likely of being realized upon ultimate settlement. Differences between tax positions taken in a tax return and amounts recognized in the financial statements will generally result in one or more of the following: an increase in a liability for income taxes payable, a reduction of an income tax refund receivable, a reduction in a deferred tax asset or an increase in a deferred tax liability.

Significant management judgment is required in evaluating our tax positions and in determining our effective tax rate.

Stock-Based Compensation

We measure and recognize compensation expense for all stock-based compensation awards made to employees and directors based on estimated fair values. See Note 10 for additional information.

Foreign Currency Translation and Transactions

The functional currency of our foreign operations is generally the local currency. For these foreign entities, we translate their financial statements into U.S. dollars using average exchange rates for the period for income statement amounts and using end-of-period exchange rates for assets and liabilities. We record these translation adjustments in Accumulated other comprehensive income, a separate component of Equity, in our consolidated balance sheets. We record exchange gains and losses resulting from the conversion of transaction currency to functional currency as a component of Other income (expense), net.

Employee Benefit Plans

Pension and postretirement health care and life insurance benefits earned during the year, as well as interest on projected benefit obligations, are accrued. Prior service costs and credits resulting from changes in plan benefits are generally amortized over the average remaining service period of the employees expected to receive benefits. Expected return on plan assets is determined by applying the return on assets assumption to the actual fair value of plan assets. Actuarial gains and losses are recognized in Other income (expense), net in the year in which they occur. These gains and losses are measured annually as of December 31 or upon a remeasurement event. Verizon management employees no longer earn pension benefits or earn service towards the Company retiree medical subsidy. See Note 11 for additional information.

We recognize a pension or a postretirement plan's funded status as either an asset or liability in the consolidated balance sheets. Also, we measure any unrecognized prior service costs and credits that arise during the period as a component of Accumulated other comprehensive income, net of applicable income tax.

Derivative Instruments

We enter into derivative transactions primarily to manage our exposure to fluctuations in foreign currency exchange rates and interest rates. We employ risk management strategies, which may include the use of a variety of derivatives including cross currency swaps, forward starting interest rate swaps, interest rate swaps, interest rate caps and foreign exchange forwards. We do not hold derivatives for trading purposes.

We measure all derivatives at fair value and recognize them as either assets or liabilities in our consolidated balance sheets. Our derivative instruments are valued primarily using models based on readily observable market parameters for all substantial terms of our derivative contracts and thus are classified as Level 2. Changes in the fair values of derivative instruments not qualifying for hedge accounting are recognized in earnings in the current period. For fair value hedges, the change in the fair value of the derivative instruments is recognized in earnings, along with the change in the fair value of the hedged item. For cash flow hedges, the change in the fair value of the derivative instruments is reported in Other comprehensive income (loss) and recognized in earnings when the hedged item is recognized in earnings. For net investment hedges of certain of our foreign operations, the change in the fair value of the derivative instruments is reported in Other comprehensive income (loss) as part of the cumulative translation adjustment and partially offset the impact of foreign currency changes on the value of our net investment. See Note 9 for additional information.

Variable Interest Entities

VIEs are entities that lack sufficient equity to permit the entity to finance its activities without additional subordinated financial support from other parties, have equity investors that do not have the ability to make significant decisions relating to the entity's operations through voting rights, do not have the obligation to absorb the expected losses, or do not have the right to receive the residual returns of the entity. We consolidate the assets and liabilities of VIEs when we are deemed to be the primary beneficiary. The primary beneficiary is the party that has the power to make the decisions that most significantly affect the economic performance of the VIE and has the obligation to absorb losses or the right to receive benefits that could potentially be significant to the VIE.

Recently Adopted Accounting Standards

The following ASUs were issued by Financial Accounting Standards Board (FASB), and have been recently adopted by Verizon.

Description	Date of Adoption	Effect on Financial Statements
ASU 2016-02, ASU 2018-01, ASU 2018-10, ASU 2018-11, ASU 2018-20 and ASU 2019-01, Leases (Topic 842)		
The FASB issued Topic 842 requiring entities to recognize assets and liabilities on the balance sheet for all leases, with certain exceptions. In addition, Topic 842 enables users of financial statements to further understand the amount, timing and uncertainty of cash flows arising from leases. Topic 842 allowed for a modified retrospective application and was effective as of the first quarter of 2019. Entities were allowed to apply the modified retrospective approach: (1) retrospectively to each prior reporting period presented in the financial statements with the cumulative-effect adjustment recognized at the beginning of the earliest comparative period presented; or (2) retrospectively at the beginning of the period of adoption (January 1, 2019) through a cumulative-effect adjustment. The modified retrospective approach includes a number of optional practical expedients that entities may elect to apply.	1/1/2019	We adopted Topic 842 beginning on January 1, 2019, using the modified retrospective approach with a cumulative-effect adjustment to opening retained earnings recorded at the beginning of the period of adoption. Therefore, upon adoption, we have recognized and measured leases without revising comparative period information or disclosure. We recorded an increase of \$410 million (net of tax) to retained earnings on January 1, 2019 which related to deferred sale leaseback gains recognized from prior transactions. Additionally, the adoption of the standard had a significant impact in our consolidated balance sheet due to the recognition of \$22.1 billion of operating lease liabilities, along with \$23.2 billion of operating lease right-of-use-assets.

The cumulative after-tax effect of the changes made to our consolidated balance sheet for the adoption of Topic 842 were as follows:

(dollars in millions)	At December 31, 2018	Adjustments due to Topic 842	At January 1, 2019
Prepaid expenses and other	\$ 5,453	\$ (329)	\$ 5,124
Operating lease right-of-use assets	—	23,241	23,241
Other assets	11,717	(2,048)	9,669
Accounts payable and accrued liabilities	22,501	(3)	22,498
Other current liabilities	8,239	(2)	8,237
Current operating lease liabilities	—	2,931	2,931
Deferred income taxes	33,795	139	33,934
Non-current operating lease liabilities	—	19,203	19,203
Other liabilities	13,922	(1,815)	12,107
Retained earnings	43,542	410	43,952
Noncontrolling interests	1,565	1	1,566

In addition to the increase to the operating lease liabilities and right-of-use assets and the derecognition of deferred sale leaseback gains through opening retained earnings, Topic 842 also resulted in reclassifying the presentation of prepaid and deferred rent to operating lease right-of-use assets. The operating lease right-of-use assets amount also includes the balance of any prepaid lease payments, unamortized initial direct costs and lease incentives.

We elected the package of practical expedients permitted under the transition guidance within the new standard. Accordingly, we have adopted these practical expedients and did not reassess: (1) whether an expired or existing contract is a lease or contains an embedded lease; (2) lease classification of an expired or existing lease; or (3) capitalization of initial direct costs for an expired or existing lease. In addition, we have elected the land easement transition practical expedient, and did not reassess whether an existing or expired land easement is a lease or contains a lease if it has not historically been accounted for as a lease.

We lease network equipment including towers, distributed antenna systems, small cells, real estate, connectivity mediums which include dark fiber, equipment, and other various types of assets for use in our operations under both operating and finance leases. We assess whether an arrangement is a lease or contains a lease at inception. For arrangements considered leases or that contain a lease that is accounted for separately, we determine the classification and initial measurement of the right-of-use asset and lease liability at the lease commencement date, which is the date that the underlying asset becomes available for use.

For both operating and finance leases, we recognize a right-of-use asset, which represents our right to use the underlying asset for the lease term, and a lease liability, which represents the present value of our obligation to make payments arising over the lease term. The present value of the lease payments is calculated using the incremental borrowing rate for operating and finance leases. The incremental borrowing rate is determined using a portfolio approach based on the rate of interest that the Company would have to pay to borrow an amount equal to the lease payments on a collateralized basis over a similar term. Management uses the unsecured borrowing rate and risk-adjusts that rate to approximate a collateralized rate, which is updated on a quarterly basis.

In those circumstances where the Company is the lessee, we have elected to account for non-lease components associated with our leases (e.g., common area maintenance costs) and lease components as a single lease component for substantially all of our asset classes. Additionally, in arrangements where we are the lessor, we have customer premise equipment for which we apply the lease and non-lease component practical expedient and account for non-lease components (e.g., service revenue) and lease components as combined components under the revenue recognition guidance in Topic 606 as the service revenues are the predominant components in the arrangements.

Rent expense for operating leases is recognized on a straight-line basis over the term of the lease and is included in either Cost of services or Selling, general and administrative expense in our consolidated statements of income, based on the use of the facility or equipment on which rent is being paid. Variable rent payments related to both operating and finance leases are expensed in the period incurred. Our variable lease payments consist of payments dependent on various external indicators, including real estate taxes, common area maintenance charges and utility usage.

Operating leases with a term of 12 months or less are not recorded on the balance sheet; we recognize rent expense for these leases on a straight-line basis over the lease term.

We recognize the amortization of the right-of-use asset for our finance leases on a straight-line basis over the shorter of the lease term or the useful life of the right-of-use asset in Depreciation and amortization expense in our consolidated statements of income. The interest expense related to finance leases is recognized using the effective interest method based on the discount rate determined at lease commencement and is included within Interest expense in our consolidated statements of income.

See Note 6 for additional information related to leases, including disclosure required under Topic 842.

Opening Equity Balance Sheet Adjustments from Accounting Standards Adopted in 2018

On January 1, 2018, we adopted Topic 606, ASU 2018-02, Income Statement-Reporting Comprehensive Income and other ASUs. We adopted Topic 606 using the modified retrospective method. We early adopted ASU 2018-02, which allows a reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from Tax Cuts and Jobs Act (TCJA). The cumulative after-tax effect of the changes made to our consolidated balance sheet for the adoption of Topic 606, ASU 2018-02 and other ASUs was as follows:

(dollars in millions)	At December 31, 2017	Adjustments due to			At January 1, 2018
		Topic 606	ASU 2018-02	Other ASUs	
Retained earnings	35,635	2,890	(652)	(6)	37,867
Accumulated other comprehensive income	2,659	–	652	(22)	3,289
Noncontrolling interests	1,591	44	–	–	1,635

Recently Issued Accounting Standards

The following ASUs have been recently issued by the FASB.

Description	Date of Adoption	Effect on Financial Statements
ASU 2016-13, ASU 2018-19, ASU 2019-04, ASU 2019-05, Financial Instruments – Credit Losses (Topic 326)		
In June 2016, the FASB issued this standard update which requires certain financial assets be measured at amortized cost net of an allowance for estimated credit losses such that the net receivable represents the present value of expected cash collection. In addition, this standard update requires that certain financial assets be measured at amortized cost reflecting an allowance for estimated credit losses expected to occur over the life of the assets. The estimate of credit losses must be based on all relevant information including historical information, current conditions and reasonable and supportable forecasts that affect the collectability of the amounts. An entity will apply the update through a cumulative effect adjustment to retained earnings as of the beginning of the first reporting period in which the guidance is effective (January 1, 2020). A prospective transition approach is required for debt securities for which an other-than-temporary impairment has been recognized before the effective date. Early adoption of this standard is permitted.	1/1/2020	We established a cross-functional coordinated team to implement the standard update. We have completed our assessment of the expected impacts and updated our processes to meet the standards reporting and disclosure requirements. Upon adoption of this standard on January 1, 2020, we expect the cumulative effect of initially applying the new standard to result in a decrease to the opening balance of retained earnings ranging from approximately \$200 million to \$300 million on a pre-tax basis (\$150 million to \$225 million net of tax), primarily related to the expected impact on certain device payment plan agreement receivables. We do not expect our operating results to be significantly impacted by this standard update.

Note 2. Revenue and Contract Costs

We earn revenue from contracts with customers, primarily through the provision of telecommunications and other services and through the sale of wireless equipment. These services include a variety of communication and connectivity services for our Consumer and Business customers including other carriers that use our facilities to provide services to their customers, as well as professional and integrated managed services for our large enterprises and government customers. We account for these revenues under Topic 606, which we adopted on January 1, 2018, using the modified retrospective approach. We also earn revenues that are not accounted for under Topic 606 from leasing arrangements (such as those for towers and equipment), captive reinsurance arrangements primarily related to wireless device insurance and the interest on equipment financed under a device payment plan agreement when sold to the customer by an authorized agent.

We applied the new revenue recognition standard to customer contracts not completed at the date of initial adoption. For incomplete contracts that were modified before the date of adoption, the Company elected to use the practical expedient available under the modified retrospective method, which allows us to aggregate the effect of all modifications when identifying satisfied and unsatisfied performance obligations, determining the transaction price and allocating transaction price to the satisfied and unsatisfied performance obligations for the modified contract at transition. Results for reporting periods beginning after January 1, 2018 are presented under Topic 606, while amounts reported for prior periods have not been adjusted and continue to be reported under accounting standards in effect for those periods.

Prior to the adoption of Topic 606, we were required to limit the revenue recognized when a wireless device was sold to the amount of consideration that was not contingent on the provision of future services, which was typically limited to the amount of consideration received from the customer at the time of sale. Under Topic 606, the total consideration in the contract is allocated between wireless equipment and service based on their relative standalone selling prices. This change primarily impacts our arrangements that include sales of wireless devices at subsidized prices in conjunction with a fixed-term plan, also known as the subsidy model, for service. Accordingly, under Topic 606, generally more equipment revenue is recognized upon sale of the equipment to the customer and less service revenue is recognized over the contract term than was previously recognized under the prior "Revenue Recognition" (Topic 605) standard. At the time the equipment is sold, this allocation results in the recognition of a contract asset equal to the difference between the amount of revenue recognized and the amount of consideration received from the customer. As of January 2017, we no longer offer Consumer customers new fixed-term plans with subsidized equipment pricing; however, we continue to offer fixed-term plans to our Business customers. At December 31, 2019 and December 31, 2018, approximately 12% and 14% of retail postpaid connections were under fixed-term plans, respectively.

Topic 606 also requires the deferral of incremental costs incurred to obtain a customer contract, which are then amortized to expense, as a component of Selling, general and administrative expense, over the respective periods of expected benefit. As a result, a significant amount of our sales commission costs, which were historically expensed as incurred under our previous accounting, relating to our contracts to provide wireless and wireline services, are now deferred and amortized under Topic 606.

Finally, under Topic 605, at the time of the sale of a device, we imputed risk adjusted interest on the device payment plan agreement receivables. We recorded the imputed interest as a reduction to the related accounts receivable and interest income was recognized over the financed device payment term. Under Topic 606, while there continues to be a financing component in both the fixed-term plans and device payment plans, also known as the installment model, we have determined that this financing component for our customer classes in the direct channels for wireless devices are not significant and therefore we no longer impute interest for these contracts. This change results in additional revenue recognized upon the sale of wireless devices and no interest income recognized over the device payment term.

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A reconciliation of the adjustments from the adoption of Topic 606 relative to Topic 605 on certain impacted financial statement line items in our consolidated statements of income is as follows:

(dollars in millions)	Year Ended December 31, 2018		
	As reported	Balances without adoption of Topic 606	Adjustments
Operating Revenues			
Service revenues and other	\$ 108,605	\$ 109,964	\$ (1,359)
Wireless equipment revenues	22,258	20,474	1,784
Total Operating Revenues	130,863	130,438	425
Cost of services (exclusive of items shown below)	32,185	32,240	(55)
Cost of wireless equipment	23,323	23,189	134
Selling, general and administrative expense	31,083	32,588	(1,505)
Equity in losses of unconsolidated businesses	(186)	(187)	1
Income Before Provision For Income Taxes	19,623	17,771	1,852
Provision for income taxes	(3,584)	(3,104)	(480)
Net Income	\$ 16,039	\$ 14,667	\$ 1,372
Net income attributable to noncontrolling interests	\$ 511	\$ 481	\$ 30
Net income attributable to Verizon	15,528	14,186	1,342
Net Income	\$ 16,039	\$ 14,667	\$ 1,372

Revenue by Category

We have two reportable segments that we operate and manage as strategic business units, Consumer and Business. Revenue is disaggregated by products and services within Consumer, and customer groups (Global Enterprise, Small and Medium Business, Public Sector and Other, and Wholesale) within Business. See Note 13 for additional information on revenue by segment.

Corporate and other includes the results of our media business, Verizon Media, and other businesses. Verizon Media generated revenues from contracts with customers under Topic 606 of approximately \$7.5 billion and \$7.7 billion for the years ended December 31, 2019 and 2018, respectively.

We also earn revenues that are not accounted for under Topic 606 from leasing arrangements (such as those for towers and equipment), captive reinsurance arrangements primarily related to wireless device insurance and the interest on equipment financed under a device payment plan agreement when sold to the customer by an authorized agent. As allowed by the practical expedient within Topic 842, we have elected to combine the lease and non-lease components for those arrangements of customer premise equipment where we are the lessor as components accounted for under Topic 606. Revenues from arrangements that were not accounted for under Topic 606 were approximately \$3.1 billion and \$4.5 billion for the years ended December 31, 2019 and 2018, respectively.

Remaining Performance Obligations

When allocating the total contract transaction price to identified performance obligations, a portion of the total transaction price may relate to service performance obligations which were not satisfied or are partially satisfied as of the end of the reporting period. Below we disclose information relating to these unsatisfied performance obligations. Upon adoption, we elected to apply the practical expedient available under Topic 606 that provides the option to exclude the expected revenues arising from unsatisfied performance obligations related to contracts that have an original expected duration of one year or less. This situation primarily arises with respect to certain month-to-month service contracts. At December 31, 2019, month-to-month service contracts represented approximately 88% of our wireless postpaid contracts and 61% of our wireline Consumer and Small and Medium Business contracts, compared to December 31, 2018, for which month-to-month service contracts represented approximately 86% of our wireless postpaid contracts and 56% of our wireline Consumer and Small and Medium Business contracts.

Additionally, certain contracts provide customers the option to purchase additional services. The fees related to these additional services are recognized when the customer exercises the option (typically on a month-to-month basis).

Contracts for wireless services are generally either month-to-month and cancellable at any time (typically under a device payment plan) or contain terms ranging from greater than one month to up to two years (typically under a fixed-term plan). Additionally, customers may incur charges based on usage or additional optional services purchased in conjunction with entering into a contract that can be cancelled at any time and therefore are not included in the transaction price. The transaction price allocated to service performance obligations, which are not satisfied or are partially satisfied as of the end of the reporting period, are generally related to our fixed-term plans.

