

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-K**

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended **December 31, 2019**
OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____.

Commission file number: 001-35346

APTIV PLC

(Exact name of registrant as specified in its charter)

Jersey
(State or other jurisdiction of
incorporation or organization)

98-1029562
(I.R.S. Employer
Identification No.)

**5 Hanover Quay
Grand Canal Dock
Dublin, D02 VY79, Ireland**
(Address of principal executive offices)

353-1-259-7013

(Registrant's telephone number, including area code)

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

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Ordinary Shares, \$0.01 par value per share	APTV	New York Stock Exchange

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

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

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

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

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

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

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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

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

The aggregate market value of the ordinary shares held by non-affiliates of the registrant as of June 30, 2019, the last business day of the registrant's most recently completed second fiscal quarter, was \$20,638,801,929 (based on the closing sale price of the registrant's ordinary shares on that date as reported on the New York Stock Exchange).

The number of the registrant's ordinary shares outstanding, \$0.01 par value per share as of January 24, 2020, was 255,288,240.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive Proxy Statement related to the 2020 Annual General Meeting of Shareholders to be filed subsequently are incorporated by reference into Part III of this Form 10-K.

APTIV PLC

INDEX

		<u>Page</u>
Part I		
Item 1.	Business	4
Supplementary Item.	Executive Officers of the Registrant	11
Item 1A.	Risk Factors	13
Item 1B.	Unresolved Staff Comments	24
Item 2.	Properties	24
Item 3.	Legal Proceedings	25
Item 4.	Mine Safety Disclosures	25
Part II		
Item 5.	Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	26
Item 6.	Selected Financial Data	28
Item 7.	Management’s Discussion and Analysis of Financial Condition and Results of Operations	30
Item 7A.	Quantitative and Qualitative Disclosures About Market Risk	56
Item 8.	Financial Statements and Supplementary Data	58
Item 9.	Changes in and Disagreements With Accountants on Accounting and Financial Disclosure	135
Item 9A.	Controls and Procedures	135
Item 9B.	Other Information	136
Part III		
Item 10.	Directors, Executive Officers and Corporate Governance	137
Item 11.	Executive Compensation	137
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	137
Item 13.	Certain Relationships and Related Transactions and Director Independence	137
Item 14.	Principal Accounting Fees and Services	137
Part IV		
Item 15.	Exhibits, Financial Statement Schedules	138

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING INFORMATION

This Annual Report on Form 10-K, including the exhibits being filed as part of this report, as well as other statements made by Aptiv PLC (“Aptiv,” the “Company,” “we,” “us” and “our”), contain forward-looking statements that reflect, when made, the Company’s current views with respect to current events and financial performance. Such forward-looking statements are subject to many risks, uncertainties and factors relating to the Company’s operations and business environment, which may cause the actual results of the Company to be materially different from any future results, express or implied, by such forward-looking statements. All statements that address future operating, financial or business performance or the Company’s strategies or expectations are forward-looking statements. In some cases, you can identify these statements by forward-looking words such as “may,” “might,” “will,” “should,” “expects,” “plans,” “intends,” “anticipates,” “believes,” “estimates,” “predicts,” “projects,” “potential,” “outlook” or “continue,” and other comparable terminology. Factors that could cause actual results to differ materially from these forward-looking statements include, but are not limited to, the following: global and regional economic conditions, including conditions affecting the credit market and resulting from the United Kingdom’s exit from the European Union, commonly referred to as “Brexit,” the terms of which remain undetermined; fluctuations in interest rates and foreign currency exchange rates; the cyclical nature of global automotive sales and production; the potential disruptions in the supply of and changes in the competitive environment for raw material integral to the Company’s products; the Company’s ability to maintain contracts that are critical to its operations; potential changes to beneficial free trade laws and regulations, such as the United States-Mexico-Canada Agreement and its predecessor agreement, the North American Free Trade Agreement; the ability of the Company to integrate and realize the expected benefits of recent transactions; the ability of the Company to attract, motivate and/or retain key executives; the ability of the Company to avoid or continue to operate during a strike, or partial work stoppage or slow down by any of its unionized employees or those of its principal customers; and the ability of the Company to attract and retain customers. Additional factors are discussed under the captions “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in the Company’s filings with the Securities and Exchange Commission. New risks and uncertainties arise from time to time, and it is impossible for us to predict these events or how they may affect the Company. It should be remembered that the price of the ordinary shares and any income from them can go down as well as up. Aptiv disclaims any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events and/or otherwise, except as may be required by law.

PART I

ITEM 1. BUSINESS

“Aptiv,” the “Company,” “we,” “us” and “our” refer to Aptiv PLC, a public limited company formed under the laws of Jersey on May 19, 2011 as Delphi Automotive PLC, which, through its subsidiaries, acquired certain assets of the former Delphi Corporation (now known as DPH Holdings Corp. (“DPHH”)) and completed an initial public offering on November 22, 2011. On December 4, 2017 (the “Distribution Date”), the Company completed the separation (the “Separation”) of its former Powertrain Systems segment by distributing to Aptiv shareholders on a pro rata basis all of the issued and outstanding ordinary shares of Delphi Technologies PLC (“Delphi Technologies”), a public limited company formed to hold the spun-off business. To effect the Separation, the Company distributed to its shareholders one ordinary share of Delphi Technologies for every three Aptiv ordinary shares outstanding as of November 22, 2017, the record date for the distribution. Following the Separation, the remaining company changed its name to Aptiv PLC and New York Stock Exchange (“NYSE”) symbol to “APTIV.”

Aptiv is a leading global technology and mobility company primarily serving the automotive sector. We design and manufacture vehicle components and provide electrical, electronic and active safety technology solutions to the global automotive and commercial vehicle markets, creating the software and hardware foundation for vehicle features and functionality. We enable and deliver end-to-end smart mobility solutions, active safety and autonomous driving technologies and provide enhanced user experience and connected services. Our Advanced Safety and User Experience segment is focused on providing the necessary software and advanced computing platforms, and our Signal and Power Solutions segment is focused on providing the requisite networking architecture required to support the integrated systems in today’s complex vehicles. Together, our businesses develop the ‘brain’ and the ‘nervous system’ of increasingly complex vehicles, providing integration of the vehicle into its operating environment.

We are one of the largest vehicle component manufacturers, and our customers include 23 of the 25 largest automotive original equipment manufacturers (“OEMs”) in the world. We operate 126 major manufacturing facilities and 15 major technical centers utilizing a regional service model that enables us to efficiently and effectively serve our global customers from best cost countries. We have a presence in 44 countries and have approximately 20,200 scientists, engineers and technicians focused on developing market relevant product solutions for our customers.

We are focused on growing and improving the profitability of our businesses, and have implemented a strategy designed to position the Company to deliver industry-leading long-term shareholder returns. This strategy includes disciplined investing in our business to grow and enhance our product offerings, strategically focusing our portfolio in high-technology, high-growth spaces in order to meet consumer preferences and leveraging an industry-leading cost structure to expand our operating margins. In line with the long-term growth in emerging markets, we have been increasing our focus on these markets, particularly in China, where we have a major manufacturing base and strong customer relationships.

Website Access to Company’s Reports

Aptiv’s website address is aptiv.com. Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (the “Exchange Act”) are available free of charge through our website as soon as reasonably practicable after they are electronically filed with, or furnished to, the Securities and Exchange Commission (“SEC”).

Our Company

We believe the automotive industry is being shaped by rapidly increasing consumer demand for new mobility solutions, advanced technologies and vehicle connectivity, as well as increasing government regulation related to vehicle safety, fuel efficiency and emissions control. These industry mega-trends, which we refer to as “Safe,” “Green” and “Connected,” are driving higher growth in products that address these trends than growth in the automotive industry overall. We have organized our business into two diversified segments, which enable us to develop technology solutions and manufacture highly-engineered products that enable our customers to respond to these mega-trends:

- **Signal and Power Solutions**—This segment provides complete design, manufacture and assembly of the vehicle’s electrical architecture, including engineered component products, connectors, wiring assemblies and harnesses, cable management, electrical centers and hybrid high voltage and safety distribution systems. Our products provide the critical signal distribution and computing power backbone that supports increased vehicle content and electrification, reduced emissions and higher fuel economy.
- **Advanced Safety and User Experience**—This segment provides critical components, systems integration and advanced software development for vehicle safety, security, comfort and convenience, including sensing and perception systems, electronic control units, multi-domain controllers, vehicle connectivity systems, application

software and autonomous driving technologies. Our products increase vehicle connectivity, reduce driver distraction and enhance vehicle safety.

We previously reported the results of our former Powertrain Systems business as a segment. As described above, we completed the spin-off of the Powertrain Systems segment into a new, independent public company on December 4, 2017. The assets and liabilities, operating results and operating and investing cash flows for the previously reported Powertrain Systems segment are presented as discontinued operations separate from the Company's continuing operations for all periods presented, as further described in Note 25. Discontinued Operations and Held For Sale to the audited consolidated financial statements included herein. Our description and discussion of financial amounts within this Item 1. Business reflect the results of continuing operations, unless otherwise noted.

Refer to Results of Operations by Segment in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations and Note 23. Segment Reporting to the audited consolidated financial statements, included in Item 8. Financial Statements and Supplementary Data, of this Annual Report for financial information about our business segments.

Our business is diversified across end-markets, regions, customers, vehicle platforms and products. Our customer base includes 23 of the 25 largest automotive OEMs in the world, and in 2019, 27% of our net sales came from the Asia Pacific region, which we have identified as a key market likely to experience substantial long-term growth. Our ten largest platforms in 2019 were with eight different OEMs. In addition, in 2019 our products were found in 19 of the 20 top-selling vehicle models in the United States ("U.S."), in 19 of the 20 top-selling vehicle models in Europe and in 15 of the 20 top-selling vehicle models in China. We have also entered into collaborative arrangements with mobility providers and with smart cities such as Boston and Singapore as we develop solutions for the evolving nature of the mobility industry.

We have established a worldwide design and manufacturing footprint with a regional service model that enables us to efficiently and effectively serve our global customers from best cost countries. This regional model is structured primarily to service the North American market from Mexico, the South American market from Brazil, the European market from Eastern Europe and North Africa, and the Asia Pacific market from China. Our global scale and regional service model enables us to engineer globally and execute regionally to serve the largest OEMs, which are seeking suppliers that can serve them on a worldwide basis. Our footprint also enables us to adapt to the regional design variations the global OEMs require and serve the emerging market OEMs.

Our Industry

The automotive technology and components industry provides components, systems, subsystems and modules to OEMs for the manufacture of new vehicles, as well as to the aftermarket for use as replacement parts for current production and older vehicles. Overall, we expect long-term growth of global vehicle sales and production in the OEM market. In 2019, the industry experienced decreased global customer sales and production schedules. Compared to 2018, vehicle production in 2019 decreased by 4% in both North America and Europe and also decreased by 4% in South America, our smallest region. Additionally, increased market volatility and economic uncertainty in China has resulted in decreased vehicle production of 9% in 2019, which follows a decrease of 4% in the region in 2018. Demand for automotive components in the OEM market is generally a function of the number of new vehicles produced in response to consumer demand, which is primarily driven by macro-economic factors such as credit availability, interest rates, fuel prices, consumer confidence, employment and other trends. Although OEM demand is tied to actual vehicle production, participants in the automotive technology and components industry also have the opportunity to grow through increasing product content per vehicle by further penetrating business with existing customers and in existing markets, gaining new customers and increasing their presence in global markets. We believe that evolving entrants into the global transportation industry such as mobility providers and smart cities will provide additional markets for our advanced technologies. We believe that as a company with a global presence and advanced technology, engineering, manufacturing and customer support capabilities, we are well-positioned to benefit from these opportunities.

We believe that continuously increasing societal demands have created the three "mega-trends" that serve as the basis for the next wave of market-driven automotive technology advancement. We aim to continue developing leading edge technology focused on addressing these mega-trends, and apply that technology toward products with sustainable margins that enable our customers, both OEMs and others, to produce distinctive market-leading products. We have identified a core portfolio of products that draw on our technical strengths and align with these mega-trends where we believe we can provide differentiation to our customers.

Safe. The first mega-trend, "Safe," represents technologies aimed not just at protecting vehicle occupants when a crash occurs, but those that actually proactively reduce the risk of a crash occurring. OEMs continue to focus on improving occupant and pedestrian safety in order to meet increasingly stringent regulatory requirements in various markets, such as a notice issued by the U.S. National Highway Traffic Safety Administration which updated its five-star rating system to include automatic emergency braking systems as a recommended safety technology, beginning with model year 2018. As a result, suppliers are focused on developing technologies aimed at protecting

vehicle occupants when a crash occurs, as well as advanced driver assistance systems that reduce driver distractions and automated safety features that proactively mitigate the risk of a crash occurring. Examples of new and alternative technologies that incorporate sophisticated detection and advanced software for collision avoidance include lane departure warning systems, adaptive cruise control, gesture control and automatic braking.

Green. The second mega-trend, “Green,” represents technologies designed to help reduce emissions, increase fuel economy and minimize the environmental impact of vehicles. Green is a key mega-trend today because of the convergence of several issues: climate change, volatility in oil prices, an increasing number of vehicles in use worldwide and recent and pending regulation in the U.S. and overseas regarding fuel economy and greenhouse gas emissions. OEMs continue to focus on improving fuel efficiency and reducing emissions in order to meet increasingly stringent regulatory requirements in various markets. On a worldwide basis, the relevant authorities in the European Union, the U.S., China, India, Japan, Brazil, South Korea and Argentina have already instituted regulations requiring reductions in emissions and/or increased fuel economy. In many cases, other authorities have initiated legislation or regulation that would further tighten the standards through 2020 and beyond. Based on the current regulatory environment, we believe that OEMs, including those in the U.S. and China, will be subject to requirements for even greater reductions in carbon dioxide (“CO₂”) emissions over the next ten years. These standards will require meaningful innovation as OEMs and suppliers are forced to find ways to improve engine management, electrical power consumption, vehicle weight and integration of alternative technologies (e.g., electric/hybrid propulsion). As a result, suppliers are developing innovations that result in significant improvements in fuel economy, emissions and performance from gasoline and diesel internal combustion engines, and permit engine downsizing without loss of performance. At the same time, suppliers are also developing and marketing new and alternative technologies that support hybrid vehicles, electric vehicles and fuel cell products to improve fuel economy and emissions. We are developing key enabling technologies in the areas of vehicle charging and vehicle power distribution and control that are essential to the introduction of our customers’ electrified vehicle platforms. We are also enabling the trend towards vehicle electrification with high voltage electrification solutions that reduce CO₂ emissions and increase fuel economy, making the world greener.

Connected. The third mega-trend, “Connected,” represents technologies designed to seamlessly integrate today’s highly complex vehicles into the electronic operating environment, and provide drivers with connectivity to the global information network. The technology content of vehicles continues to increase as consumers demand greater safety, personalization, infotainment, productivity and convenience while driving, which in turn leads to increasing demand for electrical architecture as a foundation for this content. Also with increased smart device usage in vehicles, driver distractions can be dramatically increased, which in turn results in greater risk of accidents. We are pioneering vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) communication technologies which enable vehicles to detect and signal danger, reducing vehicle collisions and improving driver safety, while also maintaining connectivity to an increasing number of devices inside and outside of vehicles. We also utilize advanced connectivity solutions such as over-the-air (OTA) technology that enable vehicles to receive software updates remotely and collect market-relevant data from connected vehicles.

We expect these mega-trends to continue to create growth and opportunity for us. We believe we are well-positioned to provide solutions and products to OEMs to expand the electronic and technological content of their vehicles. We also believe electronics integration, which generally refers to products and systems that combine integrated circuits, software algorithms, sensor technologies and mechanical components within the vehicle will allow OEMs to achieve substantial reductions in weight and mechanical complexity, resulting in easier assembly, enhanced fuel economy, improved emissions control and better vehicle performance.

Convergence of Safe, Green and Connected Solutions in New Mobility and Autonomous Driving

The combination of advanced technologies being developed within these mega-trends is also contributing to increasing industry development of autonomous driving technologies, leading to a fully automated driving experience. We expect automated driving technologies will provide strong societal benefit as well as the opportunity for long-term growth for our product offerings in this space, including new potential customers such as mobility providers and smart cities that require solutions to increasing urban mobility challenges. Societal benefits of increased vehicle automation include enhanced safety (resulting from collision avoidance and improved vehicle control), environmental improvements (a reduction in CO₂ emissions resulting from optimized driving behavior), labor cost savings and improved productivity (as a result of alternate uses for drive time). Growth opportunities in this space result from increased content, additional computing power and software requirements, enhanced connectivity systems and increased electrification and interconnects. We believe the complexity of these systems will also require ongoing software support services, as these vehicle systems will be continuously upgraded with new features and performance enhancements.

We are continuing to invest in the automated driving space, and have continued to develop market-leading automated driving platform solutions such as automated driving software, key active safety sensing technologies and our Multi-Domain

Controller, which fuses information from sensing systems as well as mapping and navigation data to make driving decisions. We believe we are well-aligned with industry technology trends that will result in sustainable future growth in this space, and have partnered with leaders in their respective fields to advance the pace of development and commercialization of these emerging technologies. Additionally, in 2017 we acquired nuTonomy, Inc. in order to further accelerate the commercialization of automated driving solutions. The acquisition of nuTonomy is the latest in a series of investments we have made to expand our position in the new mobility space, including the 2015 acquisition of automated driving software developer Ottomatika.

There has also been increasing societal demand for mobility on demand (“MoD”) services, such as car- and ride-sharing, and an increasing number of traditional automotive companies have made investments in the MoD space. We believe the increasing societal demand for MoD services will accelerate the development of autonomous driving technologies, strongly benefiting the MoD space. In 2018, we announced a partnership with Lyft, Inc. (“Lyft”) by launching a fleet of autonomous vehicles in Las Vegas which operate on Aptiv’s fully-integrated autonomous driving platform and are available to the public on the Lyft network. This partnership leverages our connected services capabilities and Lyft’s ride-hailing experience to provide valuable insights on self-driving fleet operations and management. In addition, we have entered into agreements with the Singapore Land Transport Authority and with the city of Boston to develop fully-autonomous vehicles and associated infrastructure as part of automated MoD pilots.

In an effort to further our leadership position in the automated driving space, in September 2019 we entered into a definitive agreement with Hyundai Motor Group (“Hyundai”) to form a new joint venture focused on the design, development and commercialization of autonomous driving technologies, which is expected to close in the first quarter of 2020. We expect this partnership to advance the development of production-ready autonomous driving systems for commercialization by bringing together our innovative vehicle technologies in the new mobility space with one of the world’s largest vehicle manufacturers. The joint venture anticipates it will begin testing fully driverless systems in 2020 and have a production-ready autonomous driving platform available for robotaxi providers, fleet operators and automotive manufacturers in 2022. As a result of our substantial investments and strategic partnerships, we believe we are well-aligned with industry technology trends that will result in sustainable future growth in these evolving areas.

To guide our product strategies and investments in technology with a focus on developing advanced technologies to drive growth within the Safe, Green and Connected mega-trends, we utilize and benefit from our Technology Advisory Council, a panel of prominent global technology thought leaders.

Standardization of Sourcing by OEMs

Many OEMs have adopted global vehicle platforms to increase standardization, reduce per unit cost and increase capital efficiency and profitability. As a result, OEMs select suppliers that have the capability to manufacture products on a worldwide basis as well as the flexibility to adapt to regional variations. Suppliers with global scale and strong design, engineering and manufacturing capabilities, are best positioned to benefit from this trend. OEMs are also increasingly looking to their suppliers to simplify vehicle design and assembly processes to reduce costs. As a result, suppliers that sell vehicle components directly to manufacturers (Tier I suppliers) have assumed many of the design, engineering, research and development and assembly functions traditionally performed by vehicle manufacturers. Suppliers that can provide fully-engineered solutions, systems and pre-assembled combinations of component parts are positioned to leverage the trend toward system sourcing.

Shorter Product Development Cycles

As a result of government regulations and customer preferences, OEMs are requiring suppliers to respond faster with new designs and product innovations. While these trends are more prevalent in mature markets, the emerging markets are advancing rapidly towards the regulatory standards and consumer preferences of the more mature markets. Suppliers with strong technologies, robust global engineering and development capabilities will be best positioned to meet OEM demands for rapid innovation.

Products

Our organizational structure and management reporting support the management of these core product lines:

Signal and Power Solutions. This segment provides complete design, manufacture and assembly of the vehicle’s electrical architecture, including connectors, wiring assemblies and harnesses, cable management, electrical centers and hybrid high voltage and safety distribution systems. Our products provide the critical signal distribution and computing power backbone that supports increased vehicle content and electrification, reduced emissions and higher fuel economy.

- High quality connectors are engineered primarily for use in the automotive and related markets, but also have applications in the aerospace, military and telematics sectors.
- Electrical centers provide centralized electrical power and signal distribution and all of the associated circuit protection and switching devices, thereby optimizing the overall vehicle electrical system.

- Distribution systems, including hybrid high voltage systems, are integrated into one optimized vehicle electrical system that can utilize smaller cable and gauge sizes and ultra-thin wall insulation (which product line makes up approximately 42%, 44% and 47% of our total revenue for the years ended December 31, 2019, 2018 and 2017, respectively).

Advanced Safety and User Experience. This segment provides critical components, systems integration and advanced software development for vehicle safety, security, comfort and convenience, including sensing and perception systems, electronic control units, multi-domain controllers, vehicle connectivity systems, application software and autonomous driving technologies. Our products increase vehicle connectivity, reduce driver distraction and enhance vehicle safety.