Our Consumer group customers also include traditional wholesale resellers that purchase and resell wireless service under their own brands to their respective customers. Reseller arrangements generally include a stated contract term, which typically extends longer than two years and, in some cases, include a periodic minimum revenue commitment over the contract term for which revenues will be recognized in future periods.

Consumer customer contracts for wireline services generally have a service term of two years; however, this term may be shorter than twelve months or may be month-to-month. Certain contracts with Business customers for wireline services extend into future periods, contain fixed monthly fees and usage-based fees, and can include annual commitments in each year of the contract or commitments over the entire specified contract term; however, a significant number of contracts for wireline services with our Business customers have a contract term that is twelve months or less.

Additionally, there are certain contracts with Business customers for wireline and telematics services and certain Media contracts with customers that have a contractual minimum fee over the total contract term. We cannot predict the time period when revenue will be recognized related to those contracts; thus, they are excluded from the time bands below. These contracts have varying terms spanning over approximately five years ending in November 2024 and have aggregate contract minimum payments totaling \$3.4 billion.

At December 31, 2019, the transaction price related to unsatisfied performance obligations for total Verizon that is expected to be recognized for 2020, 2021 and thereafter was \$20.2 billion, \$9.4 billion and \$1.6 billion, respectively. Remaining performance obligation estimates are subject to change and are affected by several factors, including terminations and changes in the timing and scope of contracts, arising from contract modifications.

Accounts Receivable and Contract Balances

The timing of revenue recognition may differ from the time of billing to our customers. Receivables presented in our consolidated balance sheet represent an unconditional right to consideration. Contract balances represent amounts from an arrangement when either Verizon has performed, by transferring goods or services to the customer in advance of receiving all or partial consideration for such goods and services from the customer, or the customer has made payment to Verizon in advance of obtaining control of the goods and/or services promised to the customer in the contract.

The following table presents information about receivables from contracts with customers:

(dollars in millions)	At December 31, 2019	At December 31, 2018	At January 1, 2018
Receivables ⁽¹⁾	\$ 12,078	\$ 12,104	\$ 12,073
Device payment plan agreement receivables ⁽²⁾	11,741	8,940	1,461

⁽¹⁾ Balances do not include receivables related to the following contracts: leasing arrangements (such as those for towers and equipment), captive reinsurance arrangements primarily related to wireless device insurance and the interest on equipment financed under a device payment plan agreement when sold to the customer by an authorized agent.

⁽²⁾ Included in device payment plan agreement receivables presented in Note 8. Balances do not include receivables related to contracts completed prior to January 1, 2018 and receivables derived from the sale of equipment on a device payment plan through an authorized agent.

The following table presents information about contract balances:

(dollars in millions)	At December 31, 2019	At December 31, 2018	At January 1, 2018
Contract asset	\$ 1,150	\$ 1,003	\$ 1,170
Contract liability	5,307	4,943	4,452

Contract assets primarily relate to our rights to consideration for goods or services provided to customers but for which we do not have an unconditional right at the reporting date. Under a fixed-term plan, total contract revenue is allocated between wireless service and equipment revenues, as discussed above. In conjunction with these arrangements, a contract asset is created, which represents the difference between the amount of equipment revenue recognized upon sale and the amount of consideration received from the customer when the performance obligation related to the transfer of control of the equipment is satisfied. The contract asset is reclassified to accounts receivable as wireless services are provided and billed. We have the right to bill the customer as service is provided over time, which results in our right to the payment being unconditional. The contract asset balances are presented in our consolidated balance sheet as Prepaid expenses and other and Other assets. We assess our contract assets for impairment on a quarterly basis and will recognize an impairment charge to the extent their carrying amount is not recoverable.

Contract assets increased \$147 million during the year ended December 31, 2019. The change in the contract asset balance was primarily due to new contracts and increases in sales promotions recognized upfront, driven by customer activity related to wireless and Fios services, partially offset by reclassifications to accounts receivable due to billings on existing contracts and impairment charges of \$113 million. Contract assets decreased \$167 million during the year ended December 31, 2018. The change in the

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contract asset balance was primarily due to reclassifications to accounts receivable due to billings on existing contracts and impairment charges of \$116 million, offset by new contracts related to wireless and Fios services.

Contract liabilities arise when we bill our customers and receive consideration in advance of providing the goods or services promised in the contract. We typically bill service one month in advance, which is the primary component of the contract liability balance. Contract liabilities are recognized as revenue when services are provided to the customer. The contract liability balances are presented in our consolidated balance sheet as Other current liabilities and Other liabilities.

Contract liabilities increased \$364 million during the year ended December 31, 2019. The change in contract liabilities was primarily due to increases in sales promotions recognized over time and upfront fees, as well as increases in deferred revenue related to advanced billings, partially offset by the satisfaction of performance obligations related to wireless and Fios services. Contract liabilities increased \$491 million during the year ended December 31, 2018. The change in contract liabilities was primarily due to increases in sales promotions, as well as increases in deferred revenue related to advanced billings, partially offset by the satisfaction of performance obligations related to wireless and Fios services.

Revenue recognized during the years ended December 31, 2019 and 2018 related to contract liabilities existing at January 1, 2019 and 2018 were \$4.2 billion and \$3.9 billion, respectively, as performance obligations related to services were satisfied.

The balance of contract assets and contract liabilities recorded in our consolidated balance sheets were as follows:

(dollars in millions)	At December 31, 2019	At December 31, 2018
Assets		
Prepaid expenses and other	\$ 848	\$ 757
Other assets	302	246
Total	\$ 1,150	\$ 1,003
Liabilities		
Other current liabilities	\$ 4,651	\$ 4,207
Other liabilities	656	736
Total	\$ 5,307	\$ 4,943

Contract Costs

As discussed in Note 1, Topic 606 requires the recognition of an asset for incremental costs to obtain a customer contract, which is then amortized to expense over the respective period of expected benefit. We recognize an asset for incremental commission costs paid to internal and external sales personnel and agents in conjunction with obtaining customer contracts. We only defer these costs when we have determined the commissions are incremental costs that would not have been incurred absent the customer contract and are expected to be recoverable. Costs to obtain a contract are amortized and recorded ratably as commission expense over the period representing the transfer of goods or services to which the assets relate. Costs to obtain wireless contracts are amortized over both of our Consumer and Business customers' estimated device upgrade cycles, as such costs are typically incurred each time a customer upgrades. Costs to obtain wireline contracts are amortized as expense over the estimated customer relationship period for our Consumer customers. Incremental costs to obtain wireline contracts for our Business customers are insignificant. Costs to obtain contracts are recorded in Selling, general and administrative expense.

We also defer costs incurred to fulfill contracts that: (1) relate directly to the contract; (2) are expected to generate resources that will be used to satisfy our performance obligation under the contract; and (3) are expected to be recovered through revenue generated under the contract. Contract fulfillment costs are expensed as we satisfy our performance obligations and recorded to Cost of services. These costs principally relate to direct costs that enhance our wireline business resources, such as costs incurred to install circuits.

We determine the amortization periods for our costs incurred to obtain or fulfill a customer contract at a portfolio level due to the similarities within these customer contract portfolios.

Other costs, such as general costs or costs related to past performance obligations, are expensed as incurred.

Collectively, costs to obtain a contract and costs to fulfill a contract are referred to as deferred contract costs, and amortized over a 2 to 5-year period. Deferred contract costs are classified as current or non-current within Prepaid expenses and other and Other assets, respectively.

The balances of deferred contract costs included in our consolidated balance sheets were as follows:

(dollars in millions)	At December 31, 2019	At December 31, 2018
Assets		
Prepaid expenses and other	\$ 2,578	\$ 2,083
Other assets	1,911	1,812
Total	\$ 4,489	\$ 3,895

For the years ended December 31, 2019 and 2018, we recognized expense of \$2.7 billion and \$2.0 billion, respectively, associated with the amortization of deferred contract costs, primarily within Selling, general and administrative expense in our consolidated statements of income.

We assess our deferred contract costs for impairment on a quarterly basis. We recognize an impairment charge to the extent the carrying amount of a deferred cost exceeds the remaining amount of consideration we expect to receive in exchange for the goods and services related to the cost, less the expected costs related directly to providing those goods and services that have not yet been recognized as expenses. There have been no impairment charges recognized for the years ended December 31, 2019 and 2018.

Note 3. Acquisitions and Divestitures

Spectrum License Transactions

Since 2017, we have entered into or completed several strategic spectrum transactions including:

- During the fourth quarter of 2016, we entered into a license exchange agreement with affiliates of AT&T Inc. (AT&T) to exchange certain Advanced Wireless Services (AWS) and Personal Communication Services (PCS) spectrum licenses. This non-cash exchange was completed in February 2017. As a result, we received \$1.0 billion of AWS and PCS spectrum licenses at fair value and recorded a pre-tax gain of \$126 million in Selling, general and administrative expense in our consolidated statement of income for the year ended December 31, 2017.
- During the first quarter of 2017, we entered into a license exchange agreement with affiliates of Sprint Corporation to exchange certain PCS spectrum licenses. This non-cash exchange was completed in May 2017. As a result, we received \$132 million of PCS spectrum licenses at fair value and recorded an insignificant gain in Selling, general and administrative expense in our consolidated statement of income for the year ended December 31, 2017.
- During the third quarter of 2017, we entered into a license exchange agreement with affiliates of T-Mobile USA Inc. to exchange certain AWS and PCS spectrum licenses. This non-cash exchange was completed in December 2017. As a result, we received \$414 million of AWS and PCS spectrum licenses at fair value and recorded a pre-tax gain of \$143 million in Selling, general and administrative expense in our consolidated statement of income for the year ended December 31, 2017.
- During 2018, we entered into and completed various wireless license transactions, including the purchase of Straight Path Communications Inc. (Straight Path) and NextLink Wireless LLC (NextLink).
- During 2019, the FCC completed two millimeter wave spectrum license auctions. Verizon participated in these auctions and was the high bidder on 9 and 1,066 licenses, respectively, in the 24 Gigahertz (GHz) and 28 GHz bands. We submitted an application to the FCC and paid cash of approximately \$521 million for the licenses. We received the licenses during the fourth quarter of 2019.
- During 2019, we entered into and completed various other wireless license acquisitions for an insignificant amount of cash consideration.

In December 2019, the FCC incentive auction for spectrum licenses in the upper 37 GHz, 39 GHz, and 47 GHz bands commenced. As an incumbent licensee, Verizon received vouchers related to our existing 39 GHz licenses. These vouchers can be converted into cash, the amount of which will not be known until the conclusion of the auction, or applied toward the purchase price of spectrum in the auction. At the conclusion of the auction, all existing licenses will be cancelled and new reconfigured licenses or cash will be distributed depending on the results of the auction. Due to the FCC's rules restricting communications regarding the auction, we will not disclose our financial plans for the auction during the quiet period for this auction unless legally required. In addition, as of this time, until the completion of the auction process, we cannot determine the resulting financial outcome, including a potential gain or loss. Such gain or loss, if any, may be material.

Acquisition of AOL Inc.

In May 2015, we entered into an Agreement and Plan of Merger with AOL Inc. (AOL) pursuant to which we commenced a tender offer to acquire all of the outstanding shares of common stock of AOL at a price of \$50.00 per share, net to the seller in cash, without interest and less any applicable withholding taxes.

On June 23, 2015, we completed the tender offer and merger, and AOL became a wholly-owned subsidiary of Verizon. The aggregate cash consideration paid by Verizon at the closing of these transactions was approximately \$3.8 billion. Holders of

approximately 6.6 million shares exercised appraisal rights under Delaware law. In September 2018, we obtained court approval to settle this matter for total cash consideration of \$219 million of which an insignificant amount relates to interest, resulting in an insignificant gain. We paid the cash consideration in October 2018.

XO Holdings

In February 2016, we entered into a purchase agreement to acquire XO Holdings' wireline business (XO), which owned and operated one of the largest fiber-based Internet Protocol and Ethernet networks in the U.S. Concurrently, we entered into a separate agreement to utilize certain wireless spectrum from a wholly-owned subsidiary of XO Holdings, NextLink, that held XO's millimeter-wave wireless spectrum. The agreement included an option, subject to certain conditions, to acquire NextLink. In February 2017, we completed our acquisition of XO for total cash consideration of approximately \$1.5 billion, of which \$100 million was paid in 2015, and we prepaid \$320 million in connection with the NextLink option which represented the fair value of the option.

In April 2017, we exercised our option to buy NextLink for approximately \$493 million, subject to certain adjustments, of which \$320 million was prepaid in the first quarter of 2017. The transaction closed in January 2018. The acquisition of NextLink was accounted for as an asset acquisition, as substantially all of the value related to the acquired spectrum. Upon closing, we recorded approximately \$657 million of wireless licenses, \$110 million of a deferred tax liability and \$58 million of other liabilities.

The consolidated financial statements include the results of XO's operations from the date the acquisition closed. If the acquisition of XO had been completed as of January 1, 2016, the results of operations of Verizon would not have been significantly different than our previously reported results of operations.

The acquisition of XO was accounted for as a business combination. The consideration was allocated to the assets acquired and liabilities assumed based on their fair values as of the close of the acquisition. We recorded approximately \$1.2 billion of property, plant and equipment, \$120 million of goodwill and \$194 million of other intangible assets. Goodwill is calculated as the difference between the acquisition date fair value of the consideration transferred and the fair value of the net assets acquired. The goodwill represents future economic benefits that we expect to achieve as a result of the acquisition.

Acquisition of Yahoo! Inc.'s Operating Business

In July 2016, Verizon entered into a stock purchase agreement (the Purchase Agreement) with Yahoo! Inc. (Yahoo). Pursuant to the Purchase Agreement, upon the terms and subject to the conditions thereof, we agreed to acquire the stock of one or more subsidiaries of Yahoo holding all of Yahoo's operating business for approximately \$4.83 billion in cash, subject to certain adjustments (the Transaction).

In February 2017, Verizon and Yahoo entered into an amendment to the Purchase Agreement, pursuant to which the Transaction purchase price was reduced by \$350 million to approximately \$4.48 billion in cash, subject to certain adjustments. Subject to certain exceptions, the parties also agreed that certain user security and data breaches incurred by Yahoo (and the losses arising therefrom) were to be disregarded: (1) for purposes of specified conditions to Verizon's obligations to close the Transaction; and (2) in determining whether a "Business Material Adverse Effect" under the Purchase Agreement had occurred.

Concurrently with the amendment of the Purchase Agreement, Yahoo and Yahoo Holdings, Inc., a wholly-owned subsidiary of Yahoo that Verizon agreed to purchase pursuant to the Transaction, also entered into an amendment to the related reorganization agreement, pursuant to which Yahoo (which changed its name to Altaba Inc. following the closing of the Transaction) retains 50% of certain post-closing liabilities arising out of governmental or third-party investigations, litigations or other claims related to certain user security and data breaches incurred by Yahoo prior to its acquisition by Verizon, including an August 2013 data breach disclosed by Yahoo on December 14, 2016. At that time, Yahoo disclosed that more than one billion of the approximately three billion accounts existing in 2013 had likely been affected. In accordance with the original Transaction agreements, Yahoo will continue to retain 100% of any liabilities arising out of any shareholder lawsuits (including derivative claims) and investigations and actions by the SEC.

In June 2017, we completed the Transaction. The aggregate purchase consideration at the closing of the Transaction was approximately \$4.7 billion, including cash acquired of \$230 million.

Prior to the closing of the Transaction, pursuant to a related reorganization agreement, Yahoo transferred all of the assets and liabilities constituting Yahoo's operating business to the subsidiaries that we acquired in the Transaction. The assets that we acquired did not include Yahoo's ownership interests in Alibaba, Yahoo! Japan and certain other investments, certain undeveloped land recently divested by Yahoo, certain non-core intellectual property or its cash, other than the cash from its operating business we acquired. We received for our benefit and that of our current and certain future affiliates a non-exclusive, worldwide, perpetual, royalty-free license to all of Yahoo's intellectual property that was not conveyed with the business.

In October 2017, based upon information that we received in connection with our integration of Yahoo's operating business, we disclosed that we believe that the August 2013 data breach previously disclosed by Yahoo affected all of its accounts.

The acquisition of Yahoo's operating business has been accounted for as a business combination. The fair values of the assets acquired and liabilities assumed were determined using the income, cost, market and multiple period excess earnings approaches.

The fair value measurements were primarily based on significant inputs that are not observable in the market and thus represent a Level 3 measurement as defined in Accounting Standards Codification 820, Fair Value Measurements and Disclosures, other than long-term debt assumed in the acquisition. The income approach was primarily used to value the intangible assets, consisting primarily of acquired technology and customer relationships. The income approach indicates value for an asset based on the present value of cash flow projected to be generated by the asset. Projected cash flow is discounted at a required rate of return that reflects the relative risk of achieving the cash flow and the time value of money. The cost approach, which estimates value by determining the current cost of replacing an asset with another of equivalent economic utility, was used, as appropriate, for property, plant and equipment. The cost to replace a given asset reflects the estimated reproduction or replacement cost for the property, less an allowance for loss in value due to depreciation.

In June 2018, we finalized the accounting for the Yahoo acquisition. The following table summarizes the final accounting for the assets acquired, including cash acquired of \$230 million, and liabilities assumed as of the close of the acquisition, as well as the fair value at the acquisition date of Yahoo's noncontrolling interests:

(dollars in millions)	As of December 31, 2017	Measurement-period adjustments ⁽¹⁾	Adjusted Fair Value
Cash payment to Yahoo's equity holders	\$ 4,673	\$ –	\$ 4,673
Estimated liabilities to be paid	38	–	38
Total consideration	\$ 4,711	\$ –	\$ 4,711
Assets acquired:			
Goodwill	\$ 1,929	\$ 215	\$ 2,144
Intangible assets subject to amortization	1,873	1	1,874
Property, plant, and equipment	1,805	(6)	1,799
Other	1,332	128	1,460
Total assets acquired	6,939	338	7,277
Liabilities assumed:			
Total liabilities assumed	2,178	338	2,516
Net assets acquired:	4,761	–	4,761
Noncontrolling interest	(50)	–	(50)
Total consideration	\$ 4,711	\$ –	\$ 4,711

⁽¹⁾ Adjustments to the fair value measurements to reflect new information obtained about facts and circumstances that existed as of the acquisition date that, if known, would have affected the measurement of the amounts recognized as of that date. The most significant adjustments related to an increase in goodwill and the recognition of liabilities per certain pre-acquisition contingencies.

On the closing date of the Transaction, each unvested and outstanding Yahoo restricted stock unit award that was held by an employee who became an employee of Verizon was replaced with a Verizon restricted stock unit award, which is generally payable in cash upon the applicable vesting date. The value of those outstanding restricted stock units on the acquisition date was approximately \$1.0 billion.

Goodwill is calculated as the difference between the acquisition date fair value of the consideration transferred and the fair value of the net assets acquired. The goodwill was primarily attributable to increased synergies that were expected to be achieved from the integration of Yahoo's operating business into our Media business. The goodwill related to this acquisition is included within Corporate and other.

The consolidated financial statements include the results of Yahoo's operating business from the date the acquisition closed. If the acquisition of Yahoo's operating business had been completed as of January 1, 2016, the results of operations of Verizon would not have been significantly different than our previously reported results of operations.

Acquisition and Integration Related Charges

Related to the Yahoo Transaction, we recorded \$473 million of acquisition and integration related charges during the year ended December 31, 2018, of which \$273 million, \$195 million and an insignificant amount are related to Severance, Integration costs and Transaction costs, respectively. In connection with the Yahoo Transaction, we recorded acquisition and integration related charges of approximately \$762 million during the year ended December 31, 2017, of which \$526 million, \$166 million and \$70 million related to Severance, Integration costs and Transaction costs, respectively. These charges were recorded in Selling, general and administrative expense in our consolidated statements of income.

Data Center Sale

In December 2016, we entered into a definitive agreement, which was subsequently amended in March 2017, with Equinix, Inc. (Equinix) pursuant to which we agreed to sell 23 customer-facing data center sites in the U.S. and Latin America for approximately \$3.6 billion, subject to certain adjustments (Data Center Sale). The transaction closed in May 2017.

For the year ended December 31, 2017, these sites generated an insignificant amount of revenues and earnings.

In connection with the Data Center Sale and other insignificant divestitures, we recorded a net gain on sale of divested businesses of approximately \$1.8 billion in Selling, general and administrative expense in our consolidated statement of income for the year ended December 31, 2017.

Straight Path

In May 2017, we entered into a purchase agreement to acquire Straight Path, a holder of millimeter wave spectrum configured for fifth-generation (5G) wireless services, for total consideration reflecting an enterprise value of approximately \$3.1 billion. Under the terms of the purchase agreement, we agreed to pay: (1) Straight Path shareholders \$184.00 per share, payable in Verizon shares; and (2) certain transaction costs payable in cash of approximately \$736 million, consisting primarily of a fee to be paid to the FCC. The transaction closed in February 2018 at which time we issued approximately 49 million shares of Verizon common stock, valued at approximately \$2.4 billion, and paid the associated cash consideration.

The acquisition of Straight Path was accounted for as an asset acquisition, as substantially all of the value related to the acquired spectrum. Upon closing, we recorded approximately \$4.5 billion of wireless licenses and \$1.4 billion of a deferred tax liability. The spectrum acquired as part of the transaction is being used for our 5G technology deployment. See Note 4 for additional information.

WideOpenWest, Inc.

In August 2017, we entered into a definitive agreement to purchase certain fiber-optic network assets in the Chicago market from WideOpenWest, Inc. (WOW!), a leading provider of communications services. The transaction closed in December 2017. In addition, the parties entered into a separate agreement pursuant to which WOW! was to complete the build-out of the network assets in 2019. This build-out was completed in 2019. The total cash consideration for the transactions was approximately \$275 million, of which \$226 million was paid in December 2017. During 2019 and 2018, the remaining cash consideration was paid.

Other

In July 2019, Verizon completed a sale-leaseback transaction for buildings and real estate. See Note 6 for additional information related to the transaction. In connection with this transaction and other insignificant transactions, we recorded a pre-tax net gain from dispositions of assets and businesses of \$261 million in Selling, general and administrative expense in our consolidated statement of income for the year ended December 31, 2019.

During 2019, 2018 and 2017, we completed various other acquisitions for an insignificant amount of cash consideration.

Note 4. Wireless Licenses, Goodwill and Other Intangible Assets

Wireless Licenses

The carrying amounts of Wireless licenses are as follows:

At December 31,	(dollars in millions)	
	2019	2018
Wireless licenses	\$ 95,059	\$ 94,130

At December 31, 2019 and 2018, approximately \$6.2 billion and \$8.6 billion, respectively, of wireless licenses were under development for commercial service for which we were capitalizing interest costs. We recorded approximately \$321 million and \$515 million of capitalized interest on wireless licenses for each of the years ended December 31, 2019 and 2018, respectively.

For the year ended December 31, 2018, we recorded approximately \$4.5 billion of wireless licenses in connection with the Straight Path acquisition and \$657 million in connection with the NextLink acquisition. See Note 3 for additional information regarding spectrum license transactions in 2019 and 2018.

The average remaining renewal period of our wireless license portfolio was 4.6 years as of December 31, 2019. See Note 1 for additional information.

As discussed in Note 1, we test our wireless licenses for potential impairment annually or more frequently if impairment indicators are present. In 2019, we performed a qualitative assessment to determine whether it was more likely than not that the fair value of our wireless licenses was less than the carrying amount. In 2018, our quantitative impairment test consisted of comparing the estimated fair value of our aggregate wireless licenses estimated using the Greenfield approach to the aggregated carrying amount

of the licenses as of the test date. In 2017, we performed a qualitative assessment to determine whether it was more likely than not that the fair value of our wireless licenses was less than the carrying amount. Our assessments in 2019, 2018 and 2017 indicated that the fair value of our wireless licenses exceeded the carrying value and, therefore, did not result in impairment.

Goodwill

The Company transitioned into our new reporting structure as of April 1, 2019, which resulted in certain changes to our operating segments and reporting units. Upon the date of reorganization, the goodwill of our historical Wireless reporting unit, historical Wireline reporting unit and historical Verizon Connect reporting unit were reallocated to our new Consumer and Business reporting units using a relative fair value approach.

Changes in the carrying amount of Goodwill are as follows:

	(dollars in millions)					
	Consumer	Business	Wireless	Wireline	Other ⁽²⁾	Total
Balance at January 1, 2018	\$ –	\$ –	\$ 18,397	\$ 3,955	\$ 6,820	\$ 29,172
Acquisitions (Note 3)	–	–	–	(77)	225	148
Reclassifications, adjustments and other	–	–	–	(7)	(108)	(115)
Media goodwill impairment	–	–	–	–	(4,591)	(4,591)
Balance at December 31, 2018	–	–	18,397	3,871	2,346	24,614
Acquisitions	–	–	–	20	–	20
Reclassifications, adjustments and other	–	–	–	1	–	1
Balance at March 31, 2019	–	–	18,397	3,892	2,346	24,635
Reporting Unit reallocation ⁽¹⁾	17,104	7,269	(18,397)	(3,892)	(2,084)	–
Balance at April 1, 2019	17,104	7,269	–	–	262	24,635
Acquisitions	–	2	–	–	–	2
Media goodwill impairment	–	–	–	–	(186)	(186)
Reclassifications, adjustments and other	–	(2)	–	–	(60)	(62)
Balance at December 31, 2019	\$ 17,104	\$ 7,269	\$ –	\$ –	\$ 16	\$ 24,389

⁽¹⁾ Represents the reallocation of goodwill as a result of the Company reorganizing its segments as described in Note 1.

⁽²⁾ Goodwill is net of accumulated impairment charges of \$4.6 billion as of December 31, 2018 and \$4.8 billion as of December 31, 2019, related to our Media reporting unit.

We performed impairment assessments of the impacted reporting units, specifically our historical Wireless, historical Wireline and historical Connect reporting units on March 31, 2019, immediately before our strategic reorganization became effective. Our impairment assessments indicated that the fair value for each of our historical Wireless, historical Wireline and historical Connect reporting units exceeded their respective carrying values, and therefore did not result in a goodwill impairment. We then performed quantitative assessments of our Consumer and Business reporting units on April 1, 2019, immediately following our strategic reorganization. Our impairment assessments indicated that the fair value for each of our Consumer and Business reporting units exceeded their respective carrying values and therefore, did not result in a goodwill impairment. Our Media reporting unit was not impacted by the strategic reorganization and there was no indicator of impairment as of the reorganization date.

We performed qualitative impairment assessments for our Consumer and Business reporting units during the fourth quarter of 2019. Our qualitative assessments indicated that it was more likely than not that the fair values for our Consumer and Business reporting units exceeded their respective carrying values and, therefore, did not result in an impairment. We performed quantitative impairment assessments for our Media reporting unit in 2019 and 2018. For details on our Media reporting unit, refer to the discussion below.

Our Media business, Verizon Media, experienced increased competitive and market pressures throughout 2018 that resulted in lower than expected revenues and earnings. These pressures were expected to continue and have resulted in a loss of market positioning to our competitors in the digital advertising business. Our Media business also achieved lower than expected benefits from the integration of the Yahoo and AOL businesses.

In connection with Verizon's annual budget process during the fourth quarter of 2019 and 2018, the leadership at both Verizon Media and Verizon completed a comprehensive five-year strategic planning review of Verizon Media's business prospects resulting in unfavorable adjustments to Verizon Media's financial projections. These revised projections were used as a key input into Verizon Media's annual goodwill impairment tests performed in the fourth quarter of 2019 and 2018.

During the fourth quarter of 2019 and 2018, consistent with our accounting policy, we applied a combination of a market approach and a discounted cash flow method reflecting current assumptions and inputs, including our revised projections, discount rate and expected growth rates, which resulted in the determination that the fair value of the Media reporting unit was less than its carrying

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amount. As a result, we recorded a non-cash goodwill impairment charge of approximately \$186 million (\$176 million after-tax) in the fourth quarter of 2019 and a charge of \$4.6 billion (\$4.5 billion after-tax) in the fourth quarter of 2018 in our consolidated statements of income. The goodwill balance of the Media reporting unit has been fully written off as a result of these impairment charges.

We performed a quantitative impairment assessment for all of the other reporting units in 2018. Our impairment tests indicated that the fair value for each of our historical Wireless, historical Wireline and historical Connect reporting units exceeded their respective carrying value and, therefore, did not result in an impairment.

For 2017, we performed a quantitative impairment assessment for all of our reporting units, except for our historical Wireless reporting unit, for which a qualitative assessment was completed. For 2017, our impairment tests indicated that the fair value for each of our reporting units exceeded their respective carrying value and therefore, did not result in goodwill impairment.

Other Intangible Assets

The following table displays the composition of Other intangible assets, net as well as the respective amortization period:

At December 31,	2019			2018		
	Gross Amount	Accumulated Amortization	Net Amount	Gross Amount	Accumulated Amortization	Net Amount
Customer lists (8 to 13 years)	\$ 3,896	\$ (1,511)	\$ 2,385	\$ 3,951	\$ (1,121)	\$ 2,830
Non-network internal-use software (3 to 7 years)	20,530	(14,418)	6,112	18,603	(12,785)	5,818
Other (2 to 25 years)	1,967	(966)	1,001	1,988	(861)	1,127
Total	\$ 26,393	\$ (16,895)	\$ 9,498	\$ 24,542	\$ (14,767)	\$ 9,775

The amortization expense for Other intangible assets was as follows:

Years	(dollars in millions)
2019	\$ 2,311
2018	2,217
2017	2,213

Estimated annual amortization expense for Other intangible assets is as follows:

Years	(dollars in millions)
2020	\$ 2,235
2021	1,931
2022	1,651
2023	1,317
2024	968

Note 5. Property, Plant and Equipment

The following table displays the details of Property, plant and equipment, which is stated at cost:

At December 31,	Lives (years)	2019		2018	
Land	–	\$ 594	\$ 807		
Buildings and equipment	7 to 45	31,216	30,468		
Central office and other network equipment	3 to 50	152,733	147,250		
Cable, poles and conduit	7 to 50	52,658	49,859		
Leasehold improvements	5 to 20	9,072	8,580		
Work in progress	–	9,234	6,362		
Furniture, vehicles and other	3 to 20	10,227	9,509		
		265,734	252,835		
Less accumulated depreciation		173,819	163,549		
Property, plant and equipment, net		\$ 91,915	\$ 89,286		

Note 6. Leasing Arrangements

We enter into various lease arrangements for network equipment including towers, distributed antenna systems, small cells, real estate and connectivity mediums including dark fiber, equipment, and other various types of assets for use in our operations. Our leases have remaining lease terms ranging from 1 year to 28 years, some of which include options that we can elect to extend the leases term for up to 25 years, and some of which include options to terminate the leases. For the majority of leases entered into during the current period, we have concluded it is not reasonably certain that we would exercise the options to extend the lease or terminate the lease. Therefore, as of the lease commencement date, our lease terms generally do not include these options. We include options to extend the lease when it is reasonably certain that we will exercise that option.

During March 2015, we completed a transaction with American Tower Corporation (American Tower) pursuant to which American Tower acquired the exclusive rights to lease and operate approximately 11,300 of our wireless towers for an upfront payment of \$5.0 billion. We have subleased capacity on the towers from American Tower for a minimum of 10 years at current market rates in 2015, with options to renew. We continue to include the towers in Property, plant and equipment, net in our consolidated balance sheets and depreciate them accordingly. In addition to the rights to lease and operate the towers, American Tower assumed the interest in the underlying ground leases related to these towers. While American Tower can renegotiate the terms of and is responsible for paying the ground leases, we are still the primary obligor for these leases and accordingly, the present value of these ground leases are included in our operating lease right-of-use assets and operating lease liabilities. We do not expect to be required to make ground lease payments unless American Tower defaults, which we determined to be remote.

The components of net lease cost were as follows:

Year Ended December 31,	Classification	(dollars in millions)
		2019
Operating lease cost ⁽¹⁾	Cost of services	
	Selling, general and administrative expense	\$ 4,746
Finance lease cost:		
Amortization of right-of-use assets	Depreciation and amortization expense	330
Interest on lease liabilities	Interest expense	38
Short-term lease cost ⁽¹⁾	Cost of services	
	Selling, general and administrative expense	40
Variable lease cost ⁽¹⁾	Cost of services	
	Selling, general and administrative expense	218
Sublease income	Service revenues and other	(275)
Total net lease cost		\$ 5,097
Gain on sale and leaseback transaction, net	Selling, general and administrative expense	\$ (391)

⁽¹⁾ All operating lease costs, including short-term and variable lease costs, are split between Cost of services and Selling, general and administrative expense in the consolidated statements of income based on the use of the facility or equipment that the rent is being paid on. See Note 1 for additional information. Variable lease costs represent payments that are dependent on a rate or index, or on usage of the asset.

Supplemental disclosure for the statement of cash flows related to operating and finance leases were as follows:

Year Ended December 31,	(dollars in millions)
	2019
Cash Flows from Operating Activities	
Cash paid for amounts included in the measurement of lease liabilities	
Operating cash flows for operating leases	\$ (4,392)
Operating cash flows for finance leases	(38)
Cash Flows from Financing Activities	
Financing cash flows for finance leases	(352)
Supplemental lease cash flow disclosures	
Operating lease right-of-use assets obtained in exchange for new operating lease liabilities	3,510
Right-of-use assets obtained in exchange for new finance lease liabilities	564

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Notes to Consolidated Financial Statements *continued*

Supplemental disclosures for the balance sheet related to finance leases were as follows:

At December 31,	(dollars in millions)
Assets	2019
Property, plant and equipment, net	\$ 939
Liabilities	
Debt maturing within one year	\$ 336
Long-term debt	780
Total Finance lease liabilities	\$ 1,116

The weighted-average remaining lease term and the weighted-average discount rate of our leases were as follows:

At December 31,	2019
Weighted-average remaining lease term (years)	
Operating Leases	9
Finance Leases	5
Weighted-average discount rate	
Operating Leases	4.0%
Finance Leases	3.2%

The Company's maturity analysis of operating and finance lease liabilities as of December 31, 2019 were as follows:

Years	(dollars in millions)	
	Operating Leases	Finance Leases
2020	\$ 4,099	\$ 366
2021	3,764	271
2022	3,363	208
2023	3,001	152
2024	2,484	92
Thereafter	9,257	124
Total lease payments	25,968	1,213
Less interest	4,314	97
Present value of lease liabilities	21,654	1,116
Less current obligation	3,261	336
Long-term obligation at December 31, 2019	\$ 18,393	\$ 780

As of December 31, 2019, we have contractually obligated lease payments amounting to \$1.9 billion for office facility operating leases and small cell colocation and fiber operating leases that have not yet commenced. We have legally obligated lease payments for various other operating leases that have not yet commenced for which the total obligation was not significant. We have certain rights and obligations for these leases, but have not recognized an operating lease right-of-use asset or an operating lease liability since they have not yet commenced.

Real Estate Transaction

On July 23, 2019, Verizon completed a sale-leaseback transaction for buildings and real estate. We received total gross proceeds of approximately \$1.0 billion. We leased back a portion of the buildings and real estate sold and accounted for it as an operating lease. The term of the leaseback is for two years with four options to renew for an additional three months each. The proceeds received as a result of this transaction have been classified in Other, net within Cash Flows from Investing Activities in our consolidated statement of cash flows for the year ended December 31, 2019. The net gain as a result of this transaction is included in the components of net lease cost table above.

Disclosures Related to Periods Prior to Adoption of Topic 842

Total rent expense under operating leases amounted to \$4.1 billion in 2018 and \$3.8 billion in 2017.