- Advanced safety primarily consists of solutions that enable active and passive safety features and vehicle automation, as well as vision, radar, LiDAR and other sensing technologies.
- The user experience portfolio primarily enables in-cabin solutions around infotainment, driver interface and interior sensing solutions.
- Connectivity and security products primarily consists of solutions that provide body control, security and unlock vehicle data.

Competition

Although the overall number of our top competitors has decreased due to ongoing industry consolidation, the automotive technology and components industry remains extremely competitive. Furthermore, the rapidly evolving nature of the markets in which we compete has attracted, and may continue to attract, new entrants, particularly in best cost countries such as China and in areas of evolving vehicle technologies such as automated driving and mobility solutions, which has attracted competitors from outside the traditional automotive industry. OEMs rigorously evaluate suppliers on the basis of product quality, price, reliability and timeliness of delivery, product design capability, technical expertise and development capability, new product innovation, financial viability, application of lean principles, operational flexibility, customer service and overall management. In addition, our customers generally require that we demonstrate improved efficiencies, through cost reductions and/or price improvement, on a year-over-year basis.

Our competitors in each of our operating segments are as follows:

Segment	Competitors
Signal and Power Solutions	<ul style="list-style-type: none">• Amphenol Corporation• Draexlmaier Automotive• Lear Corporation• Leoni AG• Molex Inc. (a subsidiary of Koch Industries, Inc.)• Sumitomo Corporation• TE Connectivity, Ltd.• Yazaki Corporation
Advanced Safety and User Experience	<ul style="list-style-type: none">• Alpine Electronics• Bosch Group• Continental AG• Denso Corporation• Harman International (a subsidiary of Samsung Electronics)• Hyundai Mobis• Magna International• Panasonic Corporation• Valeo• Veoneer, Inc.• Visteon Corporation• ZF Friedrichshafen AG

Customers

We sell our products and services to the major global OEMs in every region of the world. The following table provides the percentage of net sales to our largest customers for the year ended December 31, 2019:

Customer	Percentage of Net Sales
General Motors Company (“GM”)	9%
Volkswagen Group (“VW”)	9%
Fiat Chrysler Automobiles N.V. (“FCA”)	9%
Ford Motor Company (“Ford”)	8%
SAIC General Motors Corporation Limited	4%
PSA Peugeot Citroën (“PSA”)	4%
Geely Automobile Holdings Limited	4%
Daimler AG (“Daimler”)	4%
Toyota Motor Corporation	2%
Tata Motors Limited	2%

Supply Relationships with Our Customers

We typically supply products to our OEM customers through purchase orders, which are generally governed by general terms and conditions established by each OEM. Although the terms and conditions vary from customer to customer, they typically contemplate a relationship under which our customers place orders for their requirements of specific components supplied for particular vehicles but are not required to purchase any minimum amount of products from us. These relationships typically extend over the life of the related vehicle. Prices are negotiated with respect to each business award, which may be subject to adjustments under certain circumstances, such as commodity or foreign exchange escalation/de-escalation clauses or for cost reductions achieved by us. The terms and conditions typically provide that we are subject to a warranty on the products supplied; in most cases, the duration of such warranty is coterminous with the warranty offered by the OEM to the end-user of the vehicle. We may also be obligated to share in all or a part of recall costs if the OEM recalls its vehicles for defects attributable to our products.

Individual purchase orders are terminable for cause or non-performance and, in most cases, upon our insolvency and certain change of control events. In addition, many of our OEM customers have the option to terminate for convenience on certain programs, which permits our customers to impose pressure on pricing during the life of the vehicle program, and issue purchase contracts for less than the duration of the vehicle program, which potentially reduces our profit margins and increases the risk of our losing future sales under those purchase contracts. Additionally, one of our largest customers, GM, expressly reserves a right to terminate for competitiveness on certain of our long-term supply contracts. We manufacture and ship based on customer release schedules, normally provided on a weekly basis, which can vary due to cyclical automobile production or dealer inventory levels.

Although customer programs typically extend to future periods, and although there is an expectation that we will supply certain levels of OEM production during such future periods, customer agreements including applicable terms and conditions do not necessarily constitute firm orders. Firm orders are generally limited to specific and authorized customer purchase order releases placed with our manufacturing and distribution centers for actual production and order fulfillment. Firm orders are typically fulfilled as promptly as possible from the conversion of available raw materials, sub-components and work-in-process inventory for OEM orders and from current on-hand finished goods inventory for aftermarket orders. The dollar amount of such purchase order releases on hand and not processed at any point in time is not believed to be significant based upon the time frame involved.

Materials

We procure our raw materials from a variety of suppliers around the world. Generally, we seek to obtain materials in the region in which our products are manufactured in order to minimize transportation and other costs. The most significant raw materials we use to manufacture our products include copper and resins. As of December 31, 2019, we have not experienced any significant shortages of raw materials and normally do not carry inventories of such raw materials in excess of those reasonably required to meet our production and shipping schedules.

Commodity cost volatility, most notably related to copper, petroleum-based resin products and fuel, is a challenge for us and our industry. We are continually seeking to manage these and other material-related cost pressures using a combination of strategies, including working with our suppliers to mitigate costs, seeking alternative product designs and material

specifications, combining our purchase requirements with our customers and/or suppliers, changing suppliers, hedging of certain commodities and other means. In the case of copper, which primarily affects our Signal and Power Solutions segment, contract clauses have enabled us to pass on some of the price increases to our customers and thereby partially offset the impact of increased commodity costs on operating income for the related products. However, other than in the case of copper, our overall success in passing commodity cost increases on to our customers has been limited. We will continue our efforts to pass market-driven commodity cost increases to our customers in an effort to mitigate all or some of the adverse earnings impacts, including by seeking to renegotiate terms as contracts with our customers expire.

Seasonality

Our business is moderately seasonal, as our primary North American customers historically reduce production during the month of July and halt operations for approximately one week in December. Our European customers generally reduce production during the months of July and August and for one week in December. Shut-down periods in the rest of the world generally vary by country. In addition, automotive production is traditionally reduced in the months of July, August and September due to the launch of component production for new vehicle models. Accordingly, our results reflect this seasonality.

Employees

As of December 31, 2019, we employed approximately 141,000 people; 26,000 salaried employees and 115,000 hourly employees. In addition, we maintain an alternative workforce of 22,000 contract and temporary workers. Certain of our employees are represented worldwide by numerous unions and works councils, including the International Union of Electronic, Electrical, Salaried, Machine and Furniture Workers - Communications Workers of America (“IUE-CWA”) and the Confederacion De Trabajadores Mexicanos. In the U.S., certain of our employees are represented by only the IUE-CWA, with which we have competitive wage and benefit packages.

Environmental Compliance

We are subject to the requirements of U.S. federal, state and local, and non-U.S., environmental and safety and health laws and regulations. These include laws regulating air emissions, water discharge, hazardous materials and waste management. We have an environmental management structure designed to facilitate and support our compliance with these requirements globally. Although it is our intent to comply with all such requirements and regulations, we cannot provide assurance that we are at all times in compliance. Environmental requirements are complex, change frequently and have tended to become more stringent over time. Accordingly, we cannot ensure that environmental requirements will not change or become more stringent over time or that our eventual environmental costs and liabilities will not be material.

Certain environmental laws assess liability on current or previous owners or operators of real property for the cost of removal or remediation of hazardous substances. In addition to clean-up actions brought by U.S. federal, state, local and non-U.S. agencies, plaintiffs could raise personal injury or other private claims due to the presence of hazardous substances on or from a property. At this time, we are involved in various stages of investigation and cleanup related to environmental remediation matters at certain of our present and former facilities. In addition, there may be soil or groundwater contamination at several of our properties resulting from historical, ongoing or nearby activities.

At December 31, 2019, 2018 and 2017, the undiscounted reserve for environmental investigation and remediation was approximately \$4 million, \$4 million and \$4 million, respectively. We cannot ensure that our eventual environmental remediation costs and liabilities will not exceed the amount of our current reserves. In the event that such liabilities were to significantly exceed the amounts recorded, our results of operations could be materially affected.

SUPPLEMENTARY ITEM. EXECUTIVE OFFICERS OF THE REGISTRANT

The name, age (as of February 1, 2020), current positions and description of business experience of each of our executive officers are listed below. Our executive officers are elected annually by the Board of Directors and hold office until their successors are elected and qualified or until the officer's resignation or removal. Positions noted below reflect current service to Aptiv PLC and prior service to Delphi Automotive PLC and Delphi Automotive LLP. Other than Mr. Massaro, Mr. De Vos, Mr. Paja and Ms. Trickett, each officer listed below as a senior vice president was a vice president until February 2012.

Kevin P. Clark, 57, is president and chief executive officer (CEO) of Aptiv and is a member of the company's board of directors. Mr. Clark was named president and CEO and became a member of the board in March 2015. Previously, Mr. Clark was chief operating officer (COO) from October 2014 to March 2015. Prior to the COO position, Mr. Clark was chief financial officer and executive vice president from February 2013. He was appointed vice president and chief financial officer in July 2010. Previously, Mr. Clark was a founding partner of Liberty Lane Partners, LLC, a private-equity investment firm focused on building and improving middle-market companies. Prior to Liberty Lane Partners, Mr. Clark served as the chief financial officer of Fisher-Scientific International Inc., a manufacturer, distributor and service provider to the global healthcare market. Mr. Clark served as Fisher-Scientific's chief financial officer from the company's initial public offering in 2001 through the completion of its merger with Thermo Electron Corporation in 2006. Prior to becoming chief financial officer, Mr. Clark served as Fisher-Scientific's corporate controller and treasurer.

Joseph R. Massaro, 50, is senior vice president and chief financial officer of Aptiv, a position he has held since March 2016. Mr. Massaro joined the Company in October 2013 as vice president, Internal Audit, and in September 2014 was appointed to the position of vice president, Corporate Controller. Previously, Mr. Massaro was a managing director at Liberty Lane Partners from 2008 to 2010. He also served as chief financial officer of inVentiv Health Inc. from 2010 to 2013, a Liberty Lane portfolio company. Prior to Liberty Lane, he served in a variety of finance and operational roles at Thermo Fisher Scientific from 2002 to 2007, including senior vice president of Global Business Services where his responsibilities included the global sourcing and information technology functions. Prior to the merger with Thermo Electron, he also served as vice president and corporate controller of Fisher Scientific and held several other senior finance positions.

Allan J. Brazier, 53, is vice president and chief accounting officer of Aptiv, a position he has held since February 2011. Mr. Brazier joined the Company in June 2005 as senior manager of technical accounting and reporting, and most recently served as assistant controller of technical accounting and reporting. Prior to joining Aptiv, Mr. Brazier was employed for seventeen years in financial roles of increasing responsibility at various companies. Mr. Brazier is a Certified Public Accountant and began his career with the international public accounting firm of KPMG.

Glen De Vos, 59, is senior vice president and chief technology officer of Aptiv, effective March 2017, and has responsibility for Aptiv's innovation and global technologies. From November 2017 to October 2019, he was also president of Aptiv's Mobility and Services Group. Mr. De Vos was most recently vice president of Software and Services for Aptiv's Advanced Safety and User Experience segment, located at the Company's Silicon Valley Lab in Mountain View, California from 2016 to 2017. He began his Aptiv career with Advanced Safety and User Experience in 1992, and following several progressive engineering and managerial roles in infotainment and user experience, was named vice president, Global Engineering for Advanced Safety and User Experience in 2012.

David Paja, 50, is senior vice president of Aptiv and president of Advanced Safety and User Experience, effective February 2017. He was most recently president of Honeywell Security & Fire, a global leader in electronic detection and prevention technologies for residential, commercial, and industrial applications from 2015 to 2017. From 2012 to 2014, he served Honeywell's Transportation Systems segment as vice president and general manager for China and India. Mr. Paja was instrumental in enhancing Honeywell's Internet of Things capabilities with advanced software and connectivity technologies, serving millions of connected homes and buildings worldwide. He began his Honeywell career in 2003 and held several leadership positions of increasing responsibility. Before joining Honeywell, Mr. Paja held several positions at Valeo Automotive.

David M. Sherbin, 60, is senior vice president, general counsel, chief compliance officer and secretary of Aptiv. He was named to his current position in October 2009 and previously was vice president, general counsel from October 2005 to October 2009. He was appointed chief compliance officer in January 2006. Prior to joining Aptiv, Mr. Sherbin was vice president, general counsel and secretary for PulteGroup, Inc., a national homebuilder, from January 2005 through September 2005. Mr. Sherbin joined Federal-Mogul Corporation in 1997 and was named senior vice president, general counsel, secretary and chief compliance officer in 2003.

Mariya Trickett, 37, is senior vice president and chief human resources officer of Aptiv, effective September 2018. She joined Aptiv from Dana Incorporated, where she was most recently senior vice president of human resources from 2016 to 2018. In addition, she was a managing director of Dana Europe AG from 2013 to 2018. Prior to assuming the senior vice president of human resources position, she served as senior director of human resources for Dana's global Off-Highway Driveline Technologies business, while also supporting the Aftermarket Group and all of Dana's European operations from

2015 to 2016. From 2013 to 2015, Ms. Trickett worked as director of H.R. for Off-Highway Driveline Technologies, and senior H.R. manager for Europe from 2011 to 2013. She began her Dana career in 2007, and held roles supporting Dana's sales and purchasing organizations, and worked in global compensation and international mobility.

ITEM 1A. RISK FACTORS

Set forth below are certain risks and uncertainties that could adversely affect our results of operations or financial condition and cause our actual results to differ materially from those expressed in forward-looking statements made by the Company. Also refer to the Cautionary Statement Regarding Forward-Looking Information in this Annual Report.

Risks Related to Business Environment and Economic Conditions

The cyclical nature of automotive sales and production can adversely affect our business.

Our business is directly related to automotive sales and automotive vehicle production by our customers. Automotive sales and production are highly cyclical and, in addition to general economic conditions, also depend on other factors, such as consumer confidence and consumer preferences. Lower global automotive sales would be expected to result in substantially all of our automotive OEM customers lowering vehicle production schedules, which has a direct impact on our earnings and cash flows. In addition, automotive sales and production can be affected by labor relations issues, regulatory requirements, trade agreements, the availability of consumer financing and other factors. Economic declines that result in a significant reduction in automotive sales and production by our customers have in the past had, and may in the future have, an adverse effect on our business, results of operations and financial condition.

Our sales are also affected by inventory levels and OEMs' production levels. We cannot predict when OEMs will decide to increase or decrease inventory levels or whether new inventory levels will approximate historical inventory levels. Uncertainty and other unexpected fluctuations could have a material adverse effect on our business and financial condition.

A prolonged economic downturn or economic uncertainty could adversely affect our business and cause us to require additional sources of financing, which may not be available.

Our sensitivity to economic cycles and any related fluctuation in the businesses of our customers or potential customers may have a material adverse effect on our financial condition, results of operations or cash flows. Due to overall global economic conditions in 2019, the automotive industry experienced decreased global customer sales and production schedules. Compared to 2018, vehicle production in 2019 decreased by 9% in China, 4% in North America, 4% in Europe and 4% in South America, our smallest region. As a result, we have experienced and may continue to experience reductions in orders from OEM customers in certain regions. Uncertainty relating to global or regional economic conditions may have an adverse impact on our business. A prolonged downturn in the global or regional automotive industry, or a significant change in product mix due to consumer demand, could require us to shut down plants or result in impairment charges, restructuring actions or changes in our valuation allowances against deferred tax assets, which could be material to our financial condition and results of operations. If global economic conditions deteriorate or economic uncertainty increases, our customers and potential customers may experience deterioration of their businesses, which may result in the delay or cancellation of plans to purchase our products. If vehicle production were to remain at low levels for an extended period of time or if cash losses for customer defaults rise, our cash flow could be adversely impacted, which could result in our needing to seek additional financing to continue our operations. There can be no assurance that we would be able to secure such financing on terms acceptable to us, or at all.

Any changes in consumer credit availability or cost of borrowing could adversely affect our business.

Declines in the availability of consumer credit and increases in consumer borrowing costs have negatively impacted global automotive sales and resulted in lower production volumes in the past. Substantial declines in automotive sales and production by our customers could have a material adverse effect on our business, results of operations and financial condition.

A drop in the market share and changes in product mix offered by our customers can impact our revenues.

We are dependent on the continued growth, viability and financial stability of our customers. Our customers generally are OEMs in the automotive industry. This industry is subject to rapid technological change, vigorous competition, short product life cycles and cyclical and reduced consumer demand patterns. When our customers are adversely affected by these factors, we may be similarly affected to the extent that our customers reduce the volume of orders for our products. As a result of changes impacting our customers, sales mix can shift which may have either favorable or unfavorable impact on revenue and would include shifts in regional growth, shifts in OEM sales demand, as well as shifts in consumer demand related to vehicle segment purchases and content penetration. For instance, a shift in sales demand favoring a particular OEMs' vehicle model for which we do not have a supply contract may negatively impact our revenue. A shift in regional sales demand toward certain markets could favorably impact the sales of those of our customers that have a large market share in those regions, which in turn would be expected to have a favorable impact on our revenue.

The mix of vehicle offerings by our OEM customers also impacts our sales. A decrease in consumer demand for specific types of vehicles where we have traditionally provided significant content could have a significant effect on our business and

financial condition. Our sales of products in the regions in which our customers operate also depend on the success of these customers in those regions.

We operate in the highly competitive automotive technology and component supply industry, and are dependent on the acceptance of new product introductions for continued growth.

The global automotive technology and component supply industry is highly competitive. Competition is based primarily on price, technology, quality, delivery and overall customer service. There can be no assurance that our products will be able to compete successfully with the products of our competitors. Furthermore, the rapidly evolving nature of the markets in which we compete has attracted, and may continue to attract, new entrants, particularly in countries such as China or in areas of evolving vehicle technologies such as automated driving technologies, which have attracted new entrants from outside the traditional automotive supply industry. Additionally, consolidation in the automotive industry may lead to decreased product purchases from us. As a result, our sales levels and margins could be adversely affected by pricing pressures from OEMs and pricing actions of competitors. These factors led to selective resourcing of business to competitors in the past and may also do so in the future.

In addition, any of our competitors may foresee the course of market development more accurately than us, develop products that are superior to our products, have the ability to produce similar products at a lower cost than us, adapt more quickly than us to new technologies or evolving customer requirements or develop or introduce new products or solutions before we do, particularly related to potential transformative technologies such as autonomous driving solutions. As a result, our products may not be able to compete successfully with their products. These trends may adversely affect our sales as well as the profit margins on our products. If we do not continue to innovate to develop or acquire new and compelling products that capitalize upon new technologies, this could have a material adverse impact on our results of operations.

If we do not respond appropriately, the evolution of the automotive industry towards autonomous vehicles and MoD services could adversely affect our business.

The automotive industry is increasingly focused on the development of advanced driver assistance technologies, with the goal of developing and introducing a commercially-viable, fully automated driving experience. The high development cost of active safety and autonomous driving technologies may result in a higher risk of exposure to the success of new or disruptive technologies different than those being developed by us. There has also been an increase in consumer preferences for MoD services, such as car- and ride-sharing, as opposed to automobile ownership, which may result in a long-term reduction in the number of vehicles per capita. These evolving areas have also attracted increased competition from entrants outside the traditional automotive industry. If we do not continue to innovate to develop or acquire new and compelling products that capitalize upon new technologies in response to OEM and consumer preferences, this could have an adverse impact on our results of operations.

We have invested substantial resources in markets and technologies where we expect growth and we may be unable to timely alter our strategies should such expectations not be realized.

Our future growth is dependent on our making the right investments at the right time to support product development and manufacturing capacity in geographic areas where we can support our customer base and in product areas of evolving vehicle technologies. We have identified the Asia Pacific region, and more specifically China, as a key geographic market, and have identified advanced driver assistance systems, autonomous driving technologies and mobility solutions as a key product market. We believe these markets are likely to experience substantial long-term growth, and accordingly have made and expect to continue to make substantial investments, both directly and through participation in various partnerships and joint ventures, in numerous manufacturing operations, technical centers, research and development activities and other infrastructure to support anticipated growth in these areas. If we are unable to deepen existing and develop additional customer relationships in the Asia Pacific region, or if we are unable to develop and introduce market-relevant advanced driver assistance or autonomous driving technologies, we may not only fail to realize expected rates of return on our existing investments, but we may incur losses on such investments and be unable to timely redeploy the invested capital to take advantage of other markets or product categories, potentially resulting in lost market share to our competitors. Our results will also suffer if these areas do not grow as quickly as we anticipate.

We may not be able to respond quickly enough to changes in regulations, technology and technological risks, and to develop our intellectual property into commercially viable products.

Changes in legislative, regulatory or industry requirements or in competitive technologies may render certain of our products obsolete or less attractive. Our ability to anticipate changes in technology and regulatory standards and to successfully develop and introduce new and enhanced products on a timely basis are significant factors in our ability to remain competitive and to maintain or increase our revenues. For example, the evolving sector of automated driver assistance and autonomous driving technologies has led to evolving guidance issued by the U.S. Department of Transportation (“DOT”) regarding best practices for the testing and deployment of automated driving systems, and outlining federal and state roles in the regulation of

these systems, including providing state legislatures with best practices on how to safely foster the development and introduction of automated driving technologies onto public roads. There remains potential for the continued introduction of new and expanded regulations in this space, including potential requirements for autonomous vehicle systems to receive approval from the DOT or other regulatory agencies prior to commercial introduction. It is also possible that regulations in this space may diverge among jurisdictions, leading to increased compliance costs.