Amortization of capital leases was included in Depreciation and amortization expense in the consolidated statements of income. Capital lease amounts included in Property, plant and equipment were as follows:

At December 31,	(dollars in millions)
Capital leases	\$ 1,756
Less accumulated amortization	998
Total	\$ 758

Note 7. Debt

Outstanding long-term debt obligations as of December 31, 2019 and 2018 are as follows:

At December 31,	Maturities	Interest Rates %	2019	2018
Verizon Communications	2019-2024	1.38 – 5.51	\$ 19,885	\$ 24,242
	2025-2029	1.38 – 6.80	30,038	23,711
	2030-2055	2.65 – 8.95	47,777	54,662
	2019-2024	Floating⁽¹⁾	2,210	2,868
	2025-2029	Floating⁽¹⁾	1,789	1,789
Alltel Corporation	2025-2029	6.80	38	116
	2030-2055	7.88	58	118
	2019-2024	7.88 – 8.00	141	147
Operating telephone company subsidiaries – debentures	2025-2029	6.00 – 8.38	286	288
	2030-2055	5.13 – 8.75	339	361
	2019-2024	8.75	141	178
GTE LLC	2025-2029	6.94	250	266
	2019-2024	1.42 – 3.56	8,116	7,962
Other subsidiaries – asset-backed debt	2019-2024	Floating⁽¹⁾	4,277	2,139
	Finance lease obligations (average rate of 3.2% and 4.1% in 2019 and 2018, respectively)		1,116	905
Unamortized discount, net of premium			(4,480)	(6,298)
Unamortized debt issuance costs			(492)	(541)
Total long-term debt, including current maturities			111,489	112,913
Less long-term debt maturing within one year			10,777	7,040
Total long-term debt			\$ 100,712	\$ 105,873
Total long-term debt, including current maturities			\$ 111,489	\$ 112,913
Plus short-term notes payable			–	150
Total debt			\$ 111,489	\$ 113,063

⁽¹⁾ The debt obligations bore interest at a floating rate based on the London Interbank Offered Rate (LIBOR) plus an applicable interest margin per annum.

Maturities of long-term debt (secured and unsecured) outstanding, including current maturities, excluding unamortized debt issuance costs, at December 31, 2019 are as follows:

Years	(dollars in millions)
2020	\$ 10,470
2021	7,269
2022	9,162
2023	5,591
2024	4,212
Thereafter	74,161

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During 2019, we received \$18.7 billion of proceeds from long-term borrowings, which included \$8.6 billion of proceeds from asset-backed debt transactions. The net proceeds were used for general corporate purposes including the repayment of debt. We used \$23.9 billion of cash to repay, redeem and repurchase long-term borrowings and finance lease obligations, including \$6.3 billion to prepay and repay asset-backed, long-term borrowings.

During 2018, we received \$10.8 billion of proceeds from long-term borrowings, which included \$4.8 billion of proceeds from asset-backed debt transactions. The net proceeds were used for general corporate purposes including the repayment of debt. We used \$14.6 billion of cash to repay, redeem and repurchase long-term borrowings and finance lease obligations, including \$3.6 billion to prepay and repay asset-backed, long-term borrowings.

2019 Significant Debt Transactions

The following tables show the significant transactions involving the senior unsecured debt securities of Verizon and its subsidiaries that occurred during the year ended December 31, 2019.

Exchange Offers

(dollars in millions)	Principal Amount Exchanged	Principal Amount Issued
Verizon 1.750% – 5.150% notes and floating rate notes, due 2021 – 2025	\$ 3,892	\$ –
GTE LLC 8.750% debentures, due 2021	21	–
Verizon 4.016% notes due 2029 ⁽¹⁾	–	4,000
Total	\$ 3,913	\$ 4,000

⁽¹⁾ The principal amount issued in exchange does not include either an insignificant amount of cash paid in lieu of the issuance of fractional new notes or accrued and unpaid interest paid on the old notes accepted for exchange to the date of exchange.

Tender Offers

(dollars in millions)	Principal Amount Purchased	Cash Consideration ⁽¹⁾
Verizon 4.672% – 5.012% notes due 2054 – 2055	\$ 4,500	\$ 5,030
Verizon 3.850% – 6.550% notes due 2039 – 2055	3,816	4,828
Verizon and other subsidiaries 5.050% – 8.950% notes and debentures due 2021 – 2041	593	837
Total	\$ 8,909	\$ 10,695

⁽¹⁾ The total cash consideration includes the tender offer consideration, plus any accrued and unpaid interest to the date of purchase.

Redemptions, Repurchases and Repayments

(dollars in millions)	Principal Redeemed/ Repurchased/ Repaid	Amount Paid as % of Principal ⁽¹⁾
Verizon 5.900% notes due 2054	\$ 500	100.000%
Verizon 1.375% notes due 2019	206	100.000%
Verizon 1.750% notes due 2021	621	100.000%
Verizon 3.000% notes due 2021	930	101.061%
Verizon 3.500% notes due 2021	315	102.180%
Verizon 2.625% notes due 2020	831	100.037%
Verizon 3.500% notes due 2021	736	102.238%
Verizon floating rate (LIBOR + 0.770%) notes due 2019	229	100.000%
Verizon 4.200% notes due 2046	2,059	100.000%
Verizon floating rate (LIBOR + 0.370%) notes due 2019	306	100.000%
Verizon 2.600% – 4.300% Internotes due 2022 – 2029	201	100.000%
Open market repurchases of various Verizon notes	543	Various
Total	\$ 7,477	

⁽¹⁾ Percentages represent price paid to redeem, repurchase and repay.

In February 2020, we redeemed, in whole, approximately \$1.5 billion aggregate principal amount of 4.95% Notes due 2047.

Issuances

(dollars in millions)	Principal Amount Issued	Net Proceeds ⁽¹⁾
Verizon 3.875% notes due 2029 ⁽²⁾	\$ 1,000	\$ 994
Verizon 5.000% notes due 2051	\$ 510	506
Verizon 0.875% notes due 2027	€ 1,250	1,391
Verizon 1.250% notes due 2030	€ 1,250	1,385
Verizon 2.500% notes due 2031	£ 500	647
Verizon 0.875% notes due 2032	€ 800	882
Verizon 1.500% notes due 2039	€ 500	545
Verizon 1.875% notes due 2030	£ 550	672
Verizon 2.100% notes due 2026	A\$ 450	307
Verizon 2.650% notes due 2030	A\$ 300	205
Verizon 3.500% notes due 2039	A\$ 500	341
Total		\$ 7,875

⁽¹⁾ Net proceeds were net of discount and issuance costs.

⁽²⁾ An amount equal to the net proceeds from this green bond will be used to fund, in whole or in part, "Eligible Green Investments." "Eligible Green Investments" include new and existing investments made by us during the period from two years prior to the issuance of the green bond through the maturity date of the green bond, in the following categories: (1) renewable energy; (2) energy efficiency; (3) green buildings; (4) sustainable water management; and (5) biodiversity and conservation.

Short-Term Borrowing and Commercial Paper Program

In July 2018, we entered into a short-term uncommitted credit facility with the ability to borrow up to \$700 million. As of December 31, 2019 and 2018, there was no outstanding balance.

As of December 31, 2019 and 2018, we had no commercial paper outstanding.

Asset-Backed Debt

As of December 31, 2019, the carrying value of our asset-backed debt was \$12.4 billion. Our asset-backed debt includes Asset-Backed Notes (ABS Notes) issued to third-party investors (Investors) and loans (ABS Financing Facilities) received from banks and their conduit facilities (collectively, the Banks). Our consolidated asset-backed debt bankruptcy remote legal entities (each, an ABS Entity or collectively, the ABS Entities) issue the debt or are otherwise party to the transaction documentation in connection with our asset-backed debt transactions. Under the terms of our asset-backed debt, Cellco Partnership (Cellco) and certain other affiliates of Verizon (collectively, the Originators) transfer device payment plan agreement receivables to one of the ABS Entities, which in turn transfers such receivables to another ABS Entity that issues the debt. Verizon entities retain the equity interests in the ABS Entities, which represent the rights to all funds not needed to make required payments on the asset-backed debt and other related payments and expenses.

Our asset-backed debt is secured by the transferred device payment plan agreement receivables and future collections on such receivables. The device payment plan agreement receivables transferred to the ABS Entities and related assets, consisting primarily of restricted cash, will only be available for payment of asset-backed debt and expenses related thereto, payments to the Originators in respect of additional transfers of device payment plan agreement receivables, and other obligations arising from our asset-backed debt transactions, and will not be available to pay other obligations or claims of Verizon's creditors until the associated asset-backed debt and other obligations are satisfied. The Investors or Banks, as applicable, which hold our asset-backed debt have legal recourse to the assets securing the debt, but do not have any recourse to Verizon with respect to the payment of principal and interest on the debt. Under a parent support agreement, Verizon has agreed to guarantee certain of the payment obligations of Cellco and the Originators to the ABS Entities.

Cash collections on the device payment plan agreement receivables collateralizing our asset-backed debt securities are required at certain specified times to be placed into segregated accounts. Deposits to the segregated accounts are considered restricted cash and are included in Prepaid expenses and other, and Other assets in our consolidated balance sheets.

Proceeds from our asset-backed debt transactions are reflected in Cash flows from financing activities in our consolidated statements of cash flows. The asset-backed debt issued and the assets securing this debt are included in our consolidated balance sheets.

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Notes to Consolidated Financial Statements *continued*

ABS Notes

During the year ended December 31, 2019, we completed the following ABS Notes transactions:

(dollars in millions)	Interest Rates %	Expected Weighted-average Life to Maturity (in years)	Principal Amount Issued
March 2019			
A-1a Senior class notes	2.930	2.50	\$ 900
A-1b Senior floating rate class notes	LIBOR + 0.330 ⁽¹⁾	2.50	100
B Junior class notes	3.020	3.22	69
C Junior class notes	3.220	3.40	53
March 2019 total			1,122
June 2019			
A-1a Senior class notes	2.330	2.52	855
A-1b Senior floating rate class notes	LIBOR + 0.450 ⁽¹⁾	2.52	145
B Junior class notes	2.400	3.28	69
C Junior class notes	2.600	3.47	53
June 2019 total			1,122
October 2019			
A-1a Senior class notes	1.940	2.51	1,276
A-1b Senior floating rate class notes	LIBOR + 0.420 ⁽¹⁾	2.51	150
B Junior class notes	2.060	3.23	98
C Junior class notes	2.160	3.41	76
October 2019 total			1,600
Total			\$ 3,844

⁽¹⁾ The one-month LIBOR at December 31, 2019 was 1.763%.

Under the terms of each series of ABS Notes, there is a two year revolving period during which we may transfer additional receivables to the ABS Entity. In April, July and November 2019, the two year revolving period of the ABS Notes we issued in March, June and October 2017, respectively, ended, and we began to repay principal on the 2017-1, 2017-2 and 2017-3 Class A senior ABS Notes. In October 2019, in connection with an optional acquisition of receivables and redemption of 2016-1 Notes, we made a principal payment, in whole, for an insignificant amount. During the year ended December 31, 2019, we made aggregate principal repayments of \$3.3 billion, for all ABS Notes.

In January 2020, we issued \$1.6 billion aggregate principal amount of senior and junior Asset-Backed Notes through an ABS Entity.

ABS Financing Facility

In May 2018, we entered into an ABS financing facility with a number of financial institutions (2018 ABS Financing Facility). One loan agreement was entered into in connection with the 2018 ABS Financing Facility. In May 2019, the \$540 million outstanding under the loan agreement was prepaid, and the loan agreement was terminated.

In September 2016, we entered into an ABS financing facility with a number of financial institutions (2016 ABS Financing Facility). Two loan agreements were entered into in connection with the 2016 ABS Financing Facility in September 2016 and May 2017. In April and May 2019, we paid off both the 2016 and 2017 loans for an aggregate of \$671 million, and the loan agreements were terminated.

In May 2019, the 2016 ABS Financing Facility was amended and restated (2019 ABS Financing Facility). Under the terms of the 2019 ABS Financing Facility, which is an uncommitted facility, the financial institutions make advances under asset-backed loans backed by device payment plan agreement receivables of both consumer and business customers. One loan agreement was entered into in connection with the 2019 ABS Financing Facility. The 2019 loan agreement has a final maturity date in May 2023 and bears interest at floating rates. There is a one year revolving period until May 2020, which may be extended with the approval of the financial institutions. Under the 2019 loan agreement, we have the right to prepay all or a portion of the advances at any time without penalty, but in certain cases, with breakage costs. Subject to certain conditions, we may also remove receivables from the ABS Entity. In May 2019, we borrowed \$1.8 billion under the 2019 loan agreement. In August 2019, we prepaid \$1.5 billion of the loan made in May 2019 under the 2019 loan agreement. In November 2019, we borrowed an additional \$1.5 billion under the 2019 loan agreement. In December 2019, the 2019 loan agreement was amended to increase the facility by an additional \$1.5 billion, and an additional \$1.5 billion was borrowed under the 2019 loan agreement. The aggregate outstanding balance under the 2019 ABS Financing Facility was \$3.3 billion as of December 31, 2019. In January 2020, we prepaid \$1.3 billion of the loan under the 2019 loan agreement.

Variable Interest Entities

The ABS Entities meet the definition of a VIE for which we have determined that we are the primary beneficiary as 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. Therefore, the assets, liabilities and activities of the ABS Entities are consolidated in our financial results and are included in amounts presented on the face of our consolidated balance sheets.

The assets and liabilities related to our asset-backed debt arrangements included in our consolidated balance sheets were as follows:

(dollars in millions)	At December 31, 2019	At December 31, 2018
Assets		
Accounts receivable, net	\$ 10,525	\$ 8,861
Prepaid expenses and other	1,180	989
Other assets	3,856	2,725
Liabilities		
Accounts payable and accrued liabilities	11	7
Debt maturing within one year	5,578	5,352
Long-term debt	6,791	4,724

See Note 8 for additional information on device payment plan agreement receivables used to secure asset-backed debt.

Long-Term Credit Facilities

(dollars in millions)	Maturities	At December 31, 2019		
		Facility Capacity	Unused Capacity	Principal Amount Outstanding
Verizon revolving credit facility ⁽¹⁾	2022	\$ 9,500	\$ 9,390	N/A
Various export credit facilities ⁽²⁾	2022-2027	5,500	-	4,471
Total		\$ 15,000	\$ 9,390	\$ 4,471

⁽¹⁾ The revolving credit facility does not require us to comply with financial covenants or maintain specified credit ratings, and it permits us to borrow even if our business has incurred a material adverse change. The revolving credit facility provides for the issuance of letters of credit.

⁽²⁾ During 2019 and 2018, we drew down \$1.5 billion and \$3.0 billion from these facilities, respectively. We use these credit facilities to finance equipment-related purchases.

Non-Cash Transaction

During the years ended December 31, 2019, 2018 and 2017, we financed, primarily through vendor financing arrangements, the purchase of approximately \$563 million, \$1.1 billion, and \$501 million, respectively, of long-lived assets consisting primarily of network equipment. At both December 31, 2019 and 2018, \$1.1 billion relating to these financing arrangements, including those entered into in prior years and liabilities assumed through acquisitions, remained outstanding. These purchases are non-cash financing activities and therefore are not reflected within Capital expenditures in our consolidated statements of cash flows.

Early Debt Redemptions

During 2019, 2018 and 2017, we recorded losses on early debt redemptions of \$3.7 billion, \$681 million, and \$2.0 billion, respectively.

We recognize losses on early debt redemptions in Other income (expense), net, in our consolidated statements of income. The total losses are reflected as an adjustment to reconcile net income to Net cash used in operating activities and the portion of the losses representing cash payments are reflected within Net cash used in financing activities in our consolidated statements of cash flows.

Guarantees

We guarantee the debentures of our operating telephone company subsidiaries. As of December 31, 2019, \$765 million aggregate principal amount of these obligations remained outstanding. Each guarantee will remain in place for the life of the obligation unless terminated pursuant to its terms, including the operating telephone company no longer being a wholly-owned subsidiary of Verizon.

We also guarantee the debt obligations of GTE LLC as successor in interest to GTE Corporation that were issued and outstanding prior to July 1, 2003. As of December 31, 2019, \$391 million aggregate principal amount of these obligations remain outstanding.

Debt Covenants

We and our consolidated subsidiaries are in compliance with all of our restrictive covenants in our debt agreements.

Note 8. Wireless Device Payment Plans

Under the Verizon device payment program, our eligible wireless customers purchase wireless devices under a device payment plan agreement. Customers that activate service on devices purchased under the device payment program pay lower service fees as compared to those under our fixed-term service plans, and their device payment plan charge is included on their wireless monthly bill. As of January 2017, we no longer offer Consumer customers new fixed-term, subsidized service plans for phones; however, we continue to offer subsidized plans to our Business customers. We also continue to service existing plans for customers who have not yet purchased and activated devices under the Verizon device payment program.

Wireless Device Payment Plan Agreement Receivables

The following table displays device payment plan agreement receivables, net, that are recognized in our consolidated balance sheets:

	(dollars in millions)	
At December 31,	2019	2018
Device payment plan agreement receivables, gross	\$ 19,493	\$ 19,313
Unamortized imputed interest	(454)	(546)
Device payment plan agreement receivables, net of unamortized imputed interest	19,039	18,767
Allowance for credit losses	(472)	(597)
Device payment plan agreement receivables, net	\$ 18,567	\$ 18,170
Classified in our consolidated balance sheets:		
Accounts receivable, net	\$ 13,045	\$ 12,624
Other assets	5,522	5,546
Device payment plan agreement receivables, net	\$ 18,567	\$ 18,170

Included in our device payment plan agreement receivables, net at December 31, 2019 and December 31, 2018, are net device payment plan agreement receivables of \$14.3 billion and \$11.5 billion, respectively, which have been transferred to ABS Entities and continue to be reported in our consolidated balance sheets. See Note 7 for additional information. We believe the carrying value of our installment loans receivables approximate their fair value using a Level 3 expected cash flow model.

We may offer certain promotions that allow a customer to trade in their owned device in connection with the purchase of a new device. Under these types of promotions, the customer receives a credit for the value of the trade-in device. In addition, we may provide the customer with additional future credits that will be applied against the customer's monthly bill as long as service is maintained. We recognize a liability for the customer's right to trade-in the device measured at fair value, which is determined by considering several factors, including the weighted-average selling prices obtained in recent resales of similar devices eligible for trade-in. Future credits are recognized when earned by the customer. Device payment plan agreement receivables, net does not reflect the trade-in device liability. At December 31, 2019 and December 31, 2018, the amount of trade-in liability was \$103 million and \$64 million, respectively.

From time to time, we offer certain marketing promotions that allow our customers to upgrade to a new device after paying down a certain specified portion of the required device payment plan agreement amount, as well as trading in their device in good working order. When a customer enters into a device payment plan agreement with the right to upgrade to a new device, we account for this trade-in right as a guarantee obligation.

For indirect channel wireless contracts with customers, we impute risk adjusted interest on the device payment plan agreement receivables. We record the imputed interest as a reduction to the related accounts receivable. Interest income, which is included within Service revenues and other in our consolidated statements of income, is recognized over the financed device payment term. See Note 2 for additional information on financing considerations with respect to wireless direct channel contracts with customers.

When originating device payment plan agreements for Consumer customers, we use internal and external data sources to create a credit risk score to measure the credit quality of a customer and to determine eligibility for the device payment program. If a customer is either new to Verizon or has 45 days or less of customer tenure with Verizon, the credit decision process relies more heavily on external data sources. If the customer has more than 45 days of customer tenure with Verizon (an existing customer), the credit decision process relies on a combination of internal and external data sources. External data sources include obtaining a credit report from a national consumer credit reporting agency, if available. Verizon uses its internal data and/or credit data obtained from the credit reporting agencies to create a custom credit risk score. The custom credit risk score is generated automatically (except with respect to a small number of applications where the information needs manual intervention) from the applicant's credit

data using Verizon's proprietary custom credit models, which are empirically derived and demonstrably and statistically sound. The credit risk score measures the likelihood that the potential customer will become severely delinquent and be disconnected for non-payment. For a small portion of new customer applications, a traditional credit report is not available from one of the national credit reporting agencies because the potential customer does not have sufficient credit history. In those instances, alternate credit data is used for the risk assessment.

Based on the custom credit risk score, we assign each customer to a credit class, each of which has specified offers of credit including an account level spending limit and either a maximum amount of credit allowed per device or a required down payment percentage. During the fourth quarter of 2018, Verizon moved all Consumer customers, new and existing, from a required down payment percentage, between zero and 100%, to a maximum amount of credit per device.

Subsequent to origination, Verizon monitors delinquency and write-off experience as key credit quality indicators for its portfolio of device payment plan agreements and fixed-term service plans. The extent of our collection efforts with respect to a particular customer are based on the results of proprietary custom empirically derived internal behavioral scoring models that analyze the customer's past performance to predict the likelihood of the customer falling further delinquent. These customer scoring models assess a number of variables, including origination characteristics, customer account history and payment patterns. Based on the score derived from these models, accounts are grouped by risk category to determine the collection strategy to be applied to such accounts. We continuously monitor collection performance results and the credit quality of our device payment plan agreement receivables based on a variety of metrics, including aging. Verizon considers an account to be delinquent and in default status if there are unpaid charges remaining on the account on the day after the bill's due date.

The balance and aging of the device payment plan agreement receivables on a gross basis were as follows:

	(dollars in millions)	
At December 31,	2019	2018
Unbilled	\$ 18,203	\$ 18,043
Billed:		
Current	1,002	986
Past due	288	284
Device payment plan agreement receivables, gross	\$ 19,493	\$ 19,313

Activity in the allowance for credit losses for the device payment plan agreement receivables was as follows:

	(dollars in millions)	
	2019	2018
Balance at January 1,	\$ 597	\$ 848
Bad debt expense	915	459
Write-offs	(1,040)	(710)
Balance at December 31,	\$ 472	\$ 597

Sales of Wireless Device Payment Plan Agreement Receivables

In 2015 and 2016, we established programs pursuant to a Receivables Purchase Agreement (RPA) to sell from time to time, on an uncommitted basis, eligible device payment plan agreement receivables to a group of primarily relationship banks (Purchasers) on both a revolving and non-revolving basis, collectively the Programs. Under the Programs, eligible device payment plan agreement receivables were transferred to the Purchasers for upfront cash proceeds and additional consideration upon settlement of the receivables, referred to as the deferred purchase price. In December 2017, the RPA and all other related transaction documents were terminated and as of December 31, 2017 we had no further continuing involvement with any of the receivables sold under the RPA program.

There were no sales of device payment plan agreement receivables under the Programs during 2017.

Deferred Purchase Price

Collections of deferred purchase price were \$1.4 billion during 2017. During 2017, we repurchased all outstanding receivables previously sold to the Purchasers in exchange for the obligation to pay the associated deferred purchase price to the wholly-owned subsidiaries that were bankruptcy remote special purpose entities (Sellers). At December 31, 2017, our deferred purchase price receivable was fully satisfied. Collections following the repurchase of receivables were insignificant, \$195 million and \$238 million during 2019, 2018 and 2017, respectively. Collections of both deferred purchase price and repurchased receivables were recorded in Cash flows used in investing activities in our consolidated statement of cash flows.

Note 9. Fair Value Measurements and Financial Instruments

Recurring Fair Value Measurements

The following table presents the balances of assets and liabilities measured at fair value on a recurring basis as of December 31, 2019:

	(dollars in millions)			
	Level 1 ⁽¹⁾	Level 2 ⁽²⁾	Level 3 ⁽³⁾	Total
Assets:				
Other assets:				
Fixed income securities	\$ -	\$ 442	\$ -	\$ 442
Interest rate swaps	-	568	-	568
Cross currency swaps	-	211	-	211
Foreign exchange forwards	-	5	-	5
Total	\$ -	\$ 1,226	\$ -	\$ 1,226
Liabilities:				
Other liabilities:				
Interest rate swaps	\$ -	\$ 173	\$ -	\$ 173
Cross currency swaps	-	912	-	912
Forward starting interest rate swaps	-	604	-	604
Total	\$ -	\$ 1,689	\$ -	\$ 1,689

The following table presents the balances of assets and liabilities measured at fair value on a recurring basis as of December 31, 2018:

	(dollars in millions)			
	Level 1 ⁽¹⁾	Level 2 ⁽²⁾	Level 3 ⁽³⁾	Total
Assets:				
Other assets:				
Fixed income securities	\$ -	\$ 405	\$ -	\$ 405
Interest rate swaps	-	3	-	3
Cross currency swaps	-	220	-	220
Interest rate caps	-	14	-	14
Total	\$ -	\$ 642	\$ -	\$ 642
Liabilities:				
Other liabilities:				
Interest rate swaps	\$ -	\$ 813	\$ -	\$ 813
Cross currency swaps	-	536	-	536
Forward starting interest rate swaps	-	60	-	60
Interest rate caps	-	4	-	4
Total	\$ -	\$ 1,413	\$ -	\$ 1,413

⁽¹⁾ Quoted prices in active markets for identical assets or liabilities

⁽²⁾ Observable inputs other than quoted prices in active markets for identical assets and liabilities

⁽³⁾ Unobservable pricing inputs in the market

Certain of our equity investments do not have readily determinable fair values and are excluded from the tables above. Such investments are measured at cost, less any impairment, plus or minus changes resulting from observable price changes in orderly transactions for an identical or similar investment of the same issuer and are included in Investments in unconsolidated businesses in our consolidated balance sheets. As of December 31, 2019 and December 31, 2018, the carrying amount of our investments without readily determinable fair values was \$284 million and \$248 million, respectively. During 2019, there were insignificant adjustments due to observable price changes and we recognized an insignificant impairment charge. Cumulative adjustments due to observable price changes and impairment charges were insignificant.

Fixed income securities consist primarily of investments in municipal bonds. For fixed income securities that do not have quoted prices in active markets, we use alternative matrix pricing resulting in these debt securities being classified as Level 2.

Derivative contracts are valued using models based on readily observable market parameters for all substantial terms of our derivative contracts and thus are classified within Level 2. We use mid-market pricing for fair value measurements of our derivative instruments. Our derivative instruments are recorded on a gross basis.

We recognize transfers between levels of the fair value hierarchy as of the end of the reporting period. There were no transfers between Level 1 and Level 2 during 2019 and 2018.

Fair Value of Short-term and Long-term Debt

The fair value of our debt is determined using various methods, including quoted prices for identical terms and maturities, which is a Level 1 measurement, as well as quoted prices for similar terms and maturities in inactive markets and future cash flows discounted at current rates, which are Level 2 measurements. The fair value of our short-term and long-term debt, excluding finance leases, was as follows:

At December 31,	2019		2018	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Short- and long-term debt, excluding finance leases	\$ 110,373	\$ 129,200	\$ 112,159	\$ 118,535

(dollars in millions)

Derivative Instruments

The following table sets forth the notional amounts of our outstanding derivative instruments:

At December 31,	2019		2018	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Interest rate swaps	\$ 17,004	\$ 19,813	\$ 19,813	\$ 19,813
Cross currency swaps	23,070	16,638	16,638	16,638
Forward starting interest rate swaps	3,000	4,000	4,000	4,000
Interest rate caps	679	2,218	2,218	2,218
Foreign exchange forwards	1,130	600	600	600

(dollars in millions)

Interest Rate Swaps

We enter into interest rate swaps to achieve a targeted mix of fixed and variable rate debt. We principally receive fixed rates and pay variable rates that are currently based on LIBOR, resulting in a net increase or decrease to Interest expense. These swaps are designated as fair value hedges and hedge against interest rate risk exposure of designated debt issuances. We record the interest rate swaps at fair value in our consolidated balance sheets as assets and liabilities. Changes in the fair value of the interest rate swaps are recorded to Interest expense, which are offset by changes in the fair value of the hedged debt due to changes in interest rates.

During 2019, we entered into interest rate swaps with a total notional value of \$510 million and settled interest rate swaps with a total notional value of \$3.3 billion. During 2018, we entered into interest rate swaps with a total notional value of \$730 million and settled interest rate swaps with a total notional value of \$1.1 billion.

The ineffective portion of these interest rate swaps was \$54 million and insignificant for the years ended December 31, 2019 and 2018, respectively.

The following amounts were recorded in Long-term debt in our consolidated balance sheets related to cumulative basis adjustments for fair value hedges:

At December 31,	2019		2018	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Carrying amount of hedged liabilities	\$ 17,337	\$ 18,903	\$ 18,903	\$ 18,903
Cumulative amount of fair value hedging adjustment included in the carrying amount of the hedged liabilities	433	(785)	(785)	(785)

(dollars in millions)

Cross Currency Swaps

We have entered into cross currency swaps designated as cash flow hedges to exchange our British Pound Sterling, Euro, Swiss Franc and Australian Dollar-denominated cash flows into U.S. dollars and to fix our cash payments in U.S. dollars, as well as to mitigate the impact of foreign currency transaction gains or losses.

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Notes to Consolidated Financial Statements *continued*

During 2019, we entered into cross currency swaps with a total notional value of \$6.4 billion and did not settle any cross currency swaps. A pre-tax loss of \$385 million was recognized in Other comprehensive loss with respect to these swaps.

During 2018, we did not enter into or settle any cross currency swaps. A pre-tax loss of \$720 million was recognized in Other comprehensive loss with respect to these swaps.

A portion of the losses recognized in Other comprehensive loss was reclassified to Other income (expense), net to offset the related pre-tax foreign currency transaction gain or loss on the underlying hedged item.

Forward Starting Interest Rate Swaps

We have entered into forward starting interest rate swaps designated as cash flow hedges in order to manage our exposure to interest rate changes on future forecasted transactions.

During 2019, we did not enter into any forward starting interest rate swaps and we settled forward starting interest rate swaps with a total notional value of \$1.0 billion. A pre-tax loss of \$565 million, resulting from interest rate movements was recognized in Other comprehensive loss with respect to these swaps.

During 2018, we entered into forward starting interest rate swaps with a total notional value of \$4.0 billion. A pre-tax loss of \$60 million was recognized in Other comprehensive loss with respect to these swaps.

We hedge our exposure to the variability in future cash flows of based on the expected maturities of the related forecasted debt issuance.

Net Investment Hedges

We have designated certain foreign currency instruments as net investment hedges to mitigate foreign exchange exposure related to non-U.S. dollar net investments in certain foreign subsidiaries against changes in foreign exchange rates. The notional amount of the Euro-denominated debt as a net investment hedge was €750 million as of both December 31, 2019 and 2018, respectively.

Undesignated Derivatives

We also have the following derivative contracts which we use as economic hedges but for which we have elected not to apply hedge accounting.

Interest Rate Caps

We enter into interest rate caps to mitigate our interest exposure to interest rate increases on our ABS Financing Facility and ABS Notes. During both 2019 and 2018, we recognized an insignificant amount in Interest expense related to interest rate caps.

Foreign Exchange Forwards

We enter into British Pound Sterling and Euro foreign exchange forwards to mitigate our foreign exchange rate risk related to non-functional currency denominated monetary assets and liabilities of international subsidiaries. During 2019, we entered into foreign exchange forwards with a total notional value of \$12.0 billion and settled foreign exchange forwards with a total notional value of \$11.5 billion. During 2018, we entered into foreign exchange forwards with a total notional value of \$2.8 billion and settled foreign exchange forwards with a total notional value of \$2.2 billion. During 2019 and 2018, a pre-tax loss of insignificant amount was recognized in Other income (expense), net.

Treasury Rate Locks

During 2019, we entered into treasury rate locks with a total notional value of \$1.5 billion to hedge the tender offers conducted in May 2019 for fifteen series of notes issued by Verizon with coupon rates ranging from 4.672% to 5.012% and maturity dates ranging from 2054 to 2055 (May Tender offers). In addition, we entered into treasury rate locks with a total notional value of \$1.5 billion to hedge the tender offers conducted in November and December 2019 for eleven and twenty series of notes and debentures, respectively, issued by Verizon and other subsidiaries with coupon rates ranging from 3.850% to 8.950% and maturity dates ranging from 2021 to 2055 (November and December Tender offers). Upon the early settlement of the May, November and December Tender Offers, we settled these hedges and recognized an insignificant gain in Other income (expense), net.

During 2018, we entered into treasury rate locks with a total notional value of \$2.0 billion to hedge the tender offers conducted in September 2018 for eight series of notes issued by Verizon with coupon rates ranging from 3.850% to 5.012% and maturity dates ranging from 2039 to 2055 (September Tender Offers). Upon the early settlement of the September Tender Offers, we settled these hedges and recognized an insignificant loss in Other income (expense), net.

Concentrations of Credit Risk

Financial instruments that subject us to concentrations of credit risk consist primarily of temporary cash investments, short-term and long-term investments, trade receivables, including device payment plan agreement receivables, certain notes receivable, including lease receivables, and derivative contracts.

Counterparties to our derivative contracts are major financial institutions with whom we have negotiated derivatives agreements (ISDA master agreements) and credit support annex (CSA) agreements which provide rules for collateral exchange. Negotiations and executions of new ISDA master agreements and CSA agreements with our counterparties continued during 2018. The CSA agreements contain rating based thresholds such that we or our counterparties may be required to hold or post collateral based upon changes in outstanding positions as compared to established thresholds and changes in credit ratings. At December 31, 2019, we held an insignificant amount and at December 31, 2018, we posted approximately \$0.1 billion of collateral related to derivative contracts under collateral exchange arrangements, which were recorded as Other current liabilities and Prepaid expenses and other, respectively, in our consolidated balance sheets. While we may be exposed to credit losses due to the nonperformance of our counterparties, we consider the risk remote and do not expect that any such nonperformance would result in a significant effect on our results of operations or financial condition due to our diversified pool of counterparties.

Note 10. Stock-Based Compensation

Verizon Long-Term Incentive Plan

In May 2017, Verizon's shareholders approved the 2017 Long-Term Incentive Plan (the 2017 Plan) and terminated Verizon's authority to grant new awards under the Verizon 2009 Long-Term Incentive Plan (the 2009 Plan). The 2017 Plan provides for broad-based equity grants to employees, including executive officers, and permits the granting of stock options, stock appreciation rights, restricted stock, restricted stock units, performance shares, performance stock units and other awards. Upon approval of the 2017 Plan, Verizon reserved for issuance under the 2017 Plan the number of shares that were remaining but not issued under the 2009 Plan. Shares subject to outstanding awards under the 2009 Plan that expire, are canceled or otherwise terminated will also be available for awards under the 2017 Plan. As of December 31, 2019, 89 million shares are reserved for future issuance under the 2017 Plan.

Restricted Stock Units

Restricted Stock Units (RSUs) granted under the 2017 Plan generally vest in three equal installments on each anniversary of the grant date. The RSUs that are paid in stock upon vesting and are thus classified as equity awards are measured using the grant date fair value of Verizon common stock and are not remeasured at the end of each reporting period. The RSUs that are settled in cash are classified as liability awards and the liability is measured at its fair value at the end of each reporting period. All RSUs granted under the 2017 Plan have dividend equivalent units, which will be paid to participants at the time the RSU award is paid, and in the same proportion as the RSU award.

In February 2018, Verizon announced a broad-based employee special award of RSUs under the 2017 Plan to eligible full-time and part-time employees. These RSUs are vested in two equal installments on each anniversary of the grant date and paid in cash. The first installment of the restricted stock units was vested and paid in February 2019 and the remaining restricted stock units will be vested and paid in February 2020.

In connection with our acquisition of Yahoo's operating business, on the closing date of the Transaction each unvested and outstanding Yahoo RSU award that was held by an employee who became an employee of Verizon was replaced with a Verizon RSU award, which is generally payable in cash upon the applicable vesting date. These awards are classified as liability awards and are measured at fair value at the end of each reporting period.

We estimate forfeitures at the time of grant and revise those estimates in subsequent periods if actual forfeitures differ from those estimates. We use historical data to estimate forfeitures and recognize that estimated compensation cost of restricted stock units, net of estimated forfeitures, on a straight-line basis over the vesting period.

Performance Stock Units

The 2017 Plan also provides for grants of Performance Stock Units (PSUs) that generally vest at the end of the third year after the grant. As defined by the 2017 Plan, the Human Resources Committee of the Board of Directors determines the number of PSUs a participant earns based on the extent to which the corresponding performance goals have been achieved over the three-year performance cycle. The PSUs are classified as liability awards because the PSU awards are paid in cash upon vesting. The PSU award liability is measured at its fair value at the end of each reporting period and, therefore, will fluctuate based on the price of Verizon common stock as well as performance relative to the targets. All PSUs granted under the 2017 Plan have dividend equivalent units, which will be paid to participants at the time that PSU award is determined and paid, and in the same proportion as the PSU award. The granted and cancelled activity for the PSU award includes adjustments for the performance goals achieved.