We cannot provide assurance that certain of our products will not become obsolete or that we will be able to achieve the technological advances that may be necessary for us to remain competitive and maintain or increase our revenues in the future. We are also subject to the risks generally associated with new product introductions and applications, including lack of market acceptance, delays in product development or production and failure of products to operate properly. The pace of our development and introduction of new and improved products depends on our ability to implement successfully improved technological innovations in design, engineering and manufacturing, which requires extensive capital investment. Any capital expenditure cuts in these areas that we may determine to implement in the future to reduce costs and conserve cash could reduce our ability to develop and implement improved technological innovations, which may materially reduce demand for our products.

To compete effectively in the automotive technology and components industry, we must be able to launch new products to meet changing consumer preferences and our customers' demand in a timely and cost-effective manner. Our ability to respond to competitive pressures and react quickly to other major changes in the marketplace, including the potential introduction of disruptive technologies such as autonomous driving solutions or consumer desire for and availability of vehicles with advanced driver assistance technologies or which use alternative fuels is also a risk to our future financial performance.

We cannot provide assurance that we will be able to install and certify the equipment needed to produce products for new product programs in time for the start of production, or that the transitioning of our manufacturing facilities and resources to full production under new product programs will not impact production rates or other operational efficiency measures at our facilities. Development and manufacturing schedules are difficult to predict, and we cannot provide assurance that our customers will execute on schedule the launch of their new product programs, for which we might supply products. Our failure to successfully launch new products, or a failure by our customers to successfully launch new programs, could adversely affect our results.

Certain of our businesses rely on relationships with collaborative partners and other third-parties for development of certain products and potential products, and such collaborative partners or other third-parties could fail to perform sufficiently.

We believe that for certain of our businesses, success in developing market-relevant products depends in part on their ability to develop and maintain collaborative relationships with other companies. In particular, our recent agreement with Hyundai to form an autonomous driving joint venture is dependent on the success of our relationship with our joint venture partner. There are certain risks involved in such relationships, as our collaborative partners may not devote sufficient resources to the success of our collaborations; may be acquired by other companies and subsequently terminate our collaborative arrangement; may compete with us; may not agree with us on key details of the collaborative relationship; or may not agree to renew existing collaborations on acceptable terms. Because these and other factors may be beyond our control, the development or commercialization of our products involved in collaborative partnerships may be delayed or otherwise adversely affected. If we or any of our collaborative partners terminate a collaborative arrangement, we may be required to devote additional resources to product development and commercialization or may need to cancel certain development programs, which could adversely affect our business and operational results.

Declines in the market share or business of our five largest customers may adversely impact our revenues and profitability.

Our five largest customers accounted for approximately 39% of our total net sales for the year ended December 31, 2019. Accordingly, our revenues may be adversely affected by decreases in any of their businesses or market share. For instance, certain United Automobile Workers ("UAW") represented employees at GM initiated a labor strike in September 2019, lasting approximately six weeks in duration. As GM is one of our largest customers, this labor strike adversely impacted our financial condition, operating results and cash flows for the year ended December 31, 2019. In addition, because our customers typically have no obligation to purchase a specific quantity of parts, a decline in the production levels of any of our major customers, particularly with respect to models for which we are a significant supplier, could reduce our sales and thereby adversely affect our financial condition, operating results and cash flows.

Our business in China is subject to aggressive competition and is sensitive to economic and market conditions.

Maintaining a strong position in the Chinese market is a key component of our global growth strategy. The automotive technology and components market in China is highly competitive, with competition from many of the largest global manufacturers and numerous smaller domestic manufacturers. As the size of the Chinese market continues to increase over the

long-term, we anticipate that additional competitors, both international and domestic, will seek to enter the Chinese market and that existing market participants will act aggressively to increase their market share. Increased competition may result in price reductions, reduced margins and our inability to gain or hold market share. Additionally, there have been periods of increased market volatility and moderations in the level of economic growth in China, which resulted in periods of lower automotive production growth rates in China than those previously experienced. For example, automotive production in China decreased by 9% in 2019, which follows a decrease of 4% in the region in 2018, primarily due to moderations in the level of economic growth and foreign trade uncertainties. Our business in China is sensitive to economic and market conditions that drive automotive sales volumes in China and may be impacted if there are reductions in vehicle demand in China. If we are unable to maintain our position in the Chinese market or if vehicle sales in China continue to decrease, our business and financial results could be materially adversely affected.

We may not realize sales represented by awarded business.

We estimate awarded business using certain assumptions, including projected future sales volumes. Our customers generally do not guarantee volumes. In addition, awarded business may include business under arrangements that our customers have the right to terminate without penalty. Therefore, our actual sales volumes, and thus the ultimate amount of revenue that we derive from such sales, are not committed. If actual production orders from our customers are not consistent with the projections we use in calculating the amount of our awarded business, we could realize substantially less revenue over the life of these projects than the currently projected estimate.

Continued pricing pressures, OEM cost reduction initiatives and the ability of OEMs to re-source or cancel vehicle programs may result in lower than anticipated margins, or losses, which may have a significant negative impact on our business.

Cost-cutting initiatives adopted by our customers result in increased downward pressure on pricing. Our customer supply agreements generally require step-downs in component pricing over the period of production, typically one to three percent per year. In addition, our customers often reserve the right to terminate their supply contracts for convenience, which enhances their ability to obtain price reductions. OEMs have also possessed significant leverage over their suppliers, including us, because the automotive component supply industry is highly competitive, serves a limited number of customers, has a high fixed cost base and historically has had excess capacity. Based on these factors, and the fact that our customers' product programs typically last a number of years and are anticipated to encompass large volumes, our customers are able to negotiate favorable pricing. Accordingly, as a Tier I supplier, we are subject to substantial continuing pressure from OEMs to reduce the price of our products. For example, our customer supply agreements generally provide for annual reductions in pricing of our products over the period of production. It is possible that pricing pressures beyond our expectations could intensify as OEMs pursue restructuring and cost-cutting initiatives. If we are unable to generate sufficient production cost savings in the future to offset price reductions, our gross margin and profitability would be adversely affected. See Item 1. Supply Relationships with Our Customers for a detailed discussion of our supply agreements with our customers.

Our supply agreements with our OEM customers are generally requirements contracts, and a decline in the production requirements of any of our customers, and in particular our largest customers, could adversely impact our revenues and profitability.

We receive OEM purchase orders for specific components supplied for particular vehicles. In most instances our OEM customers agree to purchase their requirements for specific products but are not required to purchase any minimum amount of products from us. The contracts we have entered into with most of our customers have terms ranging from one year to the life of the model (usually three to seven years, although customers often reserve the right to terminate for convenience). Therefore, a significant decrease in demand for certain key models or group of related models sold by any of our major customers or the ability of a manufacturer to re-source and discontinue purchasing from us, for a particular model or group of models, could have a material adverse effect on us. To the extent that we do not maintain our existing level of business with our largest customers because of a decline in their production requirements or because the contracts expire or are terminated for convenience, we will need to attract new customers or win new business with existing customers, or our results of operations and financial condition will be adversely affected. See Item 1. Supply Relationships with Our Customers for a detailed discussion of our supply agreements with our customers.

Disruptions in the supply of raw materials and other supplies that we and our customers use in our products may adversely affect our profitability.

We and our customers use a broad range of materials and supplies, including copper and other metals, petroleum-based resins, chemicals, electronic components and semiconductors. A significant disruption in the supply of these materials for any reason could decrease our production and shipping levels, which could materially increase our operating costs and materially decrease our profit margins.

We, as with other component manufacturers in the automotive industry, ship products to our customers' vehicle assembly plants throughout the world so they are delivered on a "just-in-time" basis in order to maintain low inventory levels. Our suppliers also use a similar method. However, this "just-in-time" method makes the logistics supply chain in our industry very complex and very vulnerable to disruptions.

Such disruptions could be caused by any one of a myriad of potential problems, such as closures of one of our or our suppliers' plants or critical manufacturing lines due to strikes, mechanical breakdowns, electrical outages, fires, explosions or political upheaval, as well as logistical complications due to weather, global climate change, volcanic eruptions, or other natural or nuclear disasters, mechanical failures, delayed customs processing and more. Additionally, as we grow in best cost countries, the risk for such disruptions is heightened. The lack of even a small single subcomponent necessary to manufacture one of our products, for whatever reason, could force us to cease production, even for a prolonged period. Similarly, a potential quality issue could force us to halt deliveries while we validate the products. Even where products are ready to be shipped, or have been shipped, delays may arise before they reach our customer. Our customers may halt or delay their production for the same reason if one of their other suppliers fails to deliver necessary components. This may cause our customers, in turn to suspend their orders, or instruct us to suspend delivery, of our products, which may adversely affect our financial performance.

When we fail to make timely deliveries in accordance with our contractual obligations, we generally have to absorb our own costs for identifying and solving the "root cause" problem as well as expeditiously producing replacement components or products. Generally, we must also carry the costs associated with "catching up," such as overtime and premium freight.

Additionally, if we are the cause for a customer being forced to halt production, the customer may seek to recoup all of its losses and expenses from us. These losses and expenses could be significant, and may include consequential losses such as lost profits. Any supply-chain disruption, however small, could potentially cause the complete shutdown of an assembly line of one of our customers, and any such shutdown that is due to causes that are within our control could expose us to material claims of compensation. Where a customer halts production because of another supplier failing to deliver on time, it is unlikely we will be fully compensated, if at all.

Adverse developments affecting one or more of our suppliers could harm our profitability.

Any significant disruption in our supplier relationships, particularly relationships with sole-source suppliers, could harm our profitability. Furthermore, some of our suppliers may not be able to handle commodity cost volatility and/or sharply changing volumes while still performing as we expect. To the extent our suppliers experience supply disruptions, there is a risk for delivery delays, production delays, production issues or delivery of non-conforming products by our suppliers. Even where these risks do not materialize, we may incur costs as we try to make contingency plans for such risks.

The loss of business with respect to, or the lack of commercial success of, a vehicle model for which we are a significant supplier could adversely affect our financial performance.

Although we receive purchase orders from our customers, these purchase orders generally provide for the supply of a customer's requirements for a particular vehicle model and assembly plant, rather than for the purchase of a specific quantity of products. The loss of business with respect to, or the lack of commercial success of, a vehicle model for which we are a significant supplier could reduce our sales and thereby adversely affect our financial condition, operating results and cash flows.

Increases in costs of the materials and other supplies that we use in our products may have a negative impact on our business.

Significant changes in the markets where we purchase materials, components and supplies for the production of our products may adversely affect our profitability, particularly in the event of significant increases in demand where there is not a corresponding increase in supply, inflation or other pricing increases. In recent periods there have been significant fluctuations in the global prices of copper and petroleum-based resin products, and fuel charges, which have had and may continue to have an unfavorable impact on our business, results of operations or financial condition. Continuing volatility may have adverse effects on our business, results of operations or financial condition. We will continue efforts to pass some supply and material cost increases onto our customers, although competitive and market pressures have limited our ability to do that, particularly with domestic OEMs, and may prevent us from doing so in the future, because our customers are generally not obligated to accept price increases that we may desire to pass along to them. Even where we are able to pass price increases through to the customer, in some cases there is a lapse of time before we are able to do so. The inability to pass on price increases to our customers when raw material prices increase rapidly or to significantly higher than historic levels could adversely affect our operating margins and cash flow, possibly resulting in lower operating income and profitability. We expect to be continually challenged as demand for our principal raw materials and other supplies, including electronic components, is significantly impacted by demand in emerging markets, particularly in China. We cannot provide assurance that fluctuations in commodity prices will not otherwise have a material adverse effect on our financial condition or results of operations, or cause significant fluctuations in quarterly and annual results of operations.

Our hedging activities to address commodity price fluctuations may not be successful in offsetting future increases in those costs or may reduce or eliminate the benefits of any decreases in those costs.

In order to mitigate short-term volatility in operating results due to the aforementioned commodity price fluctuations, we hedge a portion of near-term exposure to certain raw materials used in production. The results of our hedging practice could be positive, neutral or negative in any period depending on price changes in the hedged exposures. Our hedging activities are not designed to mitigate long-term commodity price fluctuations and, therefore, will not protect from long-term commodity price increases. Our future hedging positions may not correlate to actual raw material costs, which could cause acceleration in the recognition of unrealized gains and losses on hedging positions in operating results.

We may encounter manufacturing challenges.

The volume and timing of sales to our customers may vary due to: variation in demand for our customers' products; our customers' attempts to manage their inventory; design changes; changes in our customers' manufacturing strategy; and acquisitions of or consolidations among customers. Due in part to these factors, many of our customers do not commit to long-term production schedules. Our inability to forecast the level of customer orders with certainty makes it difficult to schedule production and maximize utilization of manufacturing capacity.

We rely on third-party suppliers for the components used in our products, and we rely on third-party manufacturers to manufacture certain of our assemblies and finished products. Our results of operations, financial condition and cash flows could be adversely affected if our third-party suppliers lack sufficient quality control or if there are significant changes in their financial or business condition. If our third-party manufacturers fail to deliver products, parts and components of sufficient quality on time and at reasonable prices, we could have difficulties fulfilling our orders, sales and profits could decline, and our commercial reputation could be damaged.

From time to time, we have underutilized our manufacturing lines. This excess capacity means we incur increased fixed costs in our products relative to the net revenue we generate, which could have an adverse effect on our results of operations, particularly during economic downturns. If we are unable to improve utilization levels for these manufacturing lines and correctly manage capacity, the increased expense levels will have an adverse effect on our business, financial condition and results of operations. In addition, some of our manufacturing lines are located in China or other foreign countries that are subject to a number of additional risks and uncertainties, including increasing labor costs, which may result from market demand or other factors, and political, social and economic instability.

Changes in factors that impact the determination of our non-U.S. pension liabilities may adversely affect us.

Certain of our non-U.S. subsidiaries sponsor defined benefit pension plans, which generally provide benefits based on negotiated amounts for each year of service. Our primary funded non-U.S. plans are located in Mexico and the United Kingdom and were underfunded by \$76 million as of December 31, 2019. The funding requirements of these benefit plans, and the related expense reflected in our financial statements, are affected by several factors that are subject to an inherent degree of uncertainty and volatility, including governmental regulation. In addition to the defined benefit pension plans, we have retirement obligations driven by requirements in many of the countries in which we operate. These legally required plans require payments at the time benefits are due. Obligations, net of plan assets, related to these non-U.S. defined benefit pension plans and statutorily required retirement obligations totaled \$497 million at December 31, 2019, of which \$25 million is included in accrued liabilities, \$474 million is included in long-term liabilities and \$2 million is included in long-term assets in our consolidated balance sheets. Key assumptions used to value these benefit obligations and the cost of providing such benefits, funding requirements and expense recognition include the discount rate and the expected long-term rate of return on pension assets. If the actual trends in these factors are less favorable than our assumptions, this could have an adverse effect on our results of operations and financial condition.

We may suffer future asset impairment and other restructuring charges, including write downs of long-lived assets, goodwill, or intangible assets.

We have taken, are taking, and may take future restructuring actions to realign and resize our production capacity and cost structure to meet current and projected operational and market requirements. Charges related to these actions or any further restructuring actions may have a material adverse effect on our results of operations and financial condition. We cannot ensure that any current or future restructuring actions will be completed as planned or achieve the desired results.

Additionally, from time to time, we have recorded asset impairment losses relating to specific plants and operations. Generally, we record asset impairment losses when we determine that our estimates of the future undiscounted cash flows from an operation will not be sufficient to recover the carrying value of that facility's building, fixed assets and production tooling. For goodwill, we perform a qualitative assessment of whether it is more likely than not that a reporting unit's value is less than its carrying amount. If the qualitative assessment is not met the Company then performs a quantitative assessment by first comparing the estimated fair value of each reporting unit to its carrying value, including goodwill. If the fair value of the reporting unit is less than its carrying amount, we compare its implied fair value of goodwill to its carrying amount. If the

carrying amount of goodwill exceeds its implied fair value, the reporting unit would recognize an impairment loss for that excess. We cannot ensure that we will not incur such charges in the future as changes in economic or operating conditions impacting the estimates and assumptions could result in additional impairment.

Employee strikes and labor-related disruptions involving us or one or more of our customers or suppliers may adversely affect our operations.

Our business is labor-intensive and utilizes a number of work councils and other represented employees. A strike or other form of significant work disruption by our employees would likely have an adverse effect on our ability to operate our business. A labor dispute involving us or one or more of our customers or suppliers or that could otherwise affect our operations could reduce our sales and harm our profitability. A labor dispute involving another supplier to our customers that results in a slowdown or a closure of our customers' assembly plants where our products are included in the assembled parts or vehicles could also adversely affect our business and harm our profitability. For instance, certain UAW represented employees at GM initiated a labor strike in September 2019, lasting approximately six weeks in duration. As GM is one of our largest customers, this labor strike adversely impacted our financial condition, operating results and cash flows for the year ended December 31, 2019. In addition, our inability or the inability of any of our customers, our suppliers or our customers' suppliers to negotiate an extension of a collective bargaining agreement upon its expiration could reduce our sales and harm our profitability. Significant increases in labor costs as a result of the renegotiation of collective bargaining agreements could also adversely affect our business and harm our profitability.

We may lose or fail to attract and retain key salaried employees and management personnel.

An important aspect of our competitiveness is our ability to attract and retain key salaried employees and management personnel. Our ability to do so is influenced by a variety of factors, including the compensation we award and the competitive market position of our overall compensation package. We may not be as successful as competitors at recruiting, assimilating and retaining highly skilled personnel. The loss of the services of any member of senior management or a key salaried employee could have an adverse effect on our business.

We are exposed to foreign currency fluctuations as a result of our substantial global operations, which may affect our financial results.

We have currency exposures related to buying, selling and financing in currencies other than the local currencies of the countries in which we operate. Approximately 63% of our net revenue for the year ended December 31, 2019 came from sales outside the U.S., which were primarily invoiced in currencies other than the U.S. dollar, and we expect net revenue from non-U.S. markets to continue to represent a significant portion of our net revenue. Accordingly, significant changes in currency exchange rates, particularly the Euro and Chinese Yuan (Renminbi), could cause fluctuations in the reported results of our businesses' operations that could negatively affect our results of operations. Price increases caused by currency exchange rate fluctuations may make our products less competitive or have an adverse effect on our margins. Currency exchange rate fluctuations may also disrupt the business of our suppliers by making their purchases of raw materials more expensive and more difficult to finance.

Historically, we have reduced our exposure by aligning our costs in the same currency as our revenues or, if that is impracticable, through financial instruments that provide offsets or limits to our exposures, which are opposite to the underlying transactions. However, any measures that we may implement to reduce the effect of volatile currencies and other risks of our global operations may not be effective.

In addition, we have significant business in Europe and transact much of this business in the Euro currency, including sales and purchase contracts. Although not as prevalent currently, concerns over the stability of the Euro currency and the economic outlook for many European countries, including those that do not use the Euro as their currency, persist. Given the broad range of possible outcomes, it is difficult to fully assess the implications on our business. Some of the potential outcomes could significantly impact our operations. In the event of a country redenominating its currency away from the Euro, the potential impact could be material to operations. We cannot provide assurance that fluctuations in currency exposures will not have a material adverse effect on our financial condition or results of operations, or cause significant fluctuations in quarterly and annual results of operations.

We face risks associated with doing business in non-U.S. jurisdictions.

The majority of our manufacturing and distribution facilities are in countries outside of the U.S., including Mexico, China and other countries in Asia Pacific, Eastern and Western Europe, South America and Northern Africa. We also purchase raw materials and other supplies from many different countries around the world. For the year ended December 31, 2019, approximately 63% of our net revenue came from sales outside the U.S. International operations are subject to certain risks inherent in doing business abroad, including:

- exposure to local economic, political and labor conditions;

- unexpected changes in laws, regulations, trade or monetary or fiscal policy, including interest rates, foreign currency exchange rates and changes in the rate of inflation in the U.S. and other foreign countries;
- tariffs, quotas, customs and other import or export restrictions and other trade barriers;
- expropriation and nationalization;
- difficulty of enforcing agreements, collecting receivables and protecting assets through non-U.S. legal systems;
- reduced technology, data or intellectual property protections;
- limitations on repatriation of earnings;
- withholding and other taxes on remittances and other payments by subsidiaries;
- investment restrictions or requirements;
- violence and civil unrest in local countries; and
- compliance with the requirements of an increasing body of applicable anti-bribery laws, including the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act and similar laws of various other countries.

Additionally, our global operations may also be adversely affected by political events, domestic or international terrorist events and hostilities or complications due to natural, nuclear or other disasters. For instance, recent government changes in Mexico have yielded requirements that call for increases in minimum wages at the border as well as the interior of Mexico. In addition, the ongoing coronavirus outbreak emanating from China at the beginning of 2020 has resulted in increased travel restrictions and extended shutdown of certain businesses in the region. These or any further political or governmental developments or health concerns in Mexico, China or other countries in which we operate could result in social, economic and labor instability. These uncertainties could have a material adverse effect on the continuity of our business and our results of operations and financial condition.

Existing free trade laws and regulations, such as the United States-Mexico-Canada Agreement and its predecessor agreement, the North American Free Trade Agreement, provide certain beneficial duties and tariffs for qualifying imports and exports, subject to compliance with the applicable classification and other requirements. Changes in laws or policies governing the terms of foreign trade, and in particular increased trade restrictions, tariffs or taxes on imports from countries where we manufacture products, such as China and Mexico, could have a material adverse effect on our business and financial results. For instance, beginning in 2018, the U.S. and Chinese governments have imposed a series of significant incremental retaliatory tariffs to certain imported products. Most notably with respect to the automotive industry, the U.S. imposed tariffs on imports of certain steel, aluminum and automotive components, and China imposed retaliatory tariffs on imports of U.S. vehicles and certain automotive components. Despite recent trade negotiations between the U.S. and Chinese governments, given the uncertainty regarding the scope and duration of the imposed tariffs, as well as the potential for additional tariffs or trade barriers by the U.S., China or other countries, we can provide no assurance that any strategies we implement to mitigate the impact of such tariffs or other trade actions will be successful.