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The following table summarizes Verizon's Restricted Stock Unit and Performance Stock Unit activity:

(shares in thousands)	Restricted Stock Units		Performance Stock Units
	Equity Awards	Liability Awards	
Outstanding January 1, 2017	13,308	–	17,919
Granted	4,216	25,168	6,564
Payments	(4,825)	(8,487)	(6,031)
Cancelled/Forfeited	(66)	(2,690)	(217)
Outstanding December 31, 2017	12,633	13,991	18,235
Granted	4,134	15,157	5,779
Payments	(5,977)	(6,860)	(4,526)
Cancelled/Forfeited	(213)	(2,362)	(2,583)
Outstanding December 31, 2018	10,577	19,926	16,905
Granted	3,169	5,814	4,593
Payments	(6,397)	(9,429)	(3,255)
Cancelled/Forfeited	(90)	(1,598)	(2,692)
Outstanding December 31, 2019	7,259	14,713	15,551

As of December 31, 2019, unrecognized compensation expense related to the unvested portion of Verizon's RSUs and PSUs was approximately \$765 million and is expected to be recognized over approximately two years.

The equity RSUs granted in 2019 and 2018 have weighted-average grant date fair values of \$56.66 and \$49.19 per unit, respectively. During 2019, 2018 and 2017, we paid \$737 million, \$773 million and \$750 million, respectively, to settle RSUs and PSUs classified as liability awards.

Stock-Based Compensation Expense

After-tax compensation expense for stock-based compensation related to RSUs and PSUs described above included in Net income attributable to Verizon was \$872 million, \$720 million and \$384 million for 2019, 2018 and 2017, respectively.

Note 11. Employee Benefits

We maintain non-contributory defined benefit pension plans for certain employees. In addition, we maintain postretirement health care and life insurance plans for certain retirees and their dependents, which are both contributory and non-contributory, and include a limit on our share of the cost for certain current and future retirees. In accordance with our accounting policy for pension and other postretirement benefits, operating expenses include service costs associated with pension and other postretirement benefits while other credits and/or charges based on actuarial assumptions, including projected discount rates, an estimated return on plan assets, and impact from health care trend rates are reported in Other income (expense), net. These estimates are updated in the fourth quarter to reflect actual return on plan assets and updated actuarial assumptions or upon a remeasurement. The adjustment is recognized in the income statement during the fourth quarter or upon a remeasurement event pursuant to our accounting policy for the recognition of actuarial gains and losses.

Pension and Other Postretirement Benefits

Pension and other postretirement benefits for certain employees are subject to collective bargaining agreements. Modifications in benefits have been bargained from time to time, and we may also periodically amend the benefits in the management plans. The following tables summarize benefit costs, as well as the benefit obligations, plan assets, funded status and rate assumptions associated with pension and postretirement health care and life insurance benefit plans.

Obligations and Funded Status

(dollars in millions)

At December 31,	Pension		Health Care and Life	
	2019	2018	2019	2018
Change in Benefit Obligations				
Beginning of year	\$ 19,567	\$ 21,531	\$ 16,364	\$ 19,460
Service cost	247	284	96	127
Interest cost	695	690	629	615
Plan amendments	–	230	(22)	(8)
Actuarial (gain) loss, net	2,860	(1,418)	(414)	(2,729)
Benefits paid	(1,248)	(1,475)	(984)	(1,101)
Curtailment and termination benefits	–	181	–	–
Settlements paid	(873)	(456)	–	–
End of year	21,248	19,567	15,669	16,364
Change in Plan Assets				
Beginning of year	17,816	19,175	1,175	1,119
Actual return on plan assets	3,385	(494)	103	(26)
Company contributions	371	1,066	449	1,183
Benefits paid	(1,248)	(1,475)	(984)	(1,101)
Settlements paid	(873)	(456)	–	–
End of year	19,451	17,816	743	1,175
Funded Status				
End of year	\$ (1,797)	\$ (1,751)	\$ (14,926)	\$ (15,189)

(dollars in millions)

At December 31,	Pension		Health Care and Life	
	2019	2018	2019	2018
Amounts recognized on the balance sheet				
Noncurrent assets	\$ 5	\$ 3	\$ –	\$ –
Current liabilities	(67)	(71)	(603)	(292)
Noncurrent liabilities	(1,735)	(1,683)	(14,323)	(14,897)
Total	\$ (1,797)	\$ (1,751)	\$ (14,926)	\$ (15,189)
Amounts recognized in Accumulated Other Comprehensive Income (Pre-tax)				
Prior service cost (benefit)	\$ 524	\$ 585	\$ (3,749)	\$ (4,698)
Total	\$ 524	\$ 585	\$ (3,749)	\$ (4,698)

The accumulated benefit obligation for all defined benefit pension plans was \$21.2 billion and \$19.5 billion at December 31, 2019 and 2018, respectively.

2018 Collective Bargaining Negotiations

The extension agreement ratified in August 2018 extended our collective bargaining agreements with the Communications Workers of America and the International Brotherhood of Electrical Workers that were due to expire on August 3, 2019 for four years until August 5, 2023. Amendments triggered by the collective bargaining negotiations were made to certain pension plans for certain union-represented employees and retirees. The impact of the plan amendments was an increase in our defined benefit pension plans plan obligations and a net decrease to Accumulated other comprehensive income of \$230 million (net of taxes of \$170 million). The annual impact of the amount recorded in Accumulated other comprehensive income that will be reclassified to net periodic benefit cost is insignificant.

2017 Postretirement Plan Amendments

During 2017, amendments were made to certain postretirement plans related to retiree medical benefits for management and certain union-represented employees and retirees. The impact of the plan amendments was a reduction in our postretirement benefit plan obligations of approximately \$527 million, which has been recorded as a net increase to Accumulated other

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Notes to Consolidated Financial Statements *continued*

comprehensive income of \$317 million (net of taxes of \$210 million). The impact of the amount recorded in Accumulated other comprehensive income that will be reclassified to net periodic benefit cost is insignificant.

2016 Collective Bargaining Negotiations

During 2016, we adopted changes to our defined benefit pension plans and other postretirement benefit plans to reflect the agreed upon terms and conditions of the collective bargaining agreements ratified in June 2016. The impact includes a net increase to Accumulated other comprehensive income of \$2.9 billion (net of taxes of \$1.8 billion). The amount recorded in Accumulated other comprehensive income will be reclassified to net periodic benefit cost on a straight-line basis over the average remaining service period of the respective plans' participants, which, on a weighted-average basis, is 12.2 years for defined benefit pension plans and 7.8 years for other postretirement benefit plans. The above-noted reclassification resulted in a decrease to net periodic benefit cost and increase to pre-tax income of approximately \$658 million during 2019, 2018 and 2017, respectively.

Information for pension plans with an accumulated benefit obligation in excess of plan assets follows:

At December 31,	(dollars in millions)	
	2019	2018
Projected benefit obligation	\$ 21,190	\$ 19,510
Accumulated benefit obligation	21,134	19,461
Fair value of plan assets	19,388	17,757

Net Periodic Benefit Cost (Income)

The following table summarizes the components of net periodic benefit cost (income) related to our pension and postretirement health care and life insurance plans:

Years Ended December 31,	(dollars in millions)					
	Pension			Health Care and Life		
	2019	2018	2017	2019	2018	2017
Service cost – Cost of services	\$ 202	\$ 230	\$ 215	\$ 78	\$ 104	\$ 116
Service cost – Selling, general and administrative expense	45	54	65	18	23	33
Service cost	247	284	280	96	127	149
Amortization of prior service cost (credit)	61	48	39	(971)	(976)	(949)
Expected return on plan assets	(1,130)	(1,293)	(1,262)	(37)	(44)	(53)
Interest cost	695	690	683	629	615	659
Remeasurement loss (gain), net	606	369	337	(480)	(2,658)	546
Curtailement and termination benefits	–	181	11	–	–	–
Other components	232	(5)	(192)	(859)	(3,063)	203
Total	\$ 479	\$ 279	\$ 88	\$ (763)	\$ (2,936)	\$ 352

The service cost component of net periodic benefit cost (income) is recorded in Cost of services and Selling, general and administrative expense in the consolidated statements of income while the other components, including mark-to-market adjustments, if any, are recorded in Other income (expense), net.

Other pre-tax changes in plan assets and benefit obligations recognized in other comprehensive (income) loss are as follows:

At December 31,	(dollars in millions)					
	Pension			Health Care and Life		
	2019	2018	2017	2019	2018	2017
Prior service cost (benefit)	\$ –	\$ 230	\$ –	\$ (22)	\$ (8)	\$ (544)
Reversal of amortization items						
Prior service cost (benefit)	(61)	(48)	(39)	971	976	949
Total recognized in other comprehensive loss (income) (pre-tax)	\$ (61)	\$ 182	\$ (39)	\$ 949	\$ 968	\$ 405

The estimated prior service cost for the defined benefit pension plans that will be amortized from Accumulated other comprehensive income into net periodic benefit cost over the next fiscal year is \$61 million. The estimated prior service cost for the defined benefit postretirement plans that will be amortized from Accumulated other comprehensive income into net periodic benefit income over the next fiscal year is \$1.0 billion.

Assumptions

The weighted-average assumptions used in determining benefit obligations follow:

At December 31,	Pension		Health Care and Life	
	2019	2018	2019	2018
Discount Rate	3.30%	4.40%	3.20%	4.30%
Rate of compensation increases	3.00	3.00	N/A	N/A

The weighted-average assumptions used in determining net periodic cost follow:

At December 31,	Pension			Health Care and Life		
	2019	2018	2017	2019	2018	2017
Discount rate in effect for determining service cost	4.60%	4.10%	4.70%	4.60%	3.90%	4.60%
Discount rate in effect for determining interest cost	3.80	3.40	3.40	4.00	3.20	3.50
Expected return on plan assets	6.80	7.00	7.70	4.30	4.80	4.50
Rate of compensation increases	3.00	3.00	3.00	N/A	N/A	N/A

In determining our pension and other postretirement benefit obligations, we used a weighted-average discount rate of 3.3% in 2019. The rates were selected to approximate the composite interest rates available on a selection of high-quality bonds available in the market at December 31, 2019. The bonds selected had maturities that coincided with the time periods during which benefits payments are expected to occur, were non-callable and available in sufficient quantities to ensure marketability (at least \$300 million par outstanding).

In order to project the long-term target investment return for the total portfolio, estimates are prepared for the total return of each major asset class over the subsequent 10-year period. Those estimates are based on a combination of factors including the current market interest rates and valuation levels, consensus earnings expectations and historical long-term risk premiums. To determine the aggregate return for the pension trust, the projected return of each individual asset class is then weighted according to the allocation to that investment area in the trust's long-term asset allocation policy.

The assumed health care cost trend rates are as follows:

At December 31,	Health Care and Life		
	2019	2018	2017
Healthcare cost trend rate assumed for next year	6.10%	6.30%	7.00%
Rate to which cost trend rate gradually declines	4.50	4.50	4.50
Year the rate reaches the level it is assumed to remain thereafter	2027	2027	2026

A one-percentage point change in the assumed health care cost trend rate would have the following effects:

One-Percentage Point	(dollars in millions)	
	Increase	Decrease
Effect on 2019 service and interest cost	\$ 20	\$ (21)
Effect on postretirement benefit obligation as of December 31, 2019	626	(696)

Plan Assets

The Company's overall investment strategy is to achieve a mix of assets that allows us to meet projected benefit payments while taking into consideration risk and return. While target allocation percentages will vary over time, the current target allocation for plan assets is designed so that 48% to 68% of the assets have the objective of achieving a return in excess of the growth in liabilities (comprised of public equities, private equities, real estate, hedge funds and emerging debt) and 35% to 55% of the assets are invested as liability hedging assets (where cash flows from investments better match projected benefit payments, typically longer duration fixed income) and a maximum of 15% is in cash. This allocation will shift as funded status improves to a higher allocation of liability hedging assets. Target policies will be revisited periodically to ensure they are in line with fund objectives. Both active and passive management approaches are used depending on perceived market efficiencies and various other factors. Due to our diversification and risk control processes, there are no significant concentrations of risk, in terms of sector, industry, geography or company names.

Pension and healthcare and life plans assets do not include significant amounts of Verizon common stock.

2019 Annual ReportNotes to Consolidated Financial Statements *continued***Pension Plans**

The fair values for the pension plans by asset category at December 31, 2019 are as follows:

Asset Category	(dollars in millions)			
	Total	Level 1	Level 2	Level 3
Cash and cash equivalents	\$ 1,529	\$ 1,507	\$ 22	\$ –
Equity securities	2,988	2,850	135	3
Fixed income securities				
U.S. Treasuries and agencies	1,986	1,768	218	–
Corporate bonds	3,818	524	3,149	145
International bonds	1,355	25	1,304	26
Other	768	–	768	–
Real estate	810	–	–	810
Other				
Private equity	737	–	–	737
Hedge funds	293	–	164	129
Total investments at fair value	14,284	6,674	5,760	1,850
Investments measured at NAV	5,167			
Total	\$ 19,451	\$ 6,674	\$ 5,760	\$ 1,850

The fair values for the pension plans by asset category at December 31, 2018 are as follows:

Asset Category	(dollars in millions)			
	Total	Level 1	Level 2	Level 3
Cash and cash equivalents	\$ 1,701	\$ 1,694	\$ 7	\$ –
Equity securities	2,253	2,220	20	13
Fixed income securities				
U.S. Treasuries and agencies	1,684	1,557	127	–
Corporate bonds	3,645	124	3,244	277
International bonds	1,113	19	1,076	18
Other	–	–	–	–
Real estate	727	–	–	727
Other				
Private equity	664	–	–	664
Hedge funds	459	–	373	86
Total investments at fair value	12,246	5,614	4,847	1,785
Investments measured at NAV	5,570			
Total	\$ 17,816	\$ 5,614	\$ 4,847	\$ 1,785

The following is a reconciliation of the beginning and ending balance of pension plan assets that are measured at fair value using significant unobservable inputs:

(dollars in millions)

	Equity Securities	Corporate Bonds	International Bonds	Real Estate	Private Equity	Hedge Funds	Total
Balance at January 1, 2018	\$ 1	\$ 104	\$ 20	\$ 627	\$ 580	\$ 185	\$ 1,517
Actual gain (loss) on plan assets	1	(7)	3	134	25	–	156
Purchases (sales)	11	177	(5)	(34)	59	62	270
Transfers out	–	3	–	–	–	(161)	(158)
Balance at December 31, 2018	13	277	18	727	664	86	1,785
Actual gain (loss) on plan assets	1	(1)	(1)	30	32	–	61
Purchases (sales)	(11)	18	9	53	41	116	226
Transfers out	–	(149)	–	–	–	(73)	(222)
Balance at December 31, 2019	\$ 3	\$ 145	\$ 26	\$ 810	\$ 737	\$ 129	\$ 1,850

Health Care and Life Plans

The fair values for the other postretirement benefit plans by asset category at December 31, 2019 are as follows:

(dollars in millions)

Asset Category	Total	Level 1	Level 2	Level 3
Cash and cash equivalents	\$ 220	\$ 167	\$ 53	\$ –
Equity securities	225	225	–	–
Fixed income securities				
U.S. Treasuries and agencies	28	28	–	–
Corporate bonds	76	76	–	–
International bonds	18	18	–	–
Total investments at fair value	567	514	53	–
Investments measured at NAV	176			
Total	\$ 743	\$ 514	\$ 53	\$ –

The fair values for the other postretirement benefit plans by asset category at December 31, 2018 are as follows:

(dollars in millions)

Asset Category	Total	Level 1	Level 2	Level 3
Cash and cash equivalents	\$ 471	\$ 431	\$ 40	\$ –
Equity securities	239	239	–	–
Fixed income securities				
U.S. Treasuries and agencies	24	24	–	–
Corporate bonds	96	96	–	–
International bonds	18	18	–	–
Total investments at fair value	848	808	40	–
Investments measured at NAV	327			
Total	\$ 1,175	\$ 808	\$ 40	\$ –

The following are general descriptions of asset categories, as well as the valuation methodologies and inputs used to determine the fair value of each major category of assets.

Cash and cash equivalents include short-term investment funds (less than 90 days to maturity), primarily in diversified portfolios of investment grade money market instruments and are valued using quoted market prices or other valuation methods. The carrying value of cash equivalents approximates fair value due to the short-term nature of these investments.

Investments in securities traded on national and foreign securities exchanges are valued by the trustee at the last reported sale prices on the last business day of the year or, if no sales were reported on that date, at the last reported bid prices. Government obligations, corporate bonds, international bonds and asset-backed debt are valued using matrix prices with input from independent

third-party valuation sources. Over-the-counter securities are valued at the bid prices or the average of the bid and ask prices on the last business day of the year from published sources or, if not available, from other sources considered reliable such as multiple broker quotes.

Commingled funds not traded on national exchanges are priced by the custodian or fund's administrator at their net asset value (NAV). Commingled funds held by third-party custodians appointed by the fund managers provide the fund managers with a NAV. The fund managers have the responsibility for providing this information to the custodian of the respective plan.

The investment manager of the entity values venture capital, corporate finance and natural resource limited partnership investments. Real estate investments are valued at amounts based upon appraisal reports prepared by either independent real estate appraisers or the investment manager using discounted cash flows or market comparable data. Loans secured by mortgages are carried at the lesser of the unpaid balance or appraised value of the underlying properties. The values assigned to these investments are based upon available and current market information and do not necessarily represent amounts that might ultimately be realized. Because of the inherent uncertainty of valuation, estimated fair values might differ significantly from the values that would have been used had a ready market for the securities existed. These differences could be material.

Forward currency contracts, futures, and options are valued by the trustee at the exchange rates and market prices prevailing on the last business day of the year. Both exchange rates and market prices are readily available from published sources. These securities are classified by the asset class of the underlying holdings.

Hedge funds are valued by the custodian at NAV based on statements received from the investment manager. These funds are valued in accordance with the terms of their corresponding offering or private placement memoranda.

Commingled funds, hedge funds, venture capital, corporate finance, natural resource and real estate limited partnership investments for which fair value is measured using the NAV per share as a practical expedient are not leveled within the fair value hierarchy and are included as a reconciling item to total investments.

Employer Contributions

In 2019, we made a \$300 million discretionary contribution to our qualified pension plans, \$71 million of contributions to our nonqualified pension plans and \$449 million of contributions to our other postretirement benefit plans. No qualified pension plans contributions are expected to be made in 2020. Nonqualified pension plans contributions are estimated to be approximately \$70 million and contributions to our other postretirement benefit plans are estimated to be approximately \$700 million in 2020.

Estimated Future Benefit Payments

The benefit payments to retirees are expected to be paid as follows:

Year	(dollars in millions)	
	Pension Benefits	Health Care and Life
2020	\$ 2,227	\$ 961
2021	1,680	947
2022	1,620	930
2023	1,577	968
2024	1,072	951
2025 to 2029	5,248	4,569

Savings Plan and Employee Stock Ownership Plans

We maintain four leveraged employee stock ownership plans (ESOP). We match a certain percentage of eligible employee contributions to certain savings plans with shares of our common stock from this ESOP. At December 31, 2019, the number of allocated shares of common stock in this ESOP was 49 million. There were no unallocated shares of common stock in this ESOP at December 31, 2019. All leveraged ESOP shares are included in earnings per share computations.

Total savings plan costs were \$897 million in 2019, \$1.1 billion in 2018 and \$838 million in 2017.

Severance Benefits

The following table provides an analysis of our severance liability:

(dollars in millions)

Year	Beginning of Year	Charged to Expense	Payments	Other	End of Year
2017	\$ 656	\$ 581	\$ (564)	\$ (46)	\$ 627
2018	627	2,093	(560)	(4)	2,156
2019	2,156	260	(1,847)	(4)	565

Severance, Pension and Benefits (Credits) Charges

During 2019, in accordance with our accounting policy to recognize actuarial gains and losses in the period in which they occur, we recorded net pre-tax pension and benefits charges of \$126 million in our pension and postretirement benefit plans. The charges were recorded in Other income (expense), net in our consolidated statement of income and were primarily driven by a decrease in our discount rate assumption used to determine the current year liabilities of our pension plans and postretirement benefit plans from a weighted-average of 4.4% at December 31, 2018 to a weighted-average of 3.3% at December 31, 2019 (\$4.3 billion), partially offset by the difference between our estimated return on assets and our actual return on assets (\$2.3 billion) and other assumption adjustments of \$1.9 billion, of which \$1.6 billion related to healthcare claims experience. During 2019, we also recorded net pre-tax severance charges of \$260 million in Selling, general and administrative expense in our consolidated statements of income.

During 2018, we recorded net pre-tax pension and benefits credits of \$2.1 billion in accordance with our accounting policy to recognize actuarial gains and losses in the period in which they occur. The pension and benefits remeasurement credits of \$2.3 billion, which were recorded in Other income (expense), net in our consolidated statements of income, were primarily driven by an increase in our discount rate assumption used to determine the current year liabilities of our pension plans and postretirement benefit plans from a weighted-average of 3.7% at December 31, 2017 to a weighted-average of 4.4% at December 31, 2018 (\$2.6 billion), and mortality and other assumption adjustments of \$1.7 billion, \$1.6 billion of which related to healthcare claims and trend adjustments, offset by the difference between our estimated return on assets of 7.0% and our actual return on assets of (2.7)% (\$1.9 billion). The credits were partially offset by \$177 million due to the effect of participants retiring under the Voluntary Separation Program.

In September 2018, Verizon announced a Voluntary Separation Program for select U.S.-based management employees. Approximately 10,400 eligible employees separated from the Company under this program as of the end of June 2019. The severance benefit payments to these employees were substantially completed by the end of September 2019. Principally as a result of this program but also as a result of other headcount reduction initiatives, the Company recorded a severance charge of \$1.8 billion (\$1.4 billion after-tax) during the year ended December 31, 2018, which was recorded in Selling, general and administrative expense in our consolidated statement of income. During 2018, we also recorded \$339 million in severance costs under our other existing separation plans.

During 2017, we recorded net pre-tax severance, pension and benefits charges of \$1.4 billion, exclusive of acquisition related severance charges, in accordance with our accounting policy to recognize actuarial gains and losses in the period in which they occur. The pension and benefits remeasurement charges of approximately \$911 million, which were recorded in Other income (expense), net in our consolidated statements of income, were primarily driven by a decrease in our discount rate assumption used to determine the current year liabilities of our pension and postretirement benefit plans from a weighted-average of 4.2% at December 31, 2016 to a weighted-average of 3.7% at December 31, 2017 (\$2.6 billion). The charges were partially offset by the difference between our estimated return on assets of 7.0% and our actual return on assets of 14.0% (\$1.2 billion), a change in mortality assumptions primarily driven by the use of updated actuarial tables (MP-2017) issued by the Society of Actuaries (\$227 million) and other assumption adjustments (\$320 million). As part of these charges, we also recorded severance costs of \$497 million under our existing separation plans, which were recorded in Selling, general and administrative expense in our consolidated statement of income.

Note 12. Taxes

The components of income before provision (benefit) for income taxes are as follows:

(dollars in millions)

Years Ended December 31,	2019	2018	2017
Domestic	\$ 21,655	\$ 19,801	\$ 19,645
Foreign	1,078	(178)	949
Total	\$ 22,733	\$ 19,623	\$ 20,594

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The components of the provision (benefit) for income taxes are as follows:

	(dollars in millions)		
Years Ended December 31,	2019	2018	2017
Current			
Federal	\$ 518	\$ 2,187	\$ 3,630
Foreign	221	267	200
State and Local	974	741	677
Total	<u>1,713</u>	3,195	4,507
Deferred			
Federal	1,150	175	(14,360)
Foreign	(13)	30	(66)
State and Local	95	184	(37)
Total	<u>1,232</u>	389	(14,463)
Total income tax provision (benefit)	\$ 2,945	\$ 3,584	\$ (9,956)

The following table shows the principal reasons for the difference between the effective income tax rate and the statutory federal income tax rate:

Years Ended December 31,	2019	2018	2017
Statutory federal income tax rate	21.0%	21.0%	35.0%
State and local income tax rate, net of federal tax benefits	3.7	3.7	1.6
Preferred stock disposition	(9.9)	–	–
Affordable housing credit	(0.4)	(0.6)	(0.6)
Employee benefits including ESOP dividend	(0.3)	(0.3)	(0.5)
Impact of tax reform re-measurement	–	–	(81.6)
Internal restructure	–	(9.1)	(0.6)
Noncontrolling interests	(0.5)	(0.5)	(0.6)
Non-deductible goodwill	0.1	4.7	1.0
Other, net	(0.7)	(0.6)	(2.0)
Effective income tax rate	13.0%	18.3%	(48.3)%

The effective income tax rate for 2019 was 13.0% compared to 18.3% for 2018. The decrease in the effective income tax rate and the provision for income taxes was primarily due to the recognition of approximately \$2.2 billion of a non-recurring tax benefit in connection with the disposition of preferred stock, representing a minority interest in a foreign affiliate in 2019 compared to the non-recurring deferred tax benefit of approximately \$2.1 billion, as a result of an internal reorganization of legal entities within the historical Wireless business, which was offset by a goodwill charge that is not deductible for tax purposes in 2018.

The effective income tax rate for 2018 was 18.3% compared to (48.3)% for 2017. The increase in the effective income tax rate and the provision for income taxes was primarily due to the non-recurring, non-cash income tax benefit of \$16.8 billion recorded in 2017 for the re-measurement of U.S. deferred tax liabilities at the lower 21% U.S. federal corporate income tax rate, as a result of the enactment of the TCJA on December 22, 2017. In addition, the provision for income taxes for 2018 includes the tax impact of the Media goodwill impairment charge not deductible for tax purposes, offset by the reduction in the statutory U.S. federal corporate income tax rate from 35% to 21%, effective January 1, 2018 under the TCJA and a non-recurring deferred tax benefit of approximately \$2.1 billion as a result of an internal reorganization of legal entities within the historical Wireless business.

In December 2017, the Securities and Exchange Commission staff issued Staff Accounting Bulletin (SAB) 118 to provide guidance for companies that had not completed their accounting for the income tax effects of the TCJA. Due to the complexities involved in accounting for the enactment of the TCJA, SAB 118 allowed for a provisional estimate of the impacts of the TCJA in our earnings for the year ended December 31, 2017, as well as up to a one year measurement period that ended on December 22, 2018, for any subsequent adjustments to such provisional estimate. In 2018, Verizon completed its analysis of the impacts of the TCJA, including analyzing the effects of any IRS and U.S. Treasury guidance issued, and state tax law changes enacted, within the one year measurement period resulting in no significant adjustments to the \$16.8 billion provisional amount recorded in December 2017.

The amounts of cash taxes paid by Verizon are as follows:

Years Ended December 31,	(dollars in millions)		
	2019	2018	2017
Income taxes, net of amounts refunded	\$ 3,583	\$ 2,213	\$ 4,432
Employment taxes	1,044	1,066	1,207
Property and other taxes	1,551	1,598	1,737
Total	\$ 6,178	\$ 4,877	\$ 7,376

Deferred Tax Assets and Liabilities

Deferred taxes arise because of differences in the book and tax bases of certain assets and liabilities. Significant components of deferred tax assets and liabilities are as follows:

At December 31,	(dollars in millions)	
	2019	2018
Deferred Tax Assets		
Employee benefits	\$ 5,048	\$ 5,403
Tax loss and credit carry forwards	3,012	3,576
Other – assets	5,595	1,650
	13,655	10,629
Valuation allowances	(2,260)	(2,741)
Deferred tax assets	11,395	7,888
Deferred Tax Liabilities		
Spectrum and other intangible amortization	22,388	21,976
Depreciation	16,884	15,662
Other – liabilities	6,742	3,976
Deferred tax liabilities	46,014	41,614
Net deferred tax liability	\$ 34,619	\$ 33,726

At December 31, 2019, undistributed earnings of our foreign subsidiaries indefinitely invested outside the U.S. amounted to approximately \$3.8 billion. The majority of Verizon's cash flow is generated from domestic operations and we are not dependent on foreign cash or earnings to meet our funding requirements, nor do we intend to repatriate these undistributed foreign earnings to fund U.S. operations. Furthermore, a portion of these undistributed earnings represents amounts that legally must be kept in reserve in accordance with certain foreign jurisdictional requirements and are unavailable for distribution or repatriation. As a result, we have not provided U.S. deferred taxes on these undistributed earnings because we intend that they will remain indefinitely reinvested outside of the U.S. and therefore unavailable for use in funding U.S. operations. Determination of the amount of unrecognized deferred taxes related to these undistributed earnings is not practicable.

At December 31, 2019, we had net after-tax loss and credit carry forwards for income tax purposes of approximately \$3.0 billion that primarily relate to state and foreign taxes. Of these net after-tax loss and credit carry forwards, approximately \$2.0 billion will expire between 2020 and 2039 and approximately \$1.0 billion may be carried forward indefinitely.

During 2019, the valuation allowance decreased approximately \$481 million. The balance of the valuation allowance at December 31, 2019 and the 2019 activity is primarily related to state and foreign taxes.

Unrecognized Tax Benefits

A reconciliation of the beginning and ending balance of unrecognized tax benefits is as follows:

	(dollars in millions)		
	2019	2018	2017
Balance at January 1,	\$ 2,871	\$ 2,355	\$ 1,902
Additions based on tax positions related to the current year	149	160	219
Additions for tax positions of prior years	297	699	756
Reductions for tax positions of prior years	(300)	(248)	(419)
Settlements	(58)	(40)	(42)
Lapses of statutes of limitations	(89)	(55)	(61)
Balance at December 31,	\$ 2,870	\$ 2,871	\$ 2,355

Included in the total unrecognized tax benefits at December 31, 2019, 2018 and 2017 is \$2.4 billion, \$2.3 billion and \$1.9 billion, respectively, that if recognized, would favorably affect the effective income tax rate.

We recognized the following net after-tax expenses related to interest and penalties in the provision for income taxes:

Years Ended December 31,	(dollars in millions)	
2019		\$ 35
2018		75
2017		77

The after-tax accruals for the payment of interest and penalties in the consolidated balance sheets are as follows:

At December 31,	(dollars in millions)	
2019		\$ 385
2018		348

Verizon and/or its subsidiaries file income tax returns in the U.S. federal jurisdiction, and various state, local and foreign jurisdictions. As a large taxpayer, we are under audit by the IRS and multiple state and foreign jurisdictions for various open tax years. The IRS is currently examining the Company's U.S. income tax returns for tax years 2013-2014 and Cellco Partnership's U.S. income tax return for tax year 2013-2014. Tax controversies are ongoing for tax years as early as 2005. The amount of the liability for unrecognized tax benefits will change in the next twelve months due to the expiration of the statute of limitations in various jurisdictions and it is reasonably possible that various current tax examinations will conclude or require reevaluations of the Company's tax positions during this period. An estimate of the range of the possible change cannot be made until these tax matters are further developed or resolved.

Note 13. Segment Information

Reportable Segments

As discussed in Note 1, in November 2018, we announced a strategic reorganization of our business. Under the new structure, effective April 1, 2019, there are two reportable segments that we operate and manage as strategic business units – Consumer and Business. We measure and evaluate our reportable segments based on segment operating income, consistent with the chief operating decision maker's assessment of segment performance.

Our segments and their principal activities consist of the following:

Segment	Description
Verizon Consumer Group	Our Consumer segment provides consumer-focused wireless and wireline communications services and products. Our wireless services are provided across one of the most extensive wireless networks in the United States under the Verizon brand and through wholesale and other arrangements. Our wireline services are provided in nine states in the Mid-Atlantic and Northeastern U.S., as well as Washington D.C., over our 100% fiber-optic network under the Fios brand and over a traditional copper-based network to customers who are not served by Fios.
Verizon Business Group	Our Business segment provides wireless and wireline communications services and products, video and data services, corporate networking solutions, security and managed network services, local and long distance voice services and network access to deliver various IoT services and products. We provide these products and services to businesses, government customers and wireless and wireline carriers across the U.S. and select products and services to customers around the world.

Our Consumer segment's wireless and wireline products and services are available to our retail customers, as well as resellers that purchase wireless network access from us on a wholesale basis. Our Business segment's wireless and wireline products and services are organized by the primary customer groups targeted by these offerings: Global Enterprise, Small and Medium Business, Public Sector and Other, and Wholesale.

Corporate and other includes the results of our media business, Verizon Media, and other businesses, investments in unconsolidated businesses, unallocated corporate expenses, certain pension and other employee benefit related costs and interest and financing expenses. Corporate and other also includes the historical results of divested businesses and other adjustments and gains and losses that are not allocated in assessing segment performance due to their nature. Although such transactions are excluded from the business segment results, they are included in reported consolidated earnings. Gains and losses from these transactions that are not individually significant are included in segment results as these items are included in the chief operating decision maker's assessment of segment performance.

We completed our acquisition of Yahoo's operating business on June 13, 2017 and as such results are included since the acquisition date.

In May 2017, we completed the Data Center Sale, where we sold 23 customer-facing data center sites in the U.S. and Latin America to Equinix. The results of operations for this divestiture and other insignificant transactions are included within Corporate and other for all periods presented to reflect comparable segment operating results consistent with the information regularly reviewed by our chief operating decision maker.

The reconciliation of segment operating revenues and expenses to consolidated operating revenues and expenses below includes the effects of special items that the chief operating decision maker does not consider in assessing segment performance, primarily because of their nature.

The following tables provides operating financial information for our two reportable segments:

(dollars in millions)

2019	Consumer	Business	Total Reportable Segments
External Operating Revenues			
Service	\$ 65,384	\$ –	\$ 65,384
Wireless equipment	18,048	–	18,048
Other	7,384	–	7,384
Global Enterprise	–	10,815	10,815
Small and Medium Business	–	11,447	11,447
Public Sector and Other	–	5,922	5,922
Wholesale	–	3,198	3,198
Intersegment revenues	240	61	301
Total Operating Revenues⁽¹⁾	91,056	31,443	122,499
Cost of services	15,884	10,655	26,539
Cost of wireless equipment	18,219	4,733	22,952
Selling, general and administrative expense	16,639	8,188	24,827
Depreciation and amortization expense	11,353	4,105	15,458
Total Operating Expenses	62,095	27,681	89,776
Operating Income	\$ 28,961	\$ 3,762	\$ 32,723

⁽¹⁾ Service and other revenues and Wireless equipment revenues included in our Business segment amounted to approximately \$27.9 billion and \$3.5 billion, respectively, for the year ended December 31, 2019.

2019 Annual Report

Notes to Consolidated Financial Statements *continued*

	(dollars in millions)		
2018	Consumer	Business	Total Reportable Segments
External Operating Revenues			
Service	\$ 64,207	\$ —	\$ 64,207
Wireless equipment	18,874	—	18,874
Other	6,447	—	6,447
Global Enterprise	—	11,197	11,197
Small and Medium Business	—	10,732	10,732
Public Sector and Other	—	5,830	5,830
Wholesale	—	3,713	3,713
Intersegment revenues	234	62	296
Total Operating Revenues⁽¹⁾	89,762	31,534	121,296
Cost of services	15,335	10,859	26,194
Cost of wireless equipment	18,763	4,560	23,323
Selling, general and administrative expense	15,701	7,689	23,390
Depreciation and amortization expense	11,952	4,258	16,210
Total Operating Expenses	61,751	27,366	89,117
Operating Income	\$ 28,011	\$ 4,168	\$ 32,179

⁽¹⁾ Service and other revenues and Wireless equipment revenues included in our Business segment amounted to approximately \$28.1 billion and \$3.4 billion, respectively, for the year ended December 31, 2018.

	(dollars in millions)		
2017	Consumer	Business	Total Reportable Segments
External Operating Revenues			
Service	\$ 63,769	\$ —	\$ 63,769
Wireless equipment	17,292	—	17,292
Other	5,735	—	5,735
Global Enterprise	—	11,444	11,444
Small and Medium Business	—	9,793	9,793
Public Sector and Other	—	5,652	5,652
Wholesale	—	3,978	3,978
Intersegment revenues	258	46	304
Total Operating Revenues⁽¹⁾	87,054	30,913	117,967
Cost of services	14,981	11,094	26,075
Cost of wireless equipment	17,713	4,434	22,147
Selling, general and administrative expense	17,292	7,448	24,740
Depreciation and amortization expense	11,308	4,483	15,791
Total Operating Expenses	61,294	27,459	88,753
Operating Income	\$ 25,760	\$ 3,454	\$ 29,214

⁽¹⁾ Service and other revenues and Wireless equipment revenues included in our Business segment amounted to approximately \$29.3 billion and \$1.6 billion, respectively, for the year ended December 31, 2017.