Increasing our manufacturing footprint in Asian markets, including China, and our business relationships with Asian automotive manufacturers are important elements of our long-term strategy. In addition, our strategy includes increasing revenue and expanding our manufacturing footprint in lower-cost regions. As a result, our exposure to the risks described above may be greater in the future. The likelihood of such occurrences and their potential impact on us vary from country to country and are unpredictable.

The results of the United Kingdom referendum to exit the European Union may adversely affect our business and profitability.

There have also been periods of increased market volatility and currency exchange rate fluctuations, both globally and most specifically within the United Kingdom (“U.K.”) and Europe, as a result of the U.K.’s exit from the European Union (“E.U.”), commonly referred to as “Brexit,” the terms of which remain undetermined. The withdrawal has created significant uncertainty about the future relationship between the U.K. and the E.U. These developments, or the perception that any of them could occur, may adversely affect European and worldwide economic and market conditions, including vehicle production, significantly reduce global market liquidity and restrict the ability of key market participants to operate in certain financial markets and could contribute to instability in global financial and foreign exchange markets, including increased volatility in interest rates and foreign exchange rates. Although we do not have a material physical presence in the U.K., with less than 1% of our workforce located in the U.K. and approximately 2% of our annual net sales generated in the U.K., the potential impacts of Brexit could adversely impact other global economies, and in particular, the European economy, a region which accounted for approximately 33% of our total net sales for the year ended December 31, 2019. We continue to actively monitor the ongoing potential impacts of Brexit and will seek to minimize its impact on our business through review of our existing contractual arrangements and obligations, particularly in the European region. Any of these effects of Brexit, among others, could adversely affect our business, business opportunities, results of operations, financial condition and cash flows.

If we fail to manage our growth effectively or to integrate successfully any new or future business ventures, acquisitions or strategic alliance into our business, our business could be materially adversely harmed.

We have completed a number of acquisitions in recent years, most recently the acquisitions of gabo Systemtechnik GmbH and Falmat Inc., and we expect to continue to pursue business ventures, acquisitions, and strategic alliances that leverage our technology capabilities, enhance our customer base, geographic penetration and scale to complement our current businesses and we regularly evaluate potential opportunities, some of which could be material. While we believe that such transactions are an integral part of our long-term strategy, there are risks and uncertainties related to these activities. Assessing a potential growth opportunity involves extensive due diligence. However, the amount of information we can obtain about a potential growth opportunity may be limited, and we can give no assurance that new business ventures, acquisitions, and strategic alliances will positively affect our financial performance or will perform as planned. We may not be able to successfully assimilate or integrate companies that we acquire, including their personnel, financial systems, distribution, operations and general operating procedures. We may also encounter challenges in achieving appropriate internal control over financial reporting in connection with the integration of an acquired company. If we fail to assimilate or integrate acquired companies successfully, our business, reputation and operating results could be materially impacted. Likewise, our failure to integrate and manage acquired companies successfully may lead to future impairment of any associated goodwill and intangible asset balances.

We depend on information technology to conduct our business. Any significant disruptions to our information technology systems or facilities, or those of third parties with which we do business, such as disruptions caused by cyber-attacks, could adversely impact our business.

Our ability to keep our business operating effectively depends on the functional and efficient operation of information technology systems and facilities, both internally and externally. We rely on these systems to, among other things, make a variety of day-to-day business decisions as well as to record and process transactions, billings, payments, inventory and other data, in many currencies, on a daily basis, and across numerous and diverse markets and jurisdictions. Our systems, as well as those of our customers, suppliers, partners and service providers, also contain sensitive confidential information or intellectual property and are susceptible to interruptions (including those caused by systems failures, cyber-attacks and other natural or man-made incidents or disasters), which may be prolonged or go undetected. Cyber-attacks, both domestically and abroad, are increasing in their frequency, sophistication and intensity, and have become increasingly difficult to detect. Although we have taken precautions to prevent, detect and mitigate such events, including geographically diverse data centers, redundant infrastructure and the implementation of security measures, a significant or large-scale interruption of our information technology systems or facilities could adversely affect our ability to manage and keep our operations running efficiently and effectively, and could result in significant costs, fines or litigation. An incident that results in a wider or sustained disruption to our business or products could have a material adverse effect on our business, financial condition and results of operations.

Additionally, certain of our products contain complex information technology systems designed to support today's increasingly connected vehicles, and could be susceptible to similar interruptions, including the possibility of unauthorized access. Further, as we transition to offering more cloud-based solutions which are dependent on the Internet or other networks to operate, we may increasingly be the target of cyber threats, including computer viruses or breaches due to misconduct of employees, contractors or others who have access to our networks and systems, or those of third parties with which we do business. Although we have designed and implemented security measures to prevent and detect such unauthorized access or cyber threats from occurring, there can be no assurance that vulnerabilities will not be identified in the future, or that our security efforts will be successful. Any unauthorized access to our components could negatively affect our brand and harm our business, prospects, financial condition and operating results. Further, maintaining and updating these systems may require significant costs and often involves implementation, integration and security risks, including risks that we may not adequately anticipate the market or technological trends or that we may experience unexpected challenges that could cause financial, reputational and operational harm. However, failing to properly respond to and invest in information technology advancements may limit our ability to attract and retain customers, prevent us from offering similar products and services as those offered by our competitors or inhibit our ability to meet regulatory or other requirements.

To date, we have not experienced a system failure, cyber-attack or security breach that has resulted in a material interruption in our operations or material adverse effect on our financial condition. Our Board of Directors regularly reviews relevant information technology and cyber security matters and receives periodic updates from information technology and cyber security subject matter experts as part of its risk assessment procedures, including analysis of existing and emerging risks, as well as plans and strategies to address those risks. While we continuously seek to expand and improve our information technology systems and maintain adequate disclosure controls and procedures, there can be no assurance that such measures will prevent interruptions or security breaches that could adversely affect our business.

Risks Related to Legal, Regulatory, Tax and Accounting Matters

We may incur material losses and costs as a result of warranty claims, product recalls, product liability and intellectual property infringement actions that may be brought against us.

We face an inherent business risk of exposure to warranty claims and product liability in the event that our products fail to perform as expected and, in the case of product liability, such failure of our products results in bodily injury and/or property damage. The fabrication of the products we manufacture is a complex and precise process. Our customers specify quality, performance and reliability standards. If flaws in either the design or manufacture of our products were to occur, we could experience a rate of failure in our products that could result in significant delays in shipment and product re-work or replacement costs. Although we engage in extensive product quality programs and processes, these may not be sufficient to avoid product failures, which could cause us to:

- lose net revenue;
- incur increased costs such as warranty expense and costs associated with customer support;
- experience delays, cancellations or rescheduling of orders for our products;
- experience increased product returns or discounts; or
- damage our reputation,

all of which could negatively affect our financial condition and results of operations.

If any of our products are or are alleged to be defective, we may be required to participate in a recall involving such products. Each vehicle manufacturer has its own practices regarding product recalls and other product liability actions relating to its suppliers. However, as suppliers become more integrally involved in the vehicle design process and assume more of the vehicle assembly functions, OEMs continue to look to their suppliers for contribution when faced with recalls and product liability claims. A recall claim brought against us, or a product liability claim brought against us in excess of our available insurance, may have a material adverse effect on our business. OEMs also require their suppliers to guarantee or warrant their products and bear the costs of repair and replacement of such products under new vehicle warranties. Depending on the terms under which we supply products to a vehicle manufacturer, a vehicle manufacturer may attempt to hold us responsible for some or all of the repair or replacement costs of defective products under new vehicle warranties when the OEM asserts that the product supplied did not perform as warranted. Although we cannot ensure that the future costs of warranty claims by our customers will not be material, we believe our established reserves are adequate to cover potential warranty settlements. Our warranty reserves are based on our best estimates of amounts necessary to settle future and existing claims. We regularly evaluate the level of these reserves and adjust them when appropriate. However, the final amounts determined to be due related to these matters could differ materially from our recorded estimates.

In addition, as we adopt new technology, we face an inherent risk of exposure to the claims of others that we have allegedly violated their intellectual property rights. We cannot ensure that we will not experience any material warranty, product liability or intellectual property claim losses in the future or that we will not incur significant costs to defend such claims.

We may be adversely affected by laws or regulations, including environmental regulation, litigation or other liabilities.

We are subject to various U.S. federal, state and local, and non-U.S., laws and regulations, including those related to environmental, health and safety, financial and other matters.

We cannot predict the substance or impact of pending or future legislation or regulations, or the application thereof. The introduction of new laws or regulations or changes in existing laws or regulations, or the interpretations thereof, could increase the costs of doing business for us or our customers or suppliers or restrict our actions and adversely affect our financial condition, operating results and cash flows.

We are subject to regulation governing, among other things:

- the generation, storage, handling, use, transportation, presence of, or exposure to hazardous materials;
- the emission and discharge of hazardous materials into the ground, air or water;
- the incorporation of certain chemical substances into our products, including electronic equipment; and
- the health and safety of our employees.

We are also required to obtain permits from governmental authorities for certain operations. We cannot assure you that we have been or will be at all times in complete compliance with such laws, regulations and permits. If we violate or fail to comply with these laws, regulations or permits, we could be fined or otherwise sanctioned by regulators. We could also be held liable for any and all consequences arising out of human exposure to hazardous substances or other environmental damage.

Certain environmental laws impose liability, sometimes regardless of fault, for investigating or cleaning up contamination on or emanating from our currently or formerly owned, leased or operated property, as well as for damages to property or natural resources and for personal injury arising out of such contamination. Some of these environmental laws may also assess liability on persons who arrange for hazardous substances to be sent to third-party disposal or treatment facilities when such facilities are found to be contaminated. At this time, we are involved in various stages of investigation and cleanup related to environmental remediation matters at a number of present and former facilities. The ultimate cost to us of site cleanups is difficult to predict given the uncertainties regarding the extent of the required cleanup, the potential for ongoing environmental monitoring and maintenance that could be required for many years, the interpretation of applicable laws and regulations, alternative cleanup methods, and potential agreements that could be reached with governmental and third parties. While we have environmental reserves of approximately \$4 million at December 31, 2019 for the cleanup of presently-known environmental contamination conditions, it cannot be guaranteed that actual costs will not significantly exceed these reserves. We also could be named as a potentially responsible party at additional sites in the future and the costs associated with such future sites may be material.

In addition, environmental laws are complex, change frequently and have tended to become more stringent over time. While we have budgeted for future capital and operating expenditures to maintain compliance with environmental laws, we cannot ensure that environmental laws will not change or become more stringent in the future. Therefore, we cannot ensure that our costs of complying with current and future environmental and health and safety laws, and our liabilities arising from past or future releases of, or exposure to, hazardous substances will not adversely affect our business, results of operations or financial condition. For example, adoption of greenhouse gas rules in jurisdictions in which we operate facilities could require installation of emission controls, acquisition of emission credits, emission reductions, or other measures that could be costly, and could also impact utility rates and increase the amount we spend annually for energy.

We may identify the need for additional environmental remediation or demolition obligations relating to facility divestiture, closure and decommissioning activities.

As we sell, close and/or demolish facilities around the world, environmental investigations and assessments will continue to be performed. We may identify previously unknown environmental conditions or further delineate known conditions that may require remediation or additional costs related to demolition or decommissioning, such as abatement of asbestos containing materials or removal of storage tanks. Such costs could exceed our reserves.

We are involved from time to time in legal proceedings and commercial or contractual disputes, which could have an adverse impact on our profitability and consolidated financial position.

We are involved in legal proceedings and commercial or contractual disputes that, from time to time, are significant. These are typically claims that arise in the normal course of business including, without limitation, commercial or contractual disputes, including warranty claims and other disputes with customers and suppliers; intellectual property matters; personal injury claims; environmental issues; tax matters; and employment matters.

In addition, we conduct significant business operations in Brazil that are subject to the Brazilian federal labor, social security, environmental, tax and customs laws as well as a variety of state and local laws. While we believe we comply with such laws, they are complex, subject to varying interpretations, and we are often engaged in litigation with government agencies regarding the application of these laws to particular circumstances. As of December 31, 2019, the majority of claims asserted against Aptiv in Brazil relate to such litigation. The remaining claims relate to commercial and labor litigation with private parties in Brazil. As of December 31, 2019, claims totaling approximately \$140 million (using December 31, 2019 foreign currency rates) have been asserted against Aptiv in Brazil. As of December 31, 2019, we maintained reserves for these asserted claims of approximately \$30 million (using December 31, 2019 foreign currency rates).

While we believe our reserves are adequate, the final amounts required to resolve these matters could differ materially from our recorded estimates and our results of operations could be materially affected.

For further information regarding our legal matters, see Item 3. Legal Proceedings. No assurance can be given that such proceedings and claims will not have a material adverse effect on our profitability and consolidated financial position.

Potential indemnification liabilities pursuant to the 2017 spin-off of Delphi Technologies could materially and adversely affect our business.

In connection with the Separation, we entered into a Separation and Distribution Agreement and related agreements with Delphi Technologies to govern the Separation and the relationship between the two companies following the completion of the Separation. These agreements provide for specific indemnity and liability obligations of each party and could lead to disputes between us. If we are required to indemnify the other parties under the circumstances set forth in these agreements, we may be subject to future liabilities. In addition, with respect to the liabilities for which the other parties have agreed to indemnify us under these agreements, there can be no assurance that the indemnity rights we have against such other parties will be sufficient to protect us against the full amount of the liabilities, or that such other parties will be able to fully satisfy its indemnification

obligations. It is also possible that a court could disregard the allocation of assets and liabilities agreed to between Aptiv and such other parties and require Aptiv to assume responsibility for obligations allocated to such other parties. Each of these risks could negatively affect our business and financial statements.

Developments or assertions by us or against us relating to intellectual property rights could materially impact our business.

We own significant intellectual property, including a large number of patents and trade names, and are involved in numerous licensing arrangements. Our intellectual property plays an important role in maintaining our competitive position in a number of the markets we serve. Developments or assertions by or against us relating to intellectual property rights could negatively impact our business. Significant technological developments by others also could materially and adversely affect our business and results of operations and financial condition.

Taxing authorities could challenge our historical and future tax positions.

Our future effective tax rates could be affected by changes in the mix of earnings in countries with differing statutory rates and changes in tax laws or their interpretation including changes related to tax holidays or tax incentives. Our taxes could increase if certain tax holidays or incentives are not renewed upon expiration, or if tax rates or regimes applicable to us in such jurisdictions are otherwise increased.

The amount of tax we pay is subject to our interpretation of applicable tax laws in the jurisdictions in which we file. We have taken and will continue to take tax positions based on our interpretation of such tax laws. Additionally, in determining the adequacy of our provision for income taxes, we regularly assess the likelihood of adverse outcomes resulting from tax examinations. While it is often difficult to predict the final outcome or the timing of the resolution of a tax examination, our reserves for uncertain tax benefits reflect the outcome of tax positions that are more likely than not to occur. While we believe that we have complied with all applicable tax laws, there can be no assurance that a taxing authority will not have a different interpretation of the law and assess us with additional taxes. Should additional taxes be assessed, this may result in a material adverse effect on our results of operations and financial condition.

ITEM 1B. UNRESOLVED STAFF COMMENTS

We have no unresolved SEC staff comments to report.

ITEM 2. PROPERTIES

As of December 31, 2019, we owned or leased 126 major manufacturing sites and 15 major technical centers. A manufacturing site may include multiple plants and may be wholly or partially owned or leased. We also have many smaller manufacturing sites, sales offices, warehouses, engineering centers, joint ventures and other investments strategically located throughout the world. We have a presence in 44 countries. The following table shows the regional distribution of our major manufacturing sites by the operating segment that uses such facilities:

	North America	Europe, Middle East & Africa	Asia Pacific	South America	Total
Signal and Power Solutions	44	34	32	5	115
Advanced Safety and User Experience	2	5	4	—	11
Total	46	39	36	5	126

In addition to these manufacturing sites, we had 15 major technical centers: eight in North America; two in Europe, Middle East and Africa; and five in Asia Pacific.

Of our 126 major manufacturing sites and 15 major technical centers, which include facilities owned or leased by our consolidated subsidiaries, 62 are primarily owned and 79 are primarily leased.

We frequently review our real estate portfolio and develop footprint strategies to support our customers' global plans, while at the same time supporting our technical needs and controlling operating expenses. We believe our evolving portfolio will meet current and anticipated future needs.

ITEM 3. LEGAL PROCEEDINGS

We are from time to time subject to various actions, claims, suits, government investigations, and other proceedings incidental to our business, including those arising out of alleged defects, breach of contracts, competition and antitrust matters, product warranties, intellectual property matters, personal injury claims and employment-related matters. It is our opinion that the outcome of such matters will not have a material adverse impact on our consolidated financial position, results of operations, or cash flows. With respect to warranty matters, although we cannot ensure that the future costs of warranty claims by customers will not be material, we believe our established reserves are adequate to cover potential warranty settlements. However, the final amounts required to resolve these matters could differ materially from our recorded estimates.

Brazil Matters

Aptiv conducts business operations in Brazil that are subject to the Brazilian federal labor, social security, environmental, tax and customs laws, as well as a variety of state and local laws. While Aptiv believes it complies with such laws, they are complex, subject to varying interpretations, and the Company is often engaged in litigation with government agencies regarding the application of these laws to particular circumstances. As of December 31, 2019, the majority of claims asserted against Aptiv in Brazil relate to such litigation. The remaining claims in Brazil relate to commercial and labor litigation with private parties. As of December 31, 2019, claims totaling approximately \$140 million (using December 31, 2019 foreign currency rates) have been asserted against Aptiv in Brazil. As of December 31, 2019, the Company maintains accruals for these asserted claims of \$30 million (using December 31, 2019 foreign currency rates). The amounts accrued represent claims that are deemed probable of loss and are reasonably estimable based on the Company's analyses and assessment of the asserted claims and prior experience with similar matters. While the Company believes its accruals are adequate, the final amounts required to resolve these matters could differ materially from the Company's recorded estimates and Aptiv's results of operations could be materially affected. The Company estimates the reasonably possible loss in excess of the amounts accrued related to these claims to be zero to \$110 million.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT’S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

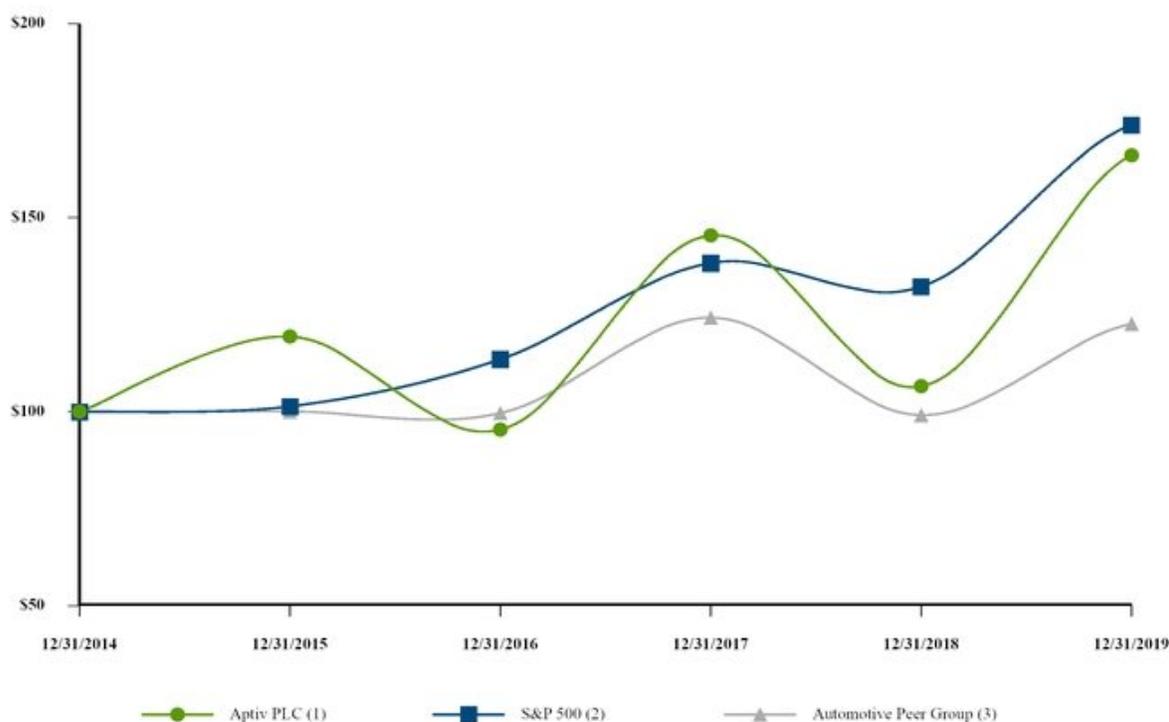
Our ordinary shares have been publicly traded since November 17, 2011 when our ordinary shares were listed and began trading on the New York Stock Exchange (“NYSE”) under the symbol “DLPH.” On December 4, 2017, following the spin-off of Delphi Technologies, the Company changed its name to Aptiv PLC and its NYSE symbol to “APTIV.”

As of January 24, 2020, there were 2 shareholders of record of our ordinary shares.

The following graph reflects the comparative changes in the value from December 31, 2014 through December 31, 2019, assuming an initial investment of \$100 and the reinvestment of dividends, if any in (1) our ordinary shares, (2) the S&P 500 index and (3) the Automotive Peer Group. Historical share prices of our ordinary shares have been adjusted to reflect the Separation. Historical performance may not be indicative of future shareholder returns.

Stock Performance Graph

COMPARISON OF FIVE-YEAR CUMULATIVE TOTAL RETURN*



* \$100 invested on December 31, 2014 in our stock or in the relevant index, including reinvestment of dividends. Fiscal year ended December 31, 2019.

(1) Aptiv PLC, adjusted for the distribution of Delphi Technologies on December 4, 2017

(2) S&P 500 – Standard & Poor’s 500 Total Return Index

(3) Automotive Peer Group – Adient Plc, American Axle & Manufacturing Holdings Inc, Aptiv PLC, Borgwarner Inc, Cooper Tire & Rubber Co, Cooper-standard Holdings Inc, Dana Inc, Dorman Products Inc, Ford Motor Co, General Motors Co, Gentex Corp, Gentherm Inc, Genuine Parts Co, Goodyear Tire & Rubber Co, Lear Corp, Lkq Corp, Meritor Inc, Motorcar Parts Of America Inc, Standard Motor Products Inc, Stoneridge Inc, Tenneco Inc, Tesla Inc, Visteon Corp, Wabco Holdings Inc

Company Index	December 31, 2014	December 31, 2015	December 31, 2016	December 31, 2017	December 31, 2018	December 31, 2019
Aptiv PLC (1)	\$ 100.00	\$ 119.34	\$ 95.40	\$ 145.39	\$ 106.56	\$ 166.11
S&P 500 (2)	100.00	101.38	113.51	138.29	132.23	173.86
Automotive Peer Group (3)	100.00	100.06	99.66	124.23	99.15	122.61

Equity Compensation Plan Information

The table below contains information about securities authorized for issuance under equity compensation plans. The features of these plans are discussed further in Note 21. Share-Based Compensation to our consolidated financial statements.

Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights (a)	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights (b)	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by security holders	2,436,179 (1)	\$ — (2)	14,470,050 (3)
Equity compensation plans not approved by security holders	—	—	—
Total	2,436,179	—	14,470,050

(1) Includes (a) 23,326 outstanding restricted stock units granted to our Board of Directors and (b) 2,412,853 outstanding time- and performance-based restricted stock units granted to our employees. All grants were made under the Aptiv PLC Long Term Incentive Plan, as amended and restated effective April 23, 2015 (the “PLC LTIP”). Includes accrued dividend equivalents.

(2) The restricted stock units have no exercise price.

(3) Remaining shares available under the PLC LTIP.

Repurchase of Equity Securities

A summary of our ordinary shares repurchased during the quarter ended December 31, 2019, is shown below:

Period	Total Number of Shares Purchased (1)	Average Price Paid per Share (2)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet be Purchased Under the Program (in millions) (3)
October 1, 2019 to October 31, 2019	366,691	\$ 82.17	366,691	\$ 2,070
November 1, 2019 to November 30, 2019	—	—	—	2,070
December 1, 2019 to December 31, 2019	—	—	—	2,070
Total	366,691	82.17	366,691	

(1) The total number of shares purchased under the Board authorized plans described below.

(2) Excluding commissions.

(3) In January 2019, the Board of Directors authorized a share repurchase program of up to \$2.0 billion. This program will commence following the completion of the previously announced share repurchase program of \$1.5 billion, which was approved by the Board of Directors in April 2016. The timing of repurchases is dependent on price, market conditions and applicable regulatory requirements.

ITEM 6. SELECTED FINANCIAL DATA

The following selected consolidated financial data were derived from our audited consolidated financial statements and should be read in conjunction with, and are qualified by reference to, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations and the consolidated financial statements and notes thereto included elsewhere in this Annual Report. The financial information presented may not be indicative of our future performance.

The assets and liabilities and operating results for the previously reported Powertrain Systems and Thermal Systems segments have been reclassified as discontinued operations separate from the Company's continuing operations for all periods presented. For further information regarding discontinued operations, see Note 25. Discontinued Operations and Held For Sale to the audited consolidated financial statements included herein.

	Year Ended December 31,				
	2019	2018	2017	2016	2015 (1)
	(dollars and shares in millions, except per share data)				
Statements of operations data:					
Net sales	\$ 14,357	\$ 14,435	\$ 12,884	\$ 12,274	\$ 10,864
Depreciation and amortization (2)	717	676	546	489	344
Operating income	1,276	1,473	1,416	1,539	1,235
Interest expense	(164)	(141)	(140)	(155)	(124)
Income from continuing operations	1,009	1,107	1,063	868	852
Income from discontinued operations, net of tax	—	—	365	458	683
Net income	1,009	1,107	1,428	1,326	1,535
Net income attributable to noncontrolling interest	19	40	73	69	85
Net income attributable to Aptiv	990	1,067	1,355	1,257	1,450
Net income per share data:					
Basic net income per share:					
Continuing operations	\$ 3.85	\$ 4.04	\$ 3.82	\$ 3.05	\$ 2.85
Discontinued operations	—	—	1.25	1.55	2.23
Basic net income per share attributable to Aptiv	\$ 3.85	\$ 4.04	\$ 5.07	\$ 4.60	\$ 5.08
Diluted net income per share:					
Continuing operations	\$ 3.85	\$ 4.02	\$ 3.81	\$ 3.05	\$ 2.84
Discontinued operations	—	—	1.25	1.54	2.22
Diluted net income per share attributable to Aptiv	\$ 3.85	\$ 4.02	\$ 5.06	\$ 4.59	\$ 5.06
Weighted average shares outstanding	257	264	267	273	285
Cash dividends declared and paid	\$ 0.88	\$ 0.88	\$ 1.16	\$ 1.16	\$ 1.00
Other financial data:					
Capital expenditures	\$ 781	\$ 846	\$ 698	\$ 657	\$ 503
Adjusted operating income (3)	1,548	1,751	1,594	1,623	1,360
Adjusted operating income margin (4)	10.8%	12.1%	12.4%	13.2%	12.5%
Net cash provided by operating activities (5)	\$ 1,624	\$ 1,628	\$ 1,468	\$ 1,941	\$ 1,703
Net cash used in investing activities (5)	(1,111)	(2,048)	(1,252)	(578)	(1,699)
Net cash (used in) provided by financing activities (5)	(649)	(555)	456	(1,081)	(284)

	As of December 31,				
	2019	2018	2017	2016	2015
	(in millions, except employee data)				
Balance sheet and employment data:					
Cash and cash equivalents	\$ 412	\$ 567	\$ 1,596	\$ 737	\$ 427
Total assets (6)	\$ 13,459	\$ 12,480	\$ 12,169	\$ 12,292	\$ 11,973
Total debt	\$ 4,364	\$ 4,344	\$ 4,149	\$ 3,963	\$ 3,976
Working capital, as defined (7)	\$ 1,392	\$ 1,430	\$ 1,296	\$ 1,169	\$ 943
Shareholders' equity	\$ 4,011	\$ 3,670	\$ 3,517	\$ 2,763	\$ 2,733
Global employees (8)	141,000	143,000	129,000	145,000	139,000

- (1) On December 18, 2015, we completed the acquisition of HellermannTyton Group PLC, a leading global manufacturer of high-performance and innovative cable management solutions. Given the timing of the acquisition it is not fully reflected in our 2015 results and impacts comparability to 2016 results.
- (2) Includes long-lived and intangible asset impairments.
- (3) Adjusted Operating Income represents net income before interest expense, other income (expense), net, income tax expense, equity income (loss), net of tax, income (loss) from discontinued operations, net of tax, restructuring, other acquisition and portfolio project costs (which includes costs incurred to integrate acquired businesses and to plan and execute product portfolio transformation actions, including business and product acquisitions and divestitures), asset impairments, gains (losses) on business divestitures and deferred compensation related to acquisitions. Adjusted Operating Income is presented as a supplemental measure of the Company's financial performance which management believes is useful to investors in assessing the Company's ongoing financial performance that, when reconciled to the corresponding U.S. GAAP measure, provides improved comparability between periods through the exclusion of certain items that management believes are not indicative of the Company's core operating performance and which may obscure underlying business results and trends. Our management utilizes Adjusted Operating Income in its financial decision making process, to evaluate performance of the Company and for internal reporting, planning and forecasting purposes. Management also utilizes Adjusted Operating Income as the key performance measure of segment income or loss and for planning and forecasting purposes to allocate resources to our segments, as management also believes this measure is most reflective of the operational profitability or loss of our operating segments. Adjusted Operating Income should not be considered a substitute for results prepared in accordance with U.S. GAAP and should not be considered an alternative to net income attributable to Aptiv, which is the most directly comparable financial measure to Adjusted Operating Income that is in accordance with U.S. GAAP. Adjusted Operating Income, as determined and measured by Aptiv, should also not be compared to similarly titled measures reported by other companies.

The reconciliation of Adjusted Operating Income to operating income includes restructuring, other acquisition and portfolio project costs (which includes costs incurred to integrate acquired businesses and to plan and execute product portfolio transformation actions, including business and product acquisitions and divestitures), asset impairments, gains (losses) on business divestitures and deferred compensation related to acquisitions. The reconciliation of Adjusted Operating Income to net income (loss) attributable to the Company is as follows:

	Year Ended December 31,				
	2019	2018	2017	2016	2015
	(in millions)				
Net income attributable to Aptiv	\$ 990	\$ 1,067	\$ 1,355	\$ 1,257	\$ 1,450
Net income attributable to noncontrolling interest	19	40	73	69	85
Income from discontinued operations, net of tax	—	—	(365)	(458)	(683)
Income from continuing operations	1,009	1,107	1,063	868	852
Equity income, net of tax	(15)	(23)	(31)	(35)	(16)
Income tax expense	132	250	223	167	161
Other (income) expense, net (a)	(14)	(2)	21	384	114
Interest expense	164	141	140	155	124
Operating income (b)	1,276	1,473	1,416	1,539	1,235
Restructuring	148	109	129	167	65
Other acquisition and portfolio project costs	71	78	28	57	45
Asset impairments	11	34	9	1	7
(Gain) loss on business divestitures, net	—	—	—	(141)	8
Deferred compensation related to nuTonomy acquisition	42	57	12	—	—
Adjusted operating income (b)	<u>\$ 1,548</u>	<u>\$ 1,751</u>	<u>\$ 1,594</u>	<u>\$ 1,623</u>	<u>\$ 1,360</u>

- (a) During the year ended December 31, 2016, the Company recorded a reserve of \$300 million for litigation related to general unsecured claims against DPHH, as further described in Note 13. Commitments and Contingencies to the audited consolidated financial statements included herein.
 - (b) On December 30, 2016, we completed the sale of our Mechatronics business. Given the timing of the divestiture, the operating results of this business are reflected in our 2016 results and impacts comparability to 2017 results.
- (4) Adjusted operating income margin is defined as adjusted operating income as a percentage of net sales.
 - (5) Includes amounts attributable to discontinued operations.
 - (6) As further described in Note 2. Significant Accounting Policies, the adoption of ASU 2016-02, *Leases*, resulted in the recognition of operating lease right-of-use assets in the consolidated balance sheet as of December 31, 2019, which impacts comparability to 2018.
 - (7) Working capital is calculated herein as accounts receivable plus inventories less accounts payable.
 - (8) Excludes temporary and contract workers. As of December 31, 2019, we employed approximately 22,000 temporary and contract workers. Periods prior to December 31, 2017 include employees of discontinued operations.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following management's discussion and analysis of financial condition and results of operations ("MD&A") is intended to help you understand the business operations and financial condition of the Company for the period ended December 31, 2019. This discussion should be read in conjunction with Item 8. Financial Statements and Supplementary Data. Our MD&A is presented in seven sections:

- Executive Overview
- Consolidated Results of Operations
- Results of Operations by Segment
- Liquidity and Capital Resources
- Off-Balance Sheet Arrangements and Other Matters
- Significant Accounting Policies and Critical Accounting Estimates
- Recently Issued Accounting Pronouncements

Within the MD&A, "Aptiv," the "Company," "we," "us" and "our" refer to Aptiv PLC, a public limited company formed under the laws of Jersey on May 19, 2011 as Delphi Automotive PLC, which, through its subsidiaries, acquired certain assets of the former Delphi Corporation (now known as DPH Holdings Corp. ("DPHH")) and completed an initial public offering on November 22, 2011. On December 4, 2017 (the "Distribution Date"), the Company completed the separation (the "Separation") of its former Powertrain Systems segment by distributing to Aptiv shareholders on a pro rata basis all of the issued and outstanding ordinary shares of Delphi Technologies PLC ("Delphi Technologies"), a public limited company formed to hold the spun-off business. To effect the Separation, the Company distributed to its shareholders one ordinary share of Delphi Technologies for every three Aptiv ordinary shares outstanding as of November 22, 2017, the record date for the distribution. Following the Separation, the remaining company changed its name to Aptiv PLC and New York Stock Exchange ("NYSE") symbol to "APTIV." Aptiv did not retain any equity interest in Delphi Technologies. Delphi Technologies' historical financial results through the Distribution Date are reflected in the Company's consolidated financial statements as a discontinued operation, as more fully described in Note 25. Discontinued Operations and Held For Sale to the audited consolidated financial statements included herein. The completion of the Separation positioned Aptiv as a new mobility provider focused on solving the complex challenges associated with safer, greener and more connected transportation. At the core of our capabilities is the software and vehicle architecture expertise that enables the advanced safety, automated driving, user experience, and connected services that are enabling the future of mobility.

As the disposal of the Powertrain Systems business represented a strategic shift that will have a major effect on the Company's operations and financial results, the assets and liabilities, operating results, and operating and investing cash flows for the previously reported Powertrain Systems segment are presented as discontinued operations separate from the Company's continuing operations for all periods presented. This Management's Discussion and Analysis reflects the results of continuing operations, unless otherwise noted.

Executive Overview

Our Business

We are a leading global technology and mobility company primarily serving the automotive sector. We design and manufacture vehicle components and provide electrical, electronic and active safety technology solutions to the global automotive market, creating the software and hardware foundation for vehicle features and functionality. We enable and deliver end-to-end smart mobility solutions, active safety and autonomous driving technologies and provide enhanced user experience and connected services. Our Advanced Safety and User Experience segment is focused on providing the necessary software and advanced computing platforms, and our Signal and Power Solutions segment is focused on providing the requisite networking architecture required to support the integrated systems in today's complex vehicles. Together, our businesses develop the 'brain' and the 'nervous system' of increasingly complex vehicles, providing integration of the vehicle into its operating environment.

We are one of the largest vehicle component manufacturers, and our customers include 23 of the 25 largest automotive original equipment manufacturers ("OEMs") in the world.

Business Strategy

We believe the Company is well-positioned for growth from increasing global vehicle production volumes, increased demand for our Safe, Green and Connected products which are being added to vehicle content, and new business wins with existing and new customers. We are focused on accelerating the commercialization of active safety, autonomous driving, enhanced user experiences and connected services, providing the software, advanced computing platforms and networking architecture required to do so. We have successfully created a competitive cost structure while investing in research and

development to grow our product offerings, which are aligned with the high-growth industry mega-trends, and re-aligned our manufacturing footprint into an efficient, low-cost regional service model, focused on increasing our profit margins.

Our achievements in 2019 include the following:

- Furthering our leadership position in automated driving through the agreement with Hyundai to form a new joint venture focused on the design, development and commercialization of autonomous driving technologies;
- Expanding our platforms for growth in key industrial markets and executing on our end-market diversification strategy through the acquisitions of gabo Systemtechnik GmbH and Falmat Inc.;
- Leveraging our investment grade credit metrics to further refine our capital structure and increase our financial flexibility by successfully issuing \$300 million of 10-year, 4.35% senior unsecured notes and \$350 million of 30-year, 5.40% senior unsecured notes, utilizing the combined proceeds to redeem our \$650 million, 3.15% senior notes;
- Continuing to grow our revenues, excluding the impacts of foreign currency exchange and commodity costs, despite global automotive vehicle production declines of 6% during the year;
- Returning \$646 million to shareholders through share repurchases and dividends;
- Generating gross business bookings of over \$22 billion, based upon expected volumes and pricing;
- Generating \$1.6 billion of cash from operations and net income of \$1.0 billion; and
- Maximizing our operational flexibility and profitability at all points in the normal automotive business cycle, by having approximately 96% of our hourly workforce based in best cost countries and approximately 15% of our hourly workforce composed of temporary employees.

Our strategy is to build on these accomplishments and continue to develop and manufacture innovative market-relevant products for a diverse base of customers around the globe and leverage our lean and flexible cost structure to achieve strong and disciplined earnings growth and returns on invested capital. Through our culture of innovation and world class engineering capabilities we intend to employ our rigorous, forward-looking product development process to deliver new technologies that provide solutions to our customers. We are committed to creating value for our shareholders. We repurchased \$420 million of ordinary shares in 2019, and in January 2019 announced a new share repurchase program of up to \$2.0 billion of ordinary shares. We also continued to return cash to our shareholders, paying cash dividends totaling \$226 million in 2019. Our key strategic priorities include:

Commercializing the high-tech evolution of the automotive industry. The automotive industry is increasingly evolving towards the implementation of software-dependent components and solutions. In particular, the industry is focused on the development of advanced driver assistance technologies, with the goal of developing and introducing a commercially-viable, fully automated driving experience. We expect automated driving technologies will provide strong societal benefit as well as the opportunity for long-term growth for our product offerings in this space. We are focused on enabling and delivering end-to-end smart mobility solutions, accelerating the commercialization of active safety and autonomous driving technologies and providing enhanced user experience and connected services. Our Advanced Safety and User Experience segment is focused on providing the necessary software and advanced computing platforms, and our Signal and Power Solutions segment is focused on providing the requisite networking architecture required to support the integrated systems in today's complex vehicles. Together, our businesses develop the 'brain' and the 'nervous system' of increasingly complex vehicles, providing integration of the vehicle into its operating environment.

We are continuing to invest in the automated driving space, and have continued to develop market-leading automated driving platform solutions such as automated driving software, key active safety sensing technologies and our Multi-Domain Controller, which fuses information from sensing systems as well as mapping and navigation data to make driving decisions. We believe we are well-aligned with industry technology trends that will result in sustainable future growth in this space, and have partnered with leaders in their respective fields to advance the pace of development and commercialization of these emerging technologies. Additionally, in 2017 we acquired nuTonomy, Inc. ("nuTonomy") in order to further accelerate the commercialization of automated driving solutions. The acquisition of nuTonomy is the latest in a series of investments we have made to expand our position in the new mobility space, including the 2015 acquisition of automated driving software developer Ottomatika.

There has also been increasing societal demand for mobility on demand ("MoD") services, such as car and ride-sharing, and an increasing number of traditional automotive companies have made investments in the MoD space. We believe the increasing societal demand for MoD services will accelerate the development of autonomous driving technologies, strongly benefiting the MoD space. In 2018, we announced a partnership with Lyft, Inc. ("Lyft") by launching a fleet of autonomous vehicles in Las Vegas which operate on Aptiv's fully-integrated autonomous driving platform and are available to the public on the Lyft network. This partnership leverages our connected services capabilities and Lyft's ride-hailing experience to provide valuable insights on self-driving fleet operations and management. In addition, we have entered into agreements with the

Singapore Land Transport Authority and with the city of Boston to develop fully-autonomous vehicles and associated infrastructure as part of automated MoD pilots.

In an effort to further our leadership position in the automated driving space, in September 2019 we entered into a definitive agreement with Hyundai to form a new joint venture focused on the design, development and commercialization of autonomous driving technologies. We expect this partnership to advance the development of production-ready autonomous driving systems for commercialization by bringing together our innovative vehicle technologies in the new mobility space with one of the world's largest vehicle manufacturers. The joint venture anticipates it will begin testing fully driverless systems in 2020 and have a production-ready autonomous driving platform available for robotaxi providers, fleet operators and automotive manufacturers in 2022. As a result of our substantial investments and strategic partnerships, we believe we are well-aligned with industry technology trends that will result in sustainable future growth in these evolving areas. The transaction is subject to the satisfaction of customary closing conditions and the receipt of regulatory and other approvals, and is expected to close in the first quarter of 2020.

However, there are many risks associated with these evolving areas, including the high development costs of active safety and autonomous driving technologies, the uncertain timing of customer and consumer adoption of these technologies, increased competition from entrants outside the traditional automotive industry and new and emerging regulations, such as the recently released federal guidance for automated driving systems published by the U.S. Department of Transportation. While we believe we are well-positioned in these markets, the high development cost of active safety and autonomous driving technologies may result in a higher risk of exposure to the success of new or disruptive technologies different than those being developed by us or our partners.

Leveraging our engineering and technological capabilities. We seek to leverage our strong product portfolio tied to the industry's key mega-trends with our global footprint to increase our revenues, as well as committing to substantial annual investment in research and development to maintain and enhance our leadership in new mobility solutions across each of our product lines.

Targeting the right business with the right customers. We intend to be strategic in our pursuit of new business and customers in order to achieve disciplined, above-market growth. We conduct in-depth analysis of market share and product trends by region in order to prioritize research, development and engineering spend for the customers that we believe will be successful. Collaboration with customers in our 15 major technical centers around the world helps us develop innovative product solutions designed to meet their needs. As more OEMs design vehicles for global platforms, where the same vehicle architecture is shared among different regions, we are well suited to provide global design and engineering support while manufacturing these products for a specific regional market.

Capitalizing on our scale, global footprint and established position in emerging markets. We intend to generate sustained growth by capitalizing on the breadth and scale of our operating capabilities. Our global footprint provides us important proximity to our customers' manufacturing facilities and allows us to serve them in every region in which they operate. We anticipate that we will continue to build upon our extensive geographic reach to capitalize on growing automotive markets, particularly in China. In addition, our presence in best cost countries positions us to realize incremental margin improvements as the global balance of automotive production shifts towards emerging markets.