The following table provides Fios revenues for our two reportable segments:

	(dollars in millions)		
Years Ended December 31,	2019	2018	2017
Consumer	\$ 11,175	\$ 11,056	\$ 10,903
Business	967	883	788
Total Fios revenue	\$ 12,142	\$ 11,939	\$ 11,691

The following table provides Wireless service revenue for our reportable segments and includes intersegment activity:

Years Ended December 31,	(dollars in millions)		
	2019	2018	2017
Consumer	\$ 53,791	\$ 52,459	\$ 51,954
Business	11,188	10,484	11,093
Total Wireless service revenue	\$ 64,979	\$ 62,943	\$ 63,047

Reconciliation to Consolidated Financial Information

A reconciliation of the reportable segment operating revenues to consolidated operating revenues is as follows:

Years Ended December 31,	(dollars in millions)		
	2019	2018	2017
Operating Revenues			
Total reportable segments	\$ 122,499	\$ 121,296	\$ 117,967
Corporate and other	9,812	9,936	8,098
Reconciling items:			
Operating results from divested businesses (Note 3)	-	-	368
Eliminations	(443)	(369)	(399)
Consolidated Operating Revenues	\$ 131,868	\$ 130,863	\$ 126,034

A reconciliation of the total reportable segments' operating income to consolidated income before provision for income taxes is as follows:

Years Ended December 31,	(dollars in millions)		
	2019	2018	2017
Operating Income			
Total reportable segments	\$ 32,723	\$ 32,179	\$ 29,214
Corporate and other	(1,403)	(1,326)	(1,119)
Reconciling items:			
Severance charges	(204)	(2,157)	(497)
Other components of net periodic pension and benefit (charges) credits (Note 11)	(813)	(823)	(800)
Net gain on sale of divested businesses (Note 3)	-	-	1,774
Acquisition and integration related charges (Note 3)	-	(553)	(884)
Gain on spectrum license transactions (Note 3)	-	-	270
Operating results from divested businesses	-	-	149
Impairment charges	(186)	(4,591)	-
Product realignment charges	-	(451)	(682)
Net gain from dispositions of assets and businesses	261	-	-
Consolidated operating income	30,378	22,278	27,425
Equity in losses of unconsolidated businesses	(15)	(186)	(77)
Other income (expense), net	(2,900)	2,364	(2,021)
Interest expense	(4,730)	(4,833)	(4,733)
Income Before (Provision) Benefit For Income Taxes	\$ 22,733	\$ 19,623	\$ 20,594

No single customer accounted for more than 10% of our total operating revenues during the years ended December 31, 2019, 2018 and 2017. International operating revenues are not significant.

The chief operating decision maker does not review disaggregated assets on a segment basis; therefore, such information is not presented. Depreciation included in the measure of segment profitability is primarily allocated based on proportional usage.

Note 14. Equity and Comprehensive Income

Equity

In December 2019, 46,100 preferred shares of a foreign affiliate of Verizon was sold for cash consideration of \$51 million and is reflected in non-controlling interests. The preferred shares pay cumulative dividends of 8.25% per annum.

Common Stock

In February 2020, the Verizon Board of Directors authorized a share buyback program to repurchase up to 100 million shares of the Company's common stock. The program will terminate when the aggregate number of shares purchased reaches 100 million, or a new share repurchase plan superseding the current plan is authorized, whichever is sooner. During the years ended December 31, 2019, 2018, and 2017, Verizon did not repurchase any shares of Verizon's common stock under our previously authorized share buyback programs. At December 31, 2019, the maximum number of shares that could be purchased by or on behalf of Verizon under our share buyback program was 100 million.

Common stock has been used from time to time to satisfy some of the funding requirements of employee and shareholder plans. During the years ended December 31, 2019, 2018, and 2017, we issued 3.8 million, 3.5 million and 2.8 million common shares from Treasury stock, respectively, which had an insignificant aggregate value.

In connection with our acquisition of Straight Path in February 2018, we issued approximately 49 million shares of Verizon common stock, valued at approximately \$2.4 billion.

Accumulated Other Comprehensive Income

Comprehensive income consists of net income and other gains and losses affecting equity that, under U.S. GAAP, are excluded from net income. Significant changes in the components of Other comprehensive income, net of provision for income taxes are described below.

The changes in the balances of Accumulated other comprehensive income by component are as follows:

(dollars in millions)	Foreign currency translation adjustments	Unrealized gains (losses) on cash flow hedges	Unrealized gains (losses) on marketable securities	Defined benefit pension and postretirement plans	Total
Balance at January 1, 2017	\$ (713)	\$ (80)	\$ 46	\$ 3,420	\$ 2,673
Other comprehensive income	245	818	10	327	1,400
Amounts reclassified to net income	–	(849)	(24)	(541)	(1,414)
Net other comprehensive income (loss)	245	(31)	(14)	(214)	(14)
Balance at December 31, 2017	(468)	(111)	32	3,206	2,659
Opening balance sheet adjustment (Note 1)	(15)	(24)	(13)	682	630
Adjusted opening balance	(483)	(135)	19	3,888	3,289
Other comprehensive income (loss)	(117)	(574)	–	(164)	(855)
Amounts reclassified to net income	–	629	1	(694)	(64)
Net other comprehensive income (loss)	(117)	55	1	(858)	(919)
Balance at December 31, 2018	(600)	(80)	20	3,030	2,370
Other comprehensive income (loss)	16	(699)	8	–	(675)
Amounts reclassified to net income	–	(37)	(1)	(659)	(697)
Net other comprehensive income (loss)	16	(736)	7	(659)	(1,372)
Balance at December 31, 2019	\$ (584)	\$ (816)	\$ 27	\$ 2,371	\$ 998

The amounts presented above in net other comprehensive income (loss) are net of taxes. The amounts reclassified to net income related to unrealized gains (losses) on cash flow hedges in the table above are included in Other income (expense), net and Interest expense in our consolidated statements of income. See Note 9 for additional information. The amounts reclassified to net income related to unrealized gains (losses) on marketable securities in the table above are included in Other income (expense), net in our consolidated statements of income. The amounts reclassified to net income related to defined benefit pension and postretirement plans in the table above are included in Cost of services and Selling, general and administrative expense in our consolidated statements of income. See Note 11 for additional information.

Note 15. Additional Financial Information

The following tables provide additional financial information related to our consolidated financial statements:

Income Statement Information

	(dollars in millions)		
Years Ended December 31,	2019	2018	2017
Depreciation expense	\$ 14,371	\$ 15,186	\$ 14,741
Interest costs on debt balances	5,221	5,399	5,256
Net amortization of debt discount	165	174	155
Capitalized interest costs	(656)	(740)	(678)
Advertising expense	3,071	2,682	2,643
Other income (expense), net			
Interest income	\$ 121	\$ 94	\$ 82
Other components of net periodic benefit (cost) income	627	3,068	(11)
Early debt extinguishment costs	(3,604)	(725)	(1,983)
Other, net	(44)	(73)	(109)
	\$ (2,900)	\$ 2,364	\$ (2,021)

Balance Sheet Information

	(dollars in millions)	
At December 31,	2019	2018
Prepaid expenses and other		
Prepaid taxes	\$ 2,438	\$ 348
Deferred contract costs	2,578	2,083
Restricted cash	1,221	1,047
Other prepaid expense and other	1,791	1,975
	\$ 8,028	\$ 5,453
Accounts payable and accrued liabilities		
Accounts payable	\$ 7,725	\$ 7,232
Accrued expenses	5,984	5,948
Accrued vacation, salaries and wages	4,885	6,268
Interest payable	1,441	1,570
Taxes payable	1,771	1,483
	\$ 21,806	\$ 22,501
Other current liabilities		
Dividends payable	\$ 2,566	\$ 2,512
Contract liability	4,651	4,207
Other	1,807	1,520
	\$ 9,024	\$ 8,239

Cash Flow Information

Years Ended December 31,	(dollars in millions)		
	2019	2018	2017
Cash Paid			
Interest, net of amounts capitalized	\$ 4,714	\$ 4,408	\$ 4,369
Income taxes, net of amounts refunded	3,583	2,213	4,432
Other, net Cash Flows from Operating Activities			
Changes in device payment plan agreement non-current receivables	\$ 23	\$ (509)	\$ (579)
Early debt extinguishment costs	3,604	725	1,983
Other, net	(228)	3	(728)
	\$ 3,399	\$ 219	\$ 676
Other, net Cash Flows from Financing Activities			
Net debt related costs	\$ (1,797)	\$ (141)	\$ (3,599)
Change in short-term obligations, excluding current maturities	-	(790)	(170)
Other, net	(1,120)	(893)	(670)
	\$ (2,917)	\$ (1,824)	\$ (4,439)

Note 16. Commitments and Contingencies

In the ordinary course of business, Verizon is involved in various commercial litigation and regulatory proceedings at the state and federal level. Where it is determined, in consultation with counsel based on litigation and settlement risks, that a loss is probable and estimable in a given matter, the Company establishes an accrual. In none of the currently pending matters is the amount of accrual material. An estimate of the reasonably possible loss or range of loss in excess of the amounts already accrued cannot be made at this time due to various factors typical in contested proceedings, including: (1) uncertain damage theories and demands; (2) a less than complete factual record; (3) uncertainty concerning legal theories and their resolution by courts or regulators; and (4) the unpredictable nature of the opposing party and its demands. We continuously monitor these proceedings as they develop and adjust any accrual or disclosure as needed. We do not expect that the ultimate resolution of any pending regulatory or legal matter in future periods will have a material effect on our financial condition, but it could have a material effect on our results of operations for a given reporting period.

Verizon is currently involved in approximately 25 federal district court actions alleging that Verizon is infringing various patents. Most of these cases are brought by non-practicing entities and effectively seek only monetary damages; a small number are brought by companies that have sold products and could seek injunctive relief as well. These cases have progressed to various stages and a small number may go to trial in the coming 12 months if they are not otherwise resolved.

In connection with the execution of agreements for the sales of businesses and investments, Verizon ordinarily provides representations and warranties to the purchasers pertaining to a variety of nonfinancial matters, such as ownership of the securities being sold, as well as indemnity from certain financial losses. From time to time, counterparties may make claims under these provisions, and Verizon will seek to defend against those claims and resolve them in the ordinary course of business.

Subsequent to the sale of Verizon Information Services Canada in 2004, we continue to provide a guarantee to publish directories, which was issued when the directory business was purchased in 2001 and had a 30-year term (before extensions). The preexisting guarantee continues, without modification, despite the subsequent sale of Verizon Information Services Canada and the spin-off of our domestic print and Internet yellow pages directories business. The possible financial impact of the guarantee, which is not expected to be adverse, cannot be reasonably estimated as a variety of the potential outcomes available under the guarantee result in costs and revenues or benefits that may offset each other. We do not believe performance under the guarantee is likely.

As of December 31, 2019, letters of credit totaling approximately \$632 million, which were executed in the normal course of business and support several financing arrangements and payment obligations to third parties, were outstanding.

During 2019, Verizon entered into a renewable energy purchase agreement (REPA) with a third party. The REPA is based on the expected operation of a renewable energy-generating facility and has a fixed price term of 12 years from the commencement of the facility's entry into commercial operation, which is expected to begin by the end of 2020. The REPA generally is expected to be financially settled based on the prevailing market price as energy is generated by the facility.

We have various commitments, totaling \$18.8 billion, primarily to purchase programming and network services, equipment, software and marketing services, which will be used or sold in the ordinary course of business, from a variety of suppliers. Of this total amount, \$8.4 billion is attributable to 2020, \$7.5 billion is attributable to 2021 through 2022, \$1.4 billion is attributable to 2023 through 2024 and \$1.5 billion is attributable to years thereafter. These amounts do not represent our entire anticipated purchases in the future, but represent only those items that are the subject of contractual obligations. Our commitments are generally determined

based on the noncancelable quantities or termination amounts. Purchases against our commitments totaled approximately \$10.9 billion for 2019, \$9.0 billion for 2018 and \$8.2 billion for 2017. Since the commitments to purchase programming services from television networks and broadcast stations have no minimum volume requirement, we estimated our obligation based on number of subscribers at December 31, 2019, and applicable rates stipulated in the contracts in effect at that time. We also purchase products and services as needed with no firm commitment.

Note 17. Quarterly Financial Information (Unaudited)

(dollars in millions, except per share amounts)

Quarter Ended	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Full Year
2019					
Operating Revenues	\$ 32,128	\$ 32,071	\$ 32,894	\$ 34,775	\$ 131,868
Operating Income	7,709	7,850	8,180	6,639	30,378
Net Income	5,160	4,074	5,337	5,217	19,788
Net Income Attributable to Verizon	5,032	3,944	5,194	5,095	19,265
Basic Earnings Per Share Attributable to Verizon ⁽¹⁾	\$ 1.22	\$ 0.95	\$ 1.26	\$ 1.23	\$ 4.66
Diluted Earnings Per Share Attributable to Verizon ⁽¹⁾	\$ 1.22	\$ 0.95	\$ 1.25	\$ 1.23	\$ 4.65
2018					
Operating Revenues	\$ 31,772	\$ 32,203	\$ 32,607	\$ 34,281	\$ 130,863
Operating Income	7,349	6,617	7,675	637	22,278
Net Income	4,666	4,246	5,062	2,065	16,039
Net Income Attributable to Verizon	4,545	4,120	4,924	1,939	15,528
Basic Earnings Per Share Attributable to Verizon ⁽¹⁾	\$ 1.11	\$ 1.00	\$ 1.19	\$ 0.47	\$ 3.76
Diluted Earnings Per Share Attributable to Verizon ⁽¹⁾	\$ 1.11	\$ 1.00	\$ 1.19	\$ 0.47	\$ 3.76

⁽¹⁾ Net income attributable to Verizon per common share is computed independently for each quarter and the sum of the quarters may not equal the annual amount.

Results of operations for 2019 and 2018 include the following after-tax charges (credits) attributable to Verizon:

(dollars in millions)

	2019				2018			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Severance, pension and benefits charges (credits)	\$ (71)	\$ —	\$ 215	\$ 108	\$ —	\$ 250	\$ (335)	\$ 108
Early debt redemption costs	—	1,140	—	1,520	184	—	352	—
Acquisition and integration related charges	—	—	—	—	82	92	103	142
Product realignment charges	—	—	—	—	—	509	—	—
Net gain from dispositions of assets and businesses	—	—	(224)	—	—	—	—	—
Disposition of preferred stock	—	—	—	(2,247)	—	—	—	—
Impairment charges	—	—	—	214	—	—	—	4,527
Historical Wireless legal entity restructuring	—	—	—	—	—	—	—	(2,065)

Disposition of Preferred Stock

During the fourth quarter of 2019, we completed the disposition of preferred stock, representing a minority interest in a foreign affiliate, which resulted in a non-recurring income tax benefit of approximately \$2.2 billion in our consolidated statement of income for the year ended December 31, 2019.

Historical Wireless Legal Entity Restructuring

During the fourth quarter of 2018, we completed an internal reorganization of legal entities within the historical Wireless business which resulted in a non-recurring income tax benefit of approximately \$2.1 billion in our consolidated statement of income for the year ended December 31, 2018, which reduced our deferred tax liability by the same amount.

Investor information

Stock transfer agent

Questions or requests for assistance regarding changes to, or transfers of, your registered stock ownership should be directed to our Transfer Agent, Computershare Trust Company, N.A.:

Verizon Communications Inc.
c/o Computershare
P.O. Box 505000
Louisville, KY 40233-5000

Phone: 800.631.2355 or 781.575.3994
Outside the U.S.: 866.725.6576

Website: www.computershare.com/verizon

Email: verizon@computershare.com

Persons using a telecommunications device for the deaf (TDD) may call: 800.952.9245

Shareowner services

Please contact our Transfer Agent regarding information about the following services:

Online account access: Registered shareowners can view account information online at www.computershare.com/verizon.

Click on “Create Log In” to register. For existing users, click on “Log In.”

Direct dividend deposit service: Verizon offers an electronic funds transfer service to registered shareowners wishing to deposit dividends directly into savings or checking accounts on dividend payment dates.

Direct stock purchase and dividend reinvestment plan: A direct stock purchase plan allows current and new investors to purchase Verizon common stock and to reinvest their dividends toward the purchase of additional shares. For more information, go to www.verizon.com/about/investors/shareowner-services.

Electronic delivery: By receiving links to proxy, annual report and shareowner materials online, you can help Verizon reduce the amount of materials we print and mail. As a thank you for choosing electronic delivery, Verizon will plant a tree on your behalf. It's fast and easy, and you can change your electronic delivery options at any time.

Sign up at www.computershare.com/verizon to take advantage of the many benefits electronic delivery offers, including:

- Faster access to financial documents
- Email notification of document availability
- Access to your documents online 24/7
- Convenience of managing your documents

If your shares are held by a broker, bank or other nominee, you may elect to receive an electronic copy of the annual report and proxy materials online at www.proxyvote.com, or you can contact your broker.



Investor services

Investor website: Get company information and news on our investor website – www.verizon.com/about/investors.

Email alerts: Get the latest investor information delivered directly to you. Subscribe to email alerts on our investor website.

Stock market information

Shareowners of record as of December 31, 2019: 605,414

Verizon (ticker symbol: VZ) is listed on the New York Stock Exchange and the Nasdaq Global Select Market.

Dividend information

At its September 2019 meeting, the Board of Directors increased our quarterly dividend by 2.1 percent. On an annual basis, this increased Verizon's dividend to \$2.46 per share.

Dividends have been paid since 1984.

Form 10-K

To receive a printed copy of the 2019 Annual Report on Form 10-K, which is filed with the Securities and Exchange Commission, please contact Investor Relations:

Verizon Communications Inc.
Investor Relations
One Verizon Way
Basking Ridge, NJ 07920
Phone: 212.395.1525

Corporate governance

Verizon's Bylaws, Corporate Governance Guidelines and the charters of the committees of our Board of Directors can be found on the corporate governance section of our website at www.verizon.com/about/investors/corporate-governance.

If you would like to receive a printed copy of any of these documents, please contact the Assistant Corporate Secretary:

Verizon Communications Inc.
Assistant Corporate Secretary
1095 Avenue of the Americas
New York, NY 10036