Leveraging our lean and flexible cost structure to deliver profitability and cash flow. We recognize the importance of maintaining a lean and flexible cost structure in order to deliver stable earnings and cash flow in a cyclical industry. Our focus is on maximizing and optimizing manufacturing output to meet increasing production requirements with minimal additions to our fixed-cost base. Additionally, we are continuing to use a meaningful amount of temporary workers to ensure we have the appropriate operational flexibility to scale our operations so that we can maintain our profitability as industry production levels increase or contract.

Advancing and maintaining an efficient capital structure. We actively manage our capital structure in order to maintain an investment grade credit rating and healthy capital ratios to support our business and maximize shareholder value. We will continue to make adjustments to our capital structure in light of changes in economic conditions or as opportunities arise to provide us with additional financial flexibility to invest in our business and execute our strategic objectives going forward.

Pursuing selected acquisitions and strategic investments. During 2019, we continued to complete selected acquisitions and strategic investments in order to continue to enhance our product offerings and competitive position in growing market segments. We intend to continue to pursue selected transactions that leverage our technology capabilities and enhance and expand our commercialization of new mobility solutions, product offerings, customer base, geographic penetration and scale to complement our current businesses.

Trends, Uncertainties and Opportunities

Economic conditions. Our business is directly related to automotive sales and automotive vehicle production by our customers. Automotive sales depend on a number of factors, including global and regional economic conditions. Global

automotive vehicle production decreased 6% from 2018 to 2019, representing automotive vehicle production declines across all major regions during the year. Compared to 2018, vehicle production in 2019 decreased by 9% in China, 4% in North America, 4% in Europe and 4% in South America, our smallest region. Refer to Note 23. Segment Reporting of the notes to the consolidated financial statements, included in Item 8. Financial Statements and Supplementary Data of this Annual Report for financial information concerning principal geographic areas.

Economic volatility or weakness in North America, Europe, China or South America, could result in a significant reduction in automotive sales and production by our customers, which would have an adverse effect on our business, results of operations and financial condition. There is also potential that geopolitical factors could adversely impact the U.S. and other economies, and specifically the automotive sector. In particular, changes to international trade agreements, such as the United States-Mexico-Canada Agreement and its predecessor agreement, the North American Free Trade Agreement, or other political pressures could affect the operations of our OEM customers, resulting in reduced automotive production in certain regions or shifts in the mix of production to higher cost regions. Increases in interest rates could also negatively impact automotive production as a result of increased consumer borrowing costs or reduced credit availability. Additionally, economic weakness may result in shifts in the mix of future automotive sales (from vehicles with more content such as luxury vehicles, trucks and sport utility vehicles toward smaller passenger cars). While our diversified customer and geographic revenue base, along with our flexible cost structure, have well positioned us to withstand the impact of industry downturns and benefit from industry upturns, shifts in the mix of global automotive production to higher cost regions or to vehicles with less content could adversely impact our profitability.

There have also been periods of increased market volatility and currency exchange rate fluctuations, both globally and most specifically within the United Kingdom (“U.K.”) and Europe, as a result of the U.K.’s exit from the European Union (“E.U.”), commonly referred to as “Brexit,” the terms of which remain undetermined. The withdrawal has created significant uncertainty about the future relationship between the U.K. and the E.U. These developments, or the perception that any of them could occur, may adversely affect European and worldwide economic and market conditions, including vehicle production, significantly reduce global market liquidity and restrict the ability of key market participants to operate in certain financial markets and could contribute to instability in global financial and foreign exchange markets, including increased volatility in interest rates and foreign exchange rates. Although we do not have a material physical presence in the U.K., with less than 1% of our workforce located in the U.K. and approximately 2% of our annual net sales generated in the U.K., the potential impacts of Brexit could adversely impact other global economies, and in particular, the European economy, a region which accounted for approximately 33% of our total net sales for the year ended December 31, 2019. We continue to actively monitor the ongoing potential impacts of Brexit and will seek to minimize its impact on our business through review of our existing contractual arrangements and obligations, particularly in the European region.

Key growth markets. There have been periods of increased market volatility and moderations in the level of economic growth in China, which resulted in periods of lower automotive production growth rates in China than those previously experienced, as evidenced by the reduction in volumes in the region during the year ended December 31, 2019. Despite the 2019 vehicle production declines and the recent moderations in the level of economic growth in China, rising income levels in China and other key growth markets are expected to result in stronger growth rates in these markets over the long-term. Our strong global presence, and presence in these markets, has positioned us to experience above-market growth rates over the long-term. We continue to expand our established presence in key growth markets, positioning us to benefit from the expected long-term growth opportunities in these regions. We are capitalizing on our long-standing relationships with the global OEMs and further enhancing our positions with the key growth market OEMs to continue expanding our worldwide leadership. We continue to build upon our extensive geographic reach to capitalize on fast-growing automotive markets. We believe that our presence in best cost countries positions us to realize incremental margin improvements as the global balance of automotive production shifts towards the key growth markets.

We have a strong local presence in China, including a major manufacturing base and well-established customer relationships. Each of our business segments have operations and sales in China. Our business in China remains sensitive to economic and market conditions that impact automotive sales volumes in China, and may be affected if the pace of growth slows as the Chinese market matures or if there are reductions in vehicle demand in China. However, we continue to believe there is long-term growth potential in this market based on increasing long-term automotive and vehicle content demand.

Market driven products. Our product offerings satisfy the OEMs’ needs to meet increasingly stringent government regulations and meet consumer preferences for products that address the mega-trends of Safe, Green and Connected, leading to increased content per vehicle, greater profitability and higher margins. With these offerings, we believe we are well-positioned to benefit from the growing demand for vehicle content and technology related to safety, electrification, high speed data, connectivity to the global information network and automated driving technologies. We are benefiting from the substantial increase in vehicle content, software and electrification that requires a complex and reliable electrical architecture and systems to operate, such as automated advanced driver assistance technologies, electrical vehicle monitoring, active safety systems, lane departure warning systems, integrated vehicle cockpit displays, navigation systems and technologies that enable connected

infotainment in vehicles. Our ability to design a reliable electrical architecture that optimizes power distribution and/or consumption is key to satisfying the OEMs' needs to reduce emissions while continuing to meet consumer demand for increased vehicle content and technology.

Global capabilities. Many OEMs are continuing to adopt global vehicle platforms to increase standardization, reduce per unit cost and increase capital efficiency and profitability. As a result, OEMs are selecting suppliers that have the capability to manufacture products on a worldwide basis, as well as the flexibility to adapt to regional variations. Suppliers with global scale and strong design, engineering and manufacturing capabilities, are best positioned to benefit from this trend. Our global footprint enables us to serve the global OEMs on a worldwide basis as we gain market share with the emerging market OEMs. This regional model principally services the North American market out of Mexico, the South American market out of Brazil, the European market out of Eastern Europe and North Africa and the Asia Pacific market out of China, and we have continued to rotate our manufacturing footprint to best cost locations within these regions.

Our global operations are subject to certain risks inherent in doing business abroad, including unexpected changes in laws, regulations, trade or monetary or tax fiscal policy, including tariffs, quotas, customs and other import or export restrictions and other trade barriers. For instance, recent government changes in Mexico have yielded requirements that call for increases in minimum wages at the border as well as the interior of Mexico. These or any further political or governmental developments in Mexico or other countries in which we operate could result in social, economic and labor instability. In addition, existing free trade laws and regulations, such as the United States-Mexico-Canada Agreement and its predecessor agreement, the North American Free Trade Agreement, provide certain beneficial duties and tariffs for qualifying imports and exports, subject to compliance with the applicable classification and other requirements. Changes in laws or policies governing the terms of foreign trade, and in particular increased trade restrictions, tariffs or taxes on imports from countries where we manufacture products, such as China and Mexico, could have a material adverse affect on our business and financial results. For instance, beginning in 2018, the U.S. and Chinese governments have imposed a series of significant incremental retaliatory tariffs to certain imported products. Most notably with respect to the automotive industry, the U.S. imposed tariffs on imports of certain steel, aluminum and automotive components, and China imposed retaliatory tariffs on imports of U.S. vehicles and certain automotive components. While these tariffs could have potentially adverse economic impacts, particularly with respect to the automotive industry and vehicle production levels, we do not anticipate a significant impact to our operations, as we have developed and implemented strategies to mitigate adverse tariff impacts, such as production localization and relocation, contract review and renegotiation and working with the appropriate governmental agencies. Further, our global footprint and regional model serves to minimize our exposure to cross-border transactions. However, despite recent trade negotiations between the U.S. and Chinese governments, the scope and duration of the imposed tariffs remain uncertain.

Product development. The automotive technology and components industry is highly competitive, both domestically and internationally, and is characterized by rapidly changing technology, evolving industry standards and changes in customer needs. Our ability to anticipate changes in technology and regulatory standards and to successfully develop and introduce new and enhanced products on a timely and cost competitive basis will be a significant factor in our ability to remain competitive. To compete effectively in the automotive technology and components industry, we must be able to develop and launch new products to meet our customers' demands in a timely manner. Our innovative technologies and robust global engineering and development capabilities have well positioned us to meet the increasingly stringent vehicle manufacturer demands and consumer preferences for high-technology content in automobiles.

OEMs are increasingly looking to their suppliers to simplify vehicle design and assembly processes to reduce costs and weight. As a result, suppliers that sell vehicle components directly to manufacturers (Tier I suppliers) have assumed many of the design, engineering, research and development and assembly functions traditionally performed by vehicle manufacturers. Suppliers that can provide fully-engineered solutions, systems and pre-assembled combinations of component parts are positioned to leverage the trend toward system sourcing.

Engineering, design and development. Our history and culture of innovation have enabled us to develop significant intellectual property and design and development expertise to provide advanced technology solutions that meet the demands of our customers. We have a team of approximately 20,200 scientists, engineers and technicians focused on developing leading product solutions for our key markets, located at 15 major technical centers in China, Germany, India, Mexico, Poland, Singapore and the United States. Our total investment in research and development, including engineering, was approximately \$1.5 billion, \$1.4 billion and \$1.1 billion for the years ended December 31, 2019, 2018 and 2017, respectively, which includes approximately \$381 million, \$288 million and \$204 million of co-investment by customers and government agencies. Each year we share some engineering expenses with OEMs and government agencies. While this amount varies from year-to-year, it is generally in the range of 15% to 20% of engineering expenses. We also encourage "open innovation" and collaborate extensively with peers in the industry, government agencies and academic institutions. Our technology competencies are recognized by both customers and government agencies, who co-invested approximately \$381 million in 2019 to support new product development, accelerating the pace of innovation and reducing the risk associated with successful commercialization of technological breakthroughs.

In the past, suppliers often incurred the initial cost of engineering, designing and developing automotive component parts, and recovered their investments over time by including a cost recovery component in the price of each part based on expected volumes. Recently, we and many other suppliers have negotiated for cost recovery payments independent of volumes. This trend reduces our economic risk.

We utilize a Technology Advisory Council, a panel of prominent global technology thought leaders, which guides our product strategies and investments in technology with a focus on developing advanced technologies to drive growth. We believe that our engineering and technical expertise, together with our emphasis on continuing research and development, allow us to use the latest technologies, materials and processes to solve problems for our customers and to bring new, innovative products to market. We believe that continued engineering activities are critical to maintaining our pipeline of technologically advanced products. Given our strong financial discipline, we seek to effectively manage fixed costs and efficiently rationalize capital spending by critically evaluating the profit potential of new and existing customer programs, including investment in innovation and technology. We maintain our engineering activities around our focused product portfolio and allocate our capital and resources to those products with distinctive technologies. We expect expenditures for research and development activities, including engineering, net of co-investment, to be approximately \$1.0 billion for the year ended December 31, 2020, a decrease from 2019 primarily as a result of the anticipated formation of the autonomous driving joint venture with Hyundai, which is expected to close in the first quarter of 2020.

We maintain a large portfolio of approximately 7,600 patents and protective rights in the operation of our business as of December 31, 2019. While no individual patent or group of patents, taken alone, is considered material to our business, taken in the aggregate, these patents provide meaningful protection for our products and technical innovations. Similarly, while our trademarks are important to identify our position in the industry, we do not believe that any of these are individually material to our business. We are actively pursuing marketing opportunities to commercialize and license our technology to both automotive and non-automotive industries and we have selectively taken licenses from others to support our business interests. These activities foster optimization of intellectual property rights.

Pricing. Cost-cutting initiatives adopted by our customers result in increased downward pressure on pricing. Our customer supply agreements generally require step-downs in component pricing over the periods of production and OEMs have historically possessed significant leverage over their outside suppliers because the automotive component supply industry is fragmented and serves a limited number of automotive OEMs. Our profitability depends in part on our ability to generate sufficient production cost savings in the future to offset price reductions.

We are focused on maintaining a low fixed cost structure that provides us flexibility to remain profitable at all points of the traditional vehicle industry production cycle. As a result, approximately 96% of our hourly workforce is located in best cost countries. Furthermore, we have substantial operational flexibility by leveraging a large workforce of temporary workers, which represented approximately 15% of the hourly workforce as of December 31, 2019. However, we will continue to adjust our cost structure and optimize our manufacturing footprint in response to changes in the global and regional automotive markets and in order to increase investment in advanced technologies and engineering, as evidenced by our ongoing restructuring programs focused on the continued rotation of our manufacturing footprint to best cost locations in Europe and on reducing our global overhead costs. As we continue to operate in a cyclical industry that is impacted by movements in the global and regional economies, we continually evaluate opportunities to further refine our cost structure. Assuming constant product mix and pricing, based on our 2019 results, we estimate that our EBITDA breakeven level would be reached if we experienced a 45% downturn to current product volumes.

We have a strong balance sheet with gross debt of approximately \$4.4 billion and substantial available liquidity of approximately \$2.4 billion of cash and cash equivalents and available financing under our Revolving Credit Facility and committed European accounts receivable factoring facility (as defined below in Liquidity and Capital Resources) as of December 31, 2019, and no significant U.S. defined benefit or workforce postretirement health care benefits and employer-paid postretirement basic life insurance benefits (“OPEB”) liabilities. We intend to maintain strong financial discipline targeting industry-leading earnings growth, cash flow generation and return on invested capital and to maintain sufficient liquidity to sustain our financial flexibility throughout the industry cycle.

OEM product recalls. The number of vehicles recalled globally by OEMs has increased above historical levels. These recalls can either be initiated by the OEMs or influenced by regulatory agencies. Although there are differing rules and regulations across countries governing recalls for safety issues, the overall transition towards global vehicle platforms may also contribute to increased recalls outside of the U.S., as automotive components are increasingly standardized across regions. Given the sensitivity to safety issues in the automotive industry, including increased focus from regulators and consumers, we anticipate the number of automotive recalls may remain above historical levels in the near future. Although we engage in extensive product quality programs and processes, it is possible that we may be adversely affected in the future if the pace of these recalls continues.

Efficient use of capital. The global vehicle components industry is generally capital intensive and a portion of a supplier's capital equipment is frequently utilized for specific customer programs. Lead times for procurement of capital equipment are long and typically exceed start of production by one to two years. Substantial advantages exist for suppliers that can leverage their prior investments in capital equipment or amortize the investment over higher volume global customer programs.

Industry consolidation. Consolidation among worldwide suppliers is expected to continue as suppliers seek to achieve operating synergies and value stream efficiencies, acquire complementary technologies and build stronger customer relationships as OEMs continue to expand globally. Additionally, new entrants from outside the traditional automotive industry may seek to gain access to certain vehicle component markets, as evidenced by the acquisition of Harman International Industries, Incorporated by Samsung Electronics Co., Ltd. and the acquisition of Mobileye N.V. by Intel Corporation. We believe companies with strong balance sheets and financial discipline are in the best position to take advantage of the industry consolidation trend.

Consolidated Results of Operations

Our total net sales during the year ended December 31, 2019 were \$14.4 billion, a decrease of approximately 1% compared to 2018. This compares to total global OEM production decreases of 6% in 2019. We experienced volume growth of 4% for the period, primarily as a result of increases in Europe and Asia Pacific. Volume was also impacted by increased net sales of approximately \$320 million as a result of the acquisitions of KUM and Winchester in mid and late-2018, respectively, and adverse impacts of approximately \$200 million resulting from the GM labor strike. Our overall lean cost structure, along with above-market sales growth in all major regions, has enabled us to maintain strong levels of operating income, while continuing to strategically invest in the future.

Aptiv typically experiences fluctuations in revenue due to changes in OEM production schedules, vehicle sales mix and the net of new and lost business (which we refer to collectively as volume), increased prices attributable to escalation clauses in our supply contracts for recovery of increased commodity costs (which we refer to as commodity pass-through), fluctuations in foreign currency exchange rates (which we refer to as "FX"), contractual reductions of the sales price to the OEM (which we refer to as contractual price reductions) and engineering changes. Changes in sales mix can have either favorable or unfavorable impacts on revenue. Such changes can be the result of shifts in regional growth, shifts in OEM sales demand, as well as shifts in consumer demand related to vehicle segment purchases and content penetration. For instance, a shift in sales demand favoring a particular OEM's vehicle model for which we do not have a supply contract may negatively impact our revenue. A shift in regional sales demand toward certain markets could favorably impact the sales of those of our customers that have a large market share in those regions, which in turn would be expected to have a favorable impact on our revenue.

We typically experience (as described below) fluctuations in operating income due to:

- Volume, net of contractual price reductions—changes in volume offset by contractual price reductions (which typically range from 1% to 3% of net sales) and changes in mix;
- Operational performance—changes to costs for materials and commodities or manufacturing and engineering variances; and
- Other—including restructuring costs and any remaining variances not included in Volume, net of contractual price reductions or Operational performance.

The automotive technology and component supply industry is traditionally subject to inflationary pressures with respect to raw materials and labor which may place operational and profitability burdens on the entire supply chain. We will continue to work with our customers and suppliers to mitigate the impact of these inflationary pressures in the future. In addition, we expect commodity cost volatility, particularly related to copper and petroleum-based resin products, to have a continual impact on future earnings and/or operating cash flows. As such, we continually seek to mitigate both inflationary pressures and our material-related cost exposures using a number of approaches, including combining purchase requirements with customers and/or other suppliers, using alternate suppliers or product designs, negotiating cost reductions and/or commodity cost contract escalation clauses into our vehicle manufacturer supply contracts and hedging.

This section discusses our consolidated results of operations and results of operations by segment for the years ended December 31, 2019 versus 2018. A detailed discussion of our consolidated results of operations and results of operations by segment for the years ended December 31, 2018 versus 2017 can be found under "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" in our Annual Report on Form 10-K for the year ended December 31, 2018, which was filed with the SEC on February 4, 2019.

2019 versus 2018

The results of operations for the years ended December 31, 2019 and 2018 were as follows:

	Year Ended December 31,		
	2019	2018	Favorable/ (unfavorable)
	(dollars in millions)		
Net sales	\$ 14,357	\$ 14,435	\$ (78)
Cost of sales	11,711	11,706	(5)
Gross margin	2,646 18.4%	2,729 18.9%	(83)
Selling, general and administrative	1,076	993	(83)
Amortization	146	154	8
Restructuring	148	109	(39)
Operating income	1,276	1,473	(197)
Interest expense	(164)	(141)	(23)
Other income, net	14	2	12
Income from continuing operations before income taxes and equity income	1,126	1,334	(208)
Income tax expense	(132)	(250)	118
Income from continuing operations before equity income	994	1,084	(90)
Equity income, net of tax	15	23	(8)
Income from continuing operations	1,009	1,107	(98)
Income from discontinued operations, net of tax	—	—	—
Net income	1,009	1,107	(98)
Net income attributable to noncontrolling interest	19	40	(21)
Net income attributable to Aptiv	\$ 990	\$ 1,067	\$ (77)

Total Net Sales

Below is a summary of our total net sales for the years ended December 31, 2019 versus 2018.

	Year Ended December 31,			Variance Due To:				
	2019	2018	Favorable/ (unfavorable)	Volume, net of contractual price reductions	FX	Commodity pass- through	Other	Total
	(in millions)			(in millions)				
Total net sales	\$ 14,357	\$ 14,435	\$ (78)	\$ 371	\$ (394)	\$ (55)	\$ —	\$ (78)

Total net sales for the year ended December 31, 2019 decreased 1% compared to the year ended December 31, 2018. We experienced volume growth of 4% for the period, primarily as a result of increases in Europe and Asia Pacific. Volume growth was also impacted by increased net sales of approximately \$320 million as a result of the acquisitions of KUM and Winchester in mid and late-2018, respectively, and adverse impacts of approximately \$200 million resulting from the GM labor strike. Volume growth was offset by unfavorable foreign currency impacts, primarily related to the Euro and Chinese Yuan Renminbi, and contractual price reductions. Refer to Note 20. Acquisitions and Divestitures to the audited consolidated financial statements included herein for further information regarding acquisitions and divestitures.

Cost of Sales

Cost of sales is primarily comprised of material, labor, manufacturing overhead, freight, fluctuations in foreign currency exchange rates, product engineering, design and development expenses, depreciation and amortization, warranty costs and other operating expenses. Gross margin is revenue less cost of sales and gross margin percentage is gross margin as a percentage of net sales.

Cost of sales increased \$5 million for the year ended December 31, 2019 compared to the year ended December 31, 2018, as summarized below. The Company's material cost of sales was approximately 50% of net sales in both the years ended December 31, 2019 and 2018.

	Year Ended December 31,			Variance Due To:				
	2019	2018	Favorable/ (unfavorable)	Volume (a)	FX	Operational performance	Other	Total
	(dollars in millions)			(in millions)				
Cost of sales	\$ 11,711	\$ 11,706	\$ (5)	\$ (548)	\$ 303	\$ 155	\$ 85	\$ (5)
Gross margin	\$ 2,646	\$ 2,729	\$ (83)	\$ (177)	\$ (91)	\$ 155	\$ 30	\$ (83)
Percentage of net sales	18.4%	18.9%						

(a) Presented net of contractual price reductions for gross margin variance.

The increase in cost of sales reflects increased volumes and incremental investment in advanced technologies and engineering, partially offset by the impacts from currency exchange and operational performance improvements. The increase in cost of sales is also attributable to the following items in Other above:

- \$55 million of decreased commodity pass-through costs; and
- \$5 million of decreased warranty costs.

Selling, General and Administrative Expense

	Year Ended December 31,		
	2019	2018	Favorable/ (unfavorable)
	(dollars in millions)		
Selling, general and administrative expense	\$ 1,076	\$ 993	\$ (83)
Percentage of net sales	7.5%	6.9%	

Selling, general and administrative expense (“SG&A”) includes administrative expenses, information technology costs and incentive compensation related costs. SG&A increased as a percentage of net sales for the year ended December 31, 2019 as compared to 2018, primarily as a result of our acquisitions and increased information technology costs, partially offset by cost reduction initiatives, including our continued rotation to best cost manufacturing locations in Europe and initiatives focused on reducing global overhead costs.

Amortization

	Year Ended December 31,		
	2019	2018	Favorable/ (unfavorable)
	(in millions)		
Amortization	\$ 146	\$ 154	\$ 8

Amortization expense reflects the non-cash charge related to definite-lived intangible assets and intangible asset impairment charges recorded during the period. The decrease in amortization during the year ended December 31, 2019 compared to 2018 reflects decreased intangible asset impairment charges recorded during the year ended December 31, 2019 as compared to 2018 and the continued amortization of our definite-lived intangible assets, which resulted primarily from our acquisitions, over their estimated useful lives. Refer to Note 20. Acquisitions and Divestitures to the audited consolidated financial statements included herein for further detail of our business acquisitions, including details of the intangible assets recorded in each transaction.

In 2020, we expect to incur non-cash amortization charges of approximately \$145 million.

Restructuring

	Year Ended December 31,		
	2019	2018	Favorable/ (unfavorable)
	(dollars in millions)		
Restructuring	\$ 148	\$ 109	\$ (39)
Percentage of net sales	1.0%	0.8%	

Restructuring charges recorded during 2019 were primarily related to programs focused on the continued rotation of our manufacturing footprint to best cost locations in Europe and on reducing global overhead costs. The Company recorded employee-related and other restructuring charges related to these programs totaling approximately \$148 million during the year ended December 31, 2019, of which \$74 million was recognized for programs implemented in the European region, pursuant to the Company's ongoing overhead cost reduction strategy. None of the Company's individual restructuring programs initiated during 2019 were material and there have been no changes in previously initiated programs that have resulted (or are expected to result) in a material change to our restructuring costs. We expect to make cash payments of approximately \$85 million in 2020 pursuant to currently implemented restructuring programs.

Restructuring charges recorded during 2018 were primarily related to programs focused on the continued rotation of our manufacturing footprint to best cost locations in Europe and on reducing global overhead costs, including realignment of the Company's organizational structure due to changes in roles and workforce resulting from the spin-off of the Powertrain Systems segment. The Company recorded employee-related and other restructuring charges related to these programs totaling approximately \$109 million during the year ended December 31, 2018, of which \$64 million was recognized for programs focused on the continued rotation of our manufacturing footprint to best cost locations in Europe and reducing overhead costs in the region.

We expect to continue to incur additional restructuring expense in 2020, primarily related to programs focused on the continued rotation of our manufacturing footprint to best cost locations in Europe and to reduce global overhead costs, which includes approximately \$35 million (of which approximately \$20 million relates to the Signal and Power Solutions segment and approximately \$15 million relates to the Advanced Safety and User Experience segment) of restructuring costs related to programs approved as of December 31, 2019. Additionally, as we continue to operate in a cyclical industry that is impacted by movements in the global and regional economies, we continually evaluate opportunities to further adjust our cost structure and optimize our manufacturing footprint. The Company plans to implement additional restructuring activities in the future, if necessary, in order to align manufacturing capacity and other costs with prevailing regional automotive production levels and locations, to improve the efficiency and utilization of other locations and in order to increase investment in advanced technologies and engineering. Such future restructuring actions are dependent on market conditions, customer actions and other factors.

Refer to Note 10. Restructuring to the audited consolidated financial statements included herein for additional information.

Interest Expense

	Year Ended December 31,		
	2019	2018	Favorable/ (unfavorable)
	(in millions)		
Interest expense	\$ 164	\$ 141	\$ (23)

The increase in interest expense during the year ended December 31, 2019 compared to 2018 reflects the issuance of the 2019 Senior Notes in the first quarter of 2019, which were utilized to redeem the 3.15% Senior Notes, and increased short-term borrowings. Refer to Note 11. Debt to the audited consolidated financial statements included herein for additional information.

Other Income, Net

	Year Ended December 31,		
	2019	2018	Favorable/ (unfavorable)
	(in millions)		
Other income, net	\$ 14	\$ 2	\$ 12

During the year ended December 31, 2019, Aptiv recorded \$13 million of interest income and a pre-tax unrealized gain of \$19 million related to increases in fair value of its equity investments without readily determinable fair values, as further discussed in Note 5. Investments in Affiliates to the consolidated financial statements contained herein. Aptiv also redeemed for cash the entire \$650 million aggregate principal amount outstanding of the 3.15% Senior Notes during the year ended December 31, 2019, resulting in a loss on debt extinguishment of approximately \$6 million, as further discussed in Note 11. Debt to the consolidated financial statements contained herein, and incurred approximately \$5 million in transaction costs related to the acquisition of gabocom. The Company also recorded \$27 million during the year ended December 31, 2019 related to the components of net periodic pension and postretirement benefit cost other than service costs.

During the year ended December 31, 2018, Aptiv incurred approximately \$18 million in transaction costs related to the acquisitions of KUM and Winchester and, as further discussed in Note 17. Derivatives and Hedging Activities to the audited consolidated financial statements included herein, recorded a gain of \$4 million on forward contracts entered into in order to hedge portions of the currency risk associated with the cash payment for the acquisition of KUM. During the year ended December 31, 2018, Aptiv also recorded \$21 million of interest income and \$11 million for certain fees earned pursuant to the transition services agreement in connection with the Separation of the Company's former Powertrain Systems segment, as further discussed in Note 25. Discontinued Operations and Held For Sale to the audited consolidated financial statements included herein. The Company also recorded \$18 million during the year ended December 31, 2018 related to the components of net periodic pension and postretirement benefit cost other than service costs.

Refer to Note 19. Other Income, Net to the audited consolidated financial statements included herein for additional information.

Income Taxes

	Year Ended December 31,		
	2019	2018	Favorable/ (unfavorable)
	(in millions)		
Income tax expense	\$ 132	\$ 250	\$ 118

The Company's tax rate is affected by the fact that its parent entity was formerly a U.K. resident taxpayer and became an Irish resident taxpayer in April 2018, the tax rates in Ireland, the U.K. and other jurisdictions in which the Company operates, the relative amount of income earned by jurisdiction and the relative amount of losses or income for which no tax benefit or expense was recognized due to a valuation allowance. The Company's effective tax rate is also impacted by the receipt of certain tax incentives and holidays that reduce the effective tax rate for certain subsidiaries below the statutory rate.

The effective tax rate was 12% and 19% for the years ended December 31, 2019 and 2018, respectively. The effective tax rate for the year ended December 31, 2019 was impacted by releases of valuation allowances as a result of the Company's determination that it was more likely than not that certain deferred tax assets would be realized, as well as favorable provision to return adjustments. The Company also accrued \$20 million of reserve adjustments for uncertain tax positions, which included reserves for ongoing audits in foreign jurisdictions, as well as for changes in estimates based on relevant new or additional evidence obtained related to certain of the Company's tax positions, including tax authority administrative pronouncements and court decisions.

The effective tax rate for the year ended December 31, 2018 was impacted by approximately \$30 million recorded as an adjustment to the provisional amounts recorded due to the enactment of the Tax Cuts and Jobs Act ("the Tax Legislation") in the U.S. and approximately \$30 million recorded related to the Company's intellectual property transfer, partially offset by favorable changes in geographic income mix, primarily due to changes in the underlying operations of the business.

Refer to Note 14. Income Taxes to the audited consolidated financial statements included herein for additional information.

Equity Income

	Year Ended December 31,		
	2019	2018	Favorable/ (unfavorable)
	(in millions)		
Equity income, net of tax	\$ 15	\$ 23	\$ (8)

Equity income, net of tax reflects the Company's interest in the results of ongoing operations of entities accounted for as equity method investments. Equity income decreased during the year ended December 31, 2019 as compared to the year ended December 31, 2018, primarily attributable to the performance of our joint ventures in North America and Asia Pacific as compared to the prior period.

Results of Operations by Segment

We operate our core business along the following operating segments, which are grouped on the basis of similar product, market and operating factors:

- Signal and Power Solutions, which includes complete electrical architecture and component products.
- Advanced Safety and User Experience, which includes component and systems integration expertise in advanced safety, user experience and connectivity and security solutions, as well as advanced software development and autonomous driving technologies.
- Eliminations and Other, which includes i) the elimination of inter-segment transactions, and ii) certain other expenses and income of a non-operating or strategic nature.

As described in Note 25. Discontinued Operations and Held For Sale to the audited consolidated financial statements contained herein, the Company's previously reported Powertrain Systems segment has been classified as discontinued operations for all periods presented. Certain original equipment service businesses that were previously included within the Powertrain Systems segment but which was not included in the spin-off, are reported in continuing operations and have been reclassified within the Advanced Safety and User Experience and Signal and Power Solutions segments for all periods presented. Amounts for shared general and administrative operating expenses that were allocated to the Powertrain Systems segment in prior periods have been re-allocated to the Company's reportable operating segments. No amounts for shared general and administrative operating expense or interest expense were allocated to discontinued operations.

Our management utilizes Adjusted Operating Income as the key performance measure of segment income or loss to evaluate segment performance, and for planning and forecasting purposes to allocate resources to the segments, as management believes this measure is most reflective of the operational profitability or loss of our operating segments. Segment Adjusted Operating Income should not be considered a substitute for results prepared in accordance with U.S. GAAP and should not be considered an alternative to net income attributable to Aptiv, which is the most directly comparable financial measure to Adjusted Operating Income that is prepared in accordance with U.S. GAAP. Segment Adjusted Operating Income, as determined and measured by Aptiv, should also not be compared to similarly titled measures reported by other companies.

The reconciliation of Adjusted Operating Income to operating income includes, as applicable, restructuring, other acquisition and portfolio project costs (which includes costs incurred to integrate acquired businesses and to plan and execute product portfolio transformation actions, including business and product acquisitions and divestitures), asset impairments, gains (losses) on business divestitures and deferred compensation related to acquisitions. The reconciliations of Adjusted Operating Income to net income attributable to Aptiv for the years ended December 31, 2019 and 2018 are as follows:

	Signal and Power Solutions	Advanced Safety and User Experience	Eliminations and Other	Total
	(in millions)			
For the Year Ended December 31, 2019:				
Adjusted operating income	\$ 1,274	\$ 274	\$ —	\$ 1,548
Restructuring	(104)	(44)	—	(148)
Other acquisition and portfolio project costs	(44)	(27)	—	(71)
Asset impairments	(2)	(9)	—	(11)
Deferred compensation related to nuTonomy acquisition	—	(42)	—	(42)
Operating income	<u>\$ 1,124</u>	<u>\$ 152</u>	<u>\$ —</u>	<u>1,276</u>
Interest expense				(164)
Other income, net				14
Income from continuing operations before income taxes and equity income				1,126
Income tax expense				(132)
Equity income, net of tax				15
Income from continuing operations				1,009
Income from discontinued operations, net of tax				—
Net income				1,009
Net income attributable to noncontrolling interest				19
Net income attributable to Aptiv				<u>\$ 990</u>

	Signal and Power Solutions	Advanced Safety and User Experience	Eliminations and Other	Total
	(in millions)			
For the Year Ended December 31, 2018:				
Adjusted operating income	\$ 1,424	\$ 327	\$ —	\$ 1,751
Restructuring	(90)	(19)	—	(109)
Other acquisition and portfolio project costs	(54)	(24)	—	(78)
Asset impairments	(1)	(33)	—	(34)
Deferred compensation related to nuTonomy acquisition	—	(57)	—	(57)
Operating income	<u>\$ 1,279</u>	<u>\$ 194</u>	<u>\$ —</u>	<u>1,473</u>
Interest expense				(141)
Other income, net				2
Income from continuing operations before income taxes and equity income				1,334
Income tax expense				(250)
Equity income, net of tax				23
Income from continuing operations				1,107
Income from discontinued operations, net of tax				—
Net income				1,107
Net income attributable to noncontrolling interest				40
Net income attributable to Aptiv				<u>\$ 1,067</u>

Net sales, gross margin as a percentage of net sales and Adjusted Operating Income by segment for the years ended December 31, 2019 and 2018 are as follows:

Net Sales by Segment

	Year Ended December 31,			Variance Due To:				
	2019	2018	Favorable/ (unfavorable)	Volume, net of contractual price reductions	FX	Commodity Pass-through	Other	Total
	(in millions)			(in millions)				
Signal and Power Solutions	\$ 10,302	\$ 10,402	\$ (100)	\$ 256	\$ (301)	\$ (55)	\$ —	\$ (100)
Advanced Safety and User Experience	4,092	4,078	14	109	(95)	—	—	14
Eliminations and Other	(37)	(45)	8	6	2	—	—	8
Total	\$ 14,357	\$ 14,435	\$ (78)	\$ 371	\$ (394)	\$ (55)	\$ —	\$ (78)

Gross Margin Percentage by Segment

	Year Ended December 31,	
	2019	2018
Signal and Power Solutions	20.9%	21.4%
Advanced Safety and User Experience	12.0%	12.4%
Eliminations and Other	—%	—%
Total	18.4%	18.9%

Adjusted Operating Income by Segment

	Year Ended December 31,			Variance Due To:			
	2019	2018	Favorable/ (unfavorable)	Volume, net of contractual price reductions	Operational performance	Other	Total
	(in millions)			(in millions)			
Signal and Power Solutions	\$ 1,274	\$ 1,424	\$ (150)	\$ (151)	\$ 80	\$ (79)	\$ (150)
Advanced Safety and User Experience	274	327	(53)	(26)	60	(87)	(53)
Eliminations and Other	—	—	—	—	—	—	—
Total	\$ 1,548	\$ 1,751	\$ (203)	\$ (177)	\$ 140	\$ (166)	\$ (203)

As noted in the table above, Adjusted Operating Income for the year ended December 31, 2019 as compared to the year ended December 31, 2018 was impacted by volume and contractual price reductions, including product mix, and the adverse volume and operational impacts of approximately \$110 million resulting from the GM labor strike, as well as other operational performance improvements, which were partially offset by incremental investment in advanced technologies and engineering, as well as the following items included in Other in the table above:

- \$88 million of increased SG&A expense, not including the impact of other acquisition and portfolio project costs, primarily as a result of our acquisitions and increased information technology costs;
- Unfavorable foreign currency impacts of \$64 million, primarily related to the Euro and Chinese Yuan Renminbi; and
- \$29 million of increased depreciation and amortization, not including the impact of asset impairments, primarily as a result of a higher fixed asset base.

Liquidity and Capital Resources

Overview of Capital Structure

Our liquidity requirements are primarily to fund our business operations, including capital expenditures and working capital requirements, as well as to fund debt service requirements, operational restructuring activities and dividends on share capital. Our primary sources of liquidity are cash flows from operations, our existing cash balance, and as necessary, borrowings under available credit facilities and issuance of long-term debt. To the extent we generate discretionary cash flow we may consider using this additional cash flow for optional prepayments of existing indebtedness, strategic acquisitions or investments, additional share repurchases, and/or general corporate purposes. We will also continually explore ways to enhance our capital structure.

As of December 31, 2019, we had cash and cash equivalents of \$0.4 billion and net debt (defined as outstanding debt less cash and cash equivalents) of \$4.0 billion. We also have access to additional liquidity pursuant to the terms of the \$2.0 billion Revolving Credit Facility and the €300 million committed European accounts receivable factoring facility, as described below.

The following table summarizes our available liquidity, which includes cash, cash equivalents and funds available under our significant committed credit facilities, as of December 31, 2019. The amounts disclosed as available under the Company's significant committed credit facilities are available without violating our existing debt covenants, which are described below.

	December 31, 2019
	(in millions)
Cash and cash equivalents	\$ 412
Revolving Credit Facility, unutilized portion (1)	1,910
Committed European accounts receivable factoring facility, unutilized portion (2)	70
Total available liquidity	<u>\$ 2,392</u>

(1) Availability reduced by less than \$1 million in letters of credit issued under the Credit Agreement as of December 31, 2019.

(2) Based on December 31, 2019 foreign currency rates, subject to the availability of eligible accounts receivable.

We expect existing cash, available liquidity and cash flows from operations to continue to be sufficient to fund our global operating activities, including restructuring payments, any mandatory payments required under the Credit Agreement as described below, dividends on ordinary shares and capital expenditures. In addition, we expect to continue to repurchase outstanding ordinary shares pursuant to our authorized ordinary share repurchase program, as further described below.

We also continue to expect to be able to move funds between different countries to manage our global liquidity needs without material adverse tax implications, subject to current monetary policies and to the terms of the Credit Agreement. While a substantial portion of our operating income is generated by our non-U.S. subsidiaries, and as of December 31, 2019, the Company's cash and cash equivalents held by our non-U.S. subsidiaries totaled \$396 million, we utilize a combination of strategies, including dividends, cash pooling arrangements, intercompany loan repayments and other distributions and advances to provide the funds necessary to meet our global liquidity needs. There are no significant restrictions on the ability of our subsidiaries to pay dividends or make other distributions to Aptiv. If additional non-U.S. cash was needed for our U.S. operations, we may be required to accrue and pay withholding if we were to distribute such funds from non-U.S. subsidiaries to the U.S.; however, based on our current liquidity needs and strategies, we do not anticipate a need to accrue and pay such additional amounts.

Based on these factors, we believe we possess sufficient liquidity to fund our global operations and capital investments in 2020 and beyond.

Spin-Off of Powertrain Systems Segment into Delphi Technologies

On December 4, 2017, the Company completed the Separation of its former Powertrain Systems segment by distributing to Aptiv shareholders on a pro rata basis all of the issued and outstanding ordinary shares of Delphi Technologies, a public limited company formed to hold the spun-off business. To effect the Separation, the Company distributed to its shareholders one ordinary share of Delphi Technologies for every three Aptiv ordinary shares outstanding as of November 22, 2017, the record date for the distribution.

On December 4, 2017, pursuant to the Separation and Distribution Agreement, the Company transferred to Delphi Technologies the assets and liabilities that comprised Delphi Technologies' business. In connection with the Separation, the Company received a dividend of approximately \$1,148 million from Delphi Technologies. The Company used the proceeds received from the dividend to fund growth initiatives, including increased investment in advanced technologies and engineering, and for general corporate purposes. The requirements for presenting Delphi Technologies as a discontinued

operation were met when the Separation was completed. Accordingly, the accompanying consolidated financial statements reflect this business as a discontinued operation for all periods presented. Refer to Note 25. Discontinued Operations and Held For Sale to the audited consolidated financial statements contained herein for further disclosure related to the Company's discontinued operations.

In connection with the Separation, Aptiv and Delphi Technologies entered into various agreements to effect the Separation and to provide a framework for their relationship following the Separation, which included a Separation and Distribution Agreement, a Transition Services Agreement, a Tax Matters Agreement, an Employee Matters Agreement and Contract Manufacturing Services Arrangements. The transition services primarily involve Aptiv providing certain services to Delphi Technologies related to information technology and human resource infrastructure for terms of up to 24 months following the Separation. Aptiv recorded \$4 million and \$11 million to other income, net during the years ended December 31, 2019 and 2018, respectively, for certain fees earned pursuant to the Transition Services Agreement. In addition, Aptiv is also party to various commercial agreements with Delphi Technologies entities. In connection with the Separation, the Company received \$180 million in cash from Delphi Technologies pursuant to the Tax Matters Agreement.

As a result of the Separation, the Company incurred approximately \$118 million in separation costs during the year ended December 31, 2017, which are included within earnings from discontinued operations, net of income taxes in the accompanying consolidated statements of operations. These costs primarily related to professional fees associated with planning the Separation, as well as Separation activities within finance, tax, legal and information system functions and certain investment banking fees incurred upon the Separation.

Indebtedness Related to the Delphi Technologies Separation

As described above, the Company received a dividend of approximately \$1,148 million from Delphi Technologies in connection with the Separation. Delphi Technologies financed this dividend through the issuance of approximately \$1.55 billion of debt, consisting of a senior secured five-year \$750 million term loan facility that was issued upon the Separation and \$800 million aggregate principal amount of 5.00% senior unsecured notes due 2025 that were issued in September 2017 (collectively, the "Delphi Technologies Debt"). In connection with the Separation, the Delphi Technologies Debt was transferred to Delphi Technologies and is no longer reflected in the Company's consolidated financial statements.

Share Repurchases

In April 2016, the Board of Directors authorized a share repurchase program of up to \$1.5 billion of ordinary shares, which commenced in September 2016. This share repurchase program provides for share purchases in the open market or in privately negotiated transactions, depending on share price, market conditions and other factors, as determined by the Company.

A summary of the ordinary shares repurchased during the years ended December 31, 2019, 2018 and 2017 is as follows:

	Year Ended December 31,		
	2019	2018	2017
Total number of shares repurchased	5,387,533	6,530,369	4,667,193
Average price paid per share	\$ 77.93	\$ 76.44	\$ 82.00
Total (in millions)	\$ 420	\$ 499	\$ 383

As of December 31, 2019, approximately \$70 million of share repurchases remained available under the April 2016 share repurchase program. All repurchased shares were retired, and are reflected as a reduction of ordinary share capital for the par value of the shares, with the excess applied as reductions to additional paid-in-capital and retained earnings.

New Share Repurchase Program

In January 2019, the Board of Directors authorized a new share repurchase program of up to \$2.0 billion of ordinary shares. This share repurchase program provides for share purchases in the open market or in privately negotiated transactions, depending on share price, market conditions and other factors, as determined by the Company. This program will commence following the completion of the Company's April 2016 share repurchase program described above.

Dividends from Equity Investments

During the years ended December 31, 2019, 2018 and 2017, Aptiv received dividends of \$9 million, \$12 million and \$15 million, respectively, from its equity method investments. The dividends were recognized as a reduction to the investment and represented a return on investment included in cash flows from operating activities from continuing operations.

Acquisitions

gabocom—On November 19, 2019, Aptiv acquired 100% of the equity interests of gabo Systemtechnik GmbH (“gabocom”), a leading provider of highly-engineered cable management and protection solutions for the telecommunications industry, for total consideration of \$311 million, net of cash acquired. The acquisition was accounted for as a business combination, with the operating results of gabocom included within the Company’s Signal and Power Solutions segment from the date of acquisition. The Company acquired gabocom utilizing cash on hand.

Falmat—On May 14, 2019, Aptiv acquired 100% of the equity interests of Falmat Inc. (“Falmat”), a leading manufacturer of high performance custom cable and cable assemblies for industrial applications, for total consideration of \$25 million, net of cash acquired. The acquisition was accounted for as a business combination, with the operating results of Falmat included within the Company’s Signal and Power Solutions segment from the date of acquisition. The Company acquired Falmat utilizing cash on hand.

Winchester—On October 24, 2018, Aptiv acquired 100% of the equity interests of Winchester Interconnect (“Winchester”), a leading provider of custom engineered interconnect solutions for harsh environment applications, for total consideration of \$680 million, net of cash acquired. The acquisition was accounted for as a business combination, with the operating results of Winchester included within the Company’s Signal and Power Solutions segment from the date of acquisition. The Company acquired Winchester utilizing cash on hand and short-term borrowings.

KUM—On June 14, 2018, Aptiv acquired 100% of the equity interests of KUM, a specialized manufacturer of connectors for the automotive industry, for total consideration of \$526 million, net of cash acquired. The acquisition was accounted for as a business combination, with the operating results of KUM included within the Company’s Signal and Power Solutions segment from the date of acquisition. The Company acquired KUM utilizing cash on hand.

nuTonomy—On November 21, 2017, Aptiv acquired 100% of the equity interests of nuTonomy, Inc. (“nuTonomy”), a leading provider of autonomous driving software and technology, for total consideration of up to \$454 million. Of the total consideration, \$284 million of the purchase price was paid at closing, subject to certain post-closing adjustments, and \$109 million of the purchase price will vest to certain selling shareholders in annual installments over a 3-year period from the acquisition date, subject to such shareholders’ compliance with certain employment conditions. Of the \$109 million, approximately \$7 million was payable after one year and approximately \$51 million is payable after each of the second and third years following the acquisition date. These remaining installments will be recorded as a component of cost of sales ratably over the respective installment period. The acquisition was accounted for as a business combination, with the operating results of nuTonomy included within the Company’s Advanced Safety and User Experience segment from the date of acquisition. The Company acquired nuTonomy utilizing cash on hand.

Movimento—On January 3, 2017, Aptiv acquired 100% of the equity interests of Movimento Group (“Movimento”), a leading provider of Over-the-Air software and data management for the automotive sector, for a purchase price of \$40 million at closing and an additional cash payment of up to \$10 million contingent upon the achievement of certain performance metrics over a future 2-year period. The acquisition was accounted for as a business combination, with the operating results of Movimento included within the Company’s Advanced Safety and User Experience segment from the date of acquisition. The Company acquired Movimento utilizing cash on hand.

Refer to Note 20. Acquisitions and Divestitures to the audited consolidated financial statements included herein for further detail of the Company’s business acquisitions.

Technology Investments—During the fourth quarter of 2019, the Company’s Advanced Safety and User Experience segment made a \$6 million investment in Krono-Safe, SAS, a leading software developer of safety-critical real-time embedded systems. During the first quarter of 2019, the Company’s Advanced Safety and User Experience segment made an additional \$3 million investment in Otonomo Technologies Ltd., a connected car data marketplace developer. This investment was in addition to the Company’s \$15 million investment made in the first quarter of 2017.

During the fourth quarter of 2018, the Company’s Advanced Safety and User Experience segment made a \$15 million investment in Affectiva, Inc., a leader in human perception artificial intelligence technology. During the third quarter of 2017, the Company’s Advanced Safety and User Experience segment made investments in two leading developers of LiDAR technology; a \$15 million investment in Innoviz Technologies and a \$10 million investment in LeddarTech, Inc. During the second quarter of 2017, the Company’s Signal and Power Solutions segment made a \$10 million investment in Valens Semiconductor Ltd., a leading provider of signal processing technology for high frequency data transmission of connected car content.

These investments do not have readily determinable fair values and are measured at cost, less impairments, adjusted for observable price changes in orderly transactions for identical or similar investments of the same issuer. Refer to Note 5. Investments in Affiliates to the audited consolidated financial statements included herein for further detail of the Company’s technology investments.

Divestitures

Powertrain Systems Spin-Off—As described above, on December 4, 2017, the Company completed the spin-off of its former Powertrain Systems segment into a new publicly traded company, Delphi Technologies PLC. In connection with the Separation, the Company received a dividend of approximately \$1,148 million from Delphi Technologies. The Company used the proceeds received from the dividend to fund growth initiatives, including increased investment in advanced technologies and engineering. The requirements for presenting Delphi Technologies as a discontinued operation were met when the Separation was completed. Accordingly, the accompanying consolidated financial statements reflect this business as a discontinued operation for all periods presented. Refer to Note 25. Discontinued Operations and Held For Sale to the audited consolidated financial statements contained herein for further disclosure related to the Company's discontinued operations.

Autonomous Driving Joint Venture

In September 2019, the Company entered into a definitive agreement with Hyundai to form a new joint venture focused on the design, development and commercialization of autonomous driving technologies. Under the terms of the agreement, Aptiv will contribute to the joint venture autonomous driving technology, intellectual property and approximately 700 employees for a 50% ownership interest in the newly formed entity. Hyundai will contribute to the joint venture approximately \$1.6 billion in cash at closing and approximately \$0.4 billion in vehicle engineering services, research and development resources and access to intellectual property for a 50% ownership interest in the newly formed entity. Upon closing of the transaction, Aptiv anticipates it will deconsolidate the carrying value of the associated assets and liabilities contributed to the joint venture, recognize an asset for the fair value of its investment in the newly formed joint venture and recognize any difference between the carrying value of its contribution and the fair value of its investment in earnings. Aptiv anticipates recognizing its investment in the newly formed entity prospectively using the equity method of accounting. The transaction is subject to the satisfaction of customary closing conditions and the receipt of regulatory and other approvals, and is expected to close in the first quarter of 2020.

The Company determined that the assets and liabilities associated with Aptiv's contribution to the joint venture, which are reported within the Advanced Safety and User Experience segment, met the held for sale criteria as of December 31, 2019. Accordingly, the held for sale assets and liabilities were reclassified in the consolidated balance sheet as of December 31, 2019 to current assets held for sale and current liabilities held for sale, respectively, as the contribution of such assets and liabilities to the joint venture is expected to occur within one year. Upon designation as held for sale, the Company ceased recording depreciation of the held for sale assets. Refer to Note 25. Discontinued Operations and Held For Sale to the audited consolidated financial statements contained herein for additional information.

Credit Agreement

Aptiv PLC and its wholly-owned subsidiary Aptiv Corporation entered into a credit agreement (the "Credit Agreement") with JPMorgan Chase Bank, N.A., as administrative agent (the "Administrative Agent"), under which it maintains senior unsecured credit facilities currently consisting of a term loan (the "Tranche A Term Loan") and a revolving credit facility of \$2.0 billion (the "Revolving Credit Facility"). The Credit Agreement was entered into in March 2011 and has been subsequently amended and restated on several occasions, most recently on August 17, 2016. The 2016 amendment extended the maturity of the Revolving Credit Facility and the Tranche A Term Loan from 2018 to 2021, increased the capacity of the Revolving Credit Facility from \$1.5 billion to \$2.0 billion and permitted Aptiv PLC to act as a borrower on the Revolving Credit Facility.

The Tranche A Term Loan and the Revolving Credit Facility mature on August 17, 2021. Beginning in the fourth quarter of 2017, Aptiv was obligated to begin making quarterly principal payments throughout the term of the Tranche A Term Loan according to the amortization schedule in the Credit Agreement. The Credit Agreement also contains an accordion feature that permits Aptiv to increase, from time to time, the aggregate borrowing capacity under the Credit Agreement by up to an additional \$1 billion (or a greater amount based upon a formula set forth in the Credit Agreement) upon Aptiv's request, the agreement of the lenders participating in the increase, and the approval of the Administrative Agent and existing lenders.

As of December 31, 2019, \$90 million was outstanding under the Revolving Credit Facility and less than \$1 million in letters of credit issued under the Credit Agreement. Letters of credit issued under the Credit Agreement reduce availability under the Revolving Credit Facility. The maximum amount drawn under the Revolving Credit Facility during the year ended December 31, 2019 was \$710 million, primarily to manage intra-month working capital requirements.

Loans under the Credit Agreement bear interest, at Aptiv's option, at either (a) the Administrative Agent's Alternate Base Rate ("ABR" as defined in the Credit Agreement) or (b) the London Interbank Offered Rate (the "Adjusted LIBO Rate" as defined in the Credit Agreement) ("LIBOR") plus in either case a percentage per annum as set forth in the table below (the "Applicable Rate"). The Applicable Rates under the Credit Agreement on the specified dates are set forth below:

	December 31, 2019		December 31, 2018	
	LIBOR plus	ABR plus	LIBOR plus	ABR plus
Revolving Credit Facility	1.10%	0.10%	1.10%	0.10%
Tranche A Term Loan	1.25%	0.25%	1.25%	0.25%

The Applicable Rate under the Credit Agreement may increase or decrease from time to time based on changes in the Company's credit ratings. Accordingly, the interest rate will fluctuate during the term of the Credit Agreement based on changes in the ABR, LIBOR or future changes in the Company's corporate credit ratings. The Credit Agreement also requires that Aptiv pay certain facility fees on the Revolving Credit Facility and certain letter of credit issuance and fronting fees.

The interest rate period with respect to LIBOR interest rate options can be set at one-, two-, three-, or six-months as selected by Aptiv in accordance with the terms of the Credit Agreement (or other period as may be agreed by the applicable lenders). Aptiv may elect to change the selected interest rate option in accordance with the provisions of the Credit Agreement. As of December 31, 2019, Aptiv selected the one-month LIBOR interest rate option on the Tranche A Term Loan, and the rate effective as of December 31, 2019, as detailed in the table below, was based on the Company's current credit rating and the Applicable Rate for the Credit Agreement:

	Applicable Rate	Borrowings as of	
		December 31, 2019 (in millions)	Rates effective as of December 31, 2019
Revolving Credit Facility	ABR plus 0.10%	\$ 40	4.85%
Revolving Credit Facility	LIBOR plus 1.10%	\$ 50	2.85%
Tranche A Term Loan	LIBOR plus 1.25%	\$ 360	3.00%

Borrowings under the Credit Agreement are prepayable at Aptiv's option without premium or penalty.

The Credit Agreement contains certain covenants that limit, among other things, the Company's (and the Company's subsidiaries') ability to incur certain additional indebtedness or liens or to dispose of substantially all of its assets. In addition, the Credit Agreement requires that the Company maintain a consolidated leverage ratio (the ratio of Consolidated Total Indebtedness to Consolidated EBITDA, each as defined in the Credit Agreement) of less than 3.50 to 1.0. The Credit Agreement also contains events of default customary for financings of this type. The Company was in compliance with the Credit Agreement covenants as of December 31, 2019.

As of December 31, 2019, all obligations under the Credit Agreement were borrowed by Aptiv Corporation and jointly and severally guaranteed by its direct and indirect parent companies, subject to certain exceptions set forth in the Credit Agreement. Refer to Note 22. Supplemental Guarantor and Non-Guarantor Condensed Consolidating Financial Statements to the audited consolidated financial statements contained herein for additional information.

Senior Unsecured Notes

As of December 31, 2019, the Company had the following senior unsecured notes issued and outstanding:

Aggregate Principal Amount (in millions)	Stated Coupon Rate	Issuance Date	Maturity Date	Interest Payment Date
\$ 700	4.15%	March 2014	March 2024	March 15 and September 15
784	1.50%	March 2015	March 2025	March 10
650	4.25%	November 2015	January 2026	January 15 and July 15
559	1.60%	September 2016	September 2028	September 15
300	4.35%	March 2019	March 2029	March 15 and September 15
300	4.40%	September 2016	October 2046	April 1 and October 1
350	5.40%	March 2019	March 2049	March 15 and September 15

On March 14, 2019, Aptiv PLC issued \$650 million in aggregate principal amount of senior unsecured notes in a transaction registered under the Securities Act, comprised of \$300 million of 4.35% senior unsecured notes due 2029 (the "4.35% Senior Notes") and \$350 million of 5.40% senior unsecured notes due 2049 (the "5.40% Senior Notes") (collectively, the "2019 Senior Notes"). The 4.35% Senior Notes were priced at 99.879% of par, resulting in a yield to maturity of 4.365%, and the 5.40% Senior Notes were priced at 99.558% of par, resulting in a yield to maturity of 5.430%. The proceeds were

utilized to redeem the 3.15% Senior Notes. Aptiv incurred approximately \$7 million of issuance costs in connection with the 2019 Senior Notes. Interest on the 2019 Senior Notes is payable semi-annually on March 15 and September 15 of each year to holders of record at the close of business on March 1 or September 1 immediately preceding the interest payment date. As a result of the redemption of the 3.15% Senior Notes, Aptiv recognized a loss on debt extinguishment of approximately \$6 million during the year ended December 31, 2019 within other expense, net in the consolidated statements of operations.

Although the specific terms of each indenture governing each series of senior notes vary, the indentures contain certain restrictive covenants, including with respect to Aptiv's (and Aptiv's subsidiaries) ability to incur liens, enter into sale and leaseback transactions and merge with or into other entities. As of December 31, 2019, the Company was in compliance with the provisions of all series of the outstanding senior notes. Refer to Note 11. Debt to the audited consolidated financial statements contained herein for further information.

Other Financing

Receivable factoring—Aptiv maintains a €300 million European accounts receivable factoring facility that is available on a committed basis. This facility is accounted for as short-term debt and borrowings are subject to the availability of eligible accounts receivable. Collateral is not required related to these trade accounts receivable. This program renews on a non-committed, indefinite basis unless terminated by either party. Borrowings bear interest at Euro Interbank Offered Rate (“EURIBOR”) plus 0.42% for borrowings denominated in Euros. The rate effective on amounts outstanding as of December 31, 2019 was 0.42%. As of December 31, 2019 and 2018, Aptiv had \$266 million and \$279 million, respectively, outstanding on the European accounts receivable factoring facility. The maximum amount drawn under the European facility during the year ended December 31, 2019 was \$335 million, primarily to manage intra-month working capital requirements.

Finance leases and other—As of December 31, 2019 and 2018, approximately \$33 million and \$32 million, respectively, of other debt primarily issued by certain non-U.S. subsidiaries and finance lease obligations were outstanding.

Letter of credit facilities—In addition to the letters of credit issued under the Credit Agreement, Aptiv had approximately \$2 million and \$2 million outstanding through other letter of credit facilities as of December 31, 2019 and 2018, respectively, primarily to support arrangements and other obligations at certain of its subsidiaries.

Contractual Commitments

The following table summarizes our expected cash outflows resulting from financial contracts and commitments as of December 31, 2019, with amounts denominated in foreign currencies translated using foreign currency rates as of December 31, 2019. We have not included information on our recurring purchases of materials for use in our manufacturing operations. These amounts are generally consistent from year to year, closely reflect our levels of production, and are not long-term in nature. The amounts below exclude the gross liability for uncertain tax positions of \$217 million as of December 31, 2019. We do not expect a significant payment related to these obligations to be made within the next twelve months. We are not able to provide a reasonably reliable estimate of the timing of future payments relating to the non-current portion of obligations associated with uncertain tax positions. For more information, refer to Note 14. Income Taxes to the audited consolidated financial statements included herein.

	Payments due by Period				
	Total	2020	2021 & 2022	2023 & 2024	Thereafter
	(in millions)				
Debt and finance lease obligations (excluding interest)	\$ 4,392	\$ 393	\$ 346	\$ 704	\$ 2,949
Estimated interest costs related to debt and finance lease obligations	1,525	138	255	231	901
Operating lease obligations	470	106	173	98	93
Contractual commitments for capital expenditures	192	192	—	—	—
Other contractual purchase commitments, including information technology	238	147	89	1	1
Total	<u>\$ 6,817</u>	<u>\$ 976</u>	<u>\$ 863</u>	<u>\$ 1,034</u>	<u>\$ 3,944</u>

In addition to the obligations discussed above, certain of our non-U.S. subsidiaries sponsor defined benefit pension plans, some of which are funded. We have minimum funding requirements with respect to certain of our pension obligations and may periodically elect to make discretionary contributions to the plans in support of risk management initiatives. We will also have payments due with respect to our other postretirement benefit obligations. We do not fund our other postretirement benefit obligations and payments are made as costs are incurred by covered retirees. Refer to Note 12. Pension Benefits to the audited consolidated financial statements included herein for additional detail regarding our expected contributions to our pension plans and expected distributions to participants in future periods.

Capital Expenditures

Supplier selection in the automotive industry is generally finalized several years prior to the start of production of the vehicle. Therefore, current capital expenditures are based on customer commitments entered into previously, generally several years ago when the customer contract was awarded. As of December 31, 2019, we had approximately \$192 million in outstanding cancellable and non-cancellable capital commitments. Capital expenditures by operating segment and geographic region for the periods presented were:

	Year Ended December 31,		
	2019	2018	2017
	(in millions)		
Signal and Power Solutions	\$ 495	\$ 534	\$ 477
Advanced Safety and User Experience	250	245	196
Other (1)	36	67	25
Total capital expenditures	<u>\$ 781</u>	<u>\$ 846</u>	<u>\$ 698</u>
North America	\$ 257	\$ 314	\$ 301
Europe, Middle East & Africa	292	300	234
Asia Pacific	218	220	151
South America	14	12	12
Total capital expenditures	<u>\$ 781</u>	<u>\$ 846</u>	<u>\$ 698</u>

(1) Other includes capital expenditures attributable to corporate administrative and support functions, including corporate headquarters and certain technical centers.

Cash Flows

Intra-month cash flow cycles vary by region, but in general we are users of cash through the first half of a typical month and we generate cash during the latter half of a typical month. Due to this cycle of cash flows, we may utilize short-term financing, including our Revolving Credit Facility and European accounts receivable factoring facility, to manage our intra-month working capital needs. Our cash balance typically peaks at month end.

We utilize a combination of strategies, including dividends, cash pooling arrangements, intercompany loan structures and other distributions and advances to provide the funds necessary to meet our global liquidity needs. We utilize a global cash pooling arrangement to consolidate and manage our global cash balances, which enables us to efficiently move cash into and out of a number of the countries in which we operate.

Operating activities—Net cash provided by operating activities from continuing operations totaled \$1,624 million and \$1,640 million for the years ended December 31, 2019 and 2018, respectively. Cash flow from operating activities from continuing operations for the year ended December 31, 2019 consisted primarily of net earnings from continuing operations of \$1,009 million, increased by \$767 million for non-cash charges for depreciation, amortization, pension costs and extinguishment of debt, partially offset by \$184 million related to changes in operating assets and liabilities, net of restructuring and pension contributions. Cash flow from operating activities from continuing operations for the year ended December 31, 2018 consisted primarily of net earnings from continuing operations of \$1,107 million, increased by \$711 million for non-cash charges for depreciation, amortization and pension costs, partially offset by \$216 million related to changes in operating assets and liabilities, net of restructuring and pension contributions.

Investing activities—Net cash used in investing activities from continuing operations totaled \$1,111 million and \$2,048 million for the years ended December 31, 2019 and 2018, respectively. The decrease in usage is primarily attributable to \$344 million paid for business acquisitions and technology investments, as compared to \$1,213 million paid for business acquisitions and technology investments during the year ended December 31, 2018. Additionally, capital expenditures decreased \$65 million during the year ended December 31, 2019 as compared to the year ended December 31, 2018.

Financing activities—Net cash used in financing activities totaled \$649 million and \$555 million for the years ended December 31, 2019 and 2018, respectively. Cash flows used in financing activities for the year ended December 31, 2019 primarily included net proceeds of \$641 million received from the issuance of the 2019 Senior Notes, which were utilized to redeem the \$650 million 3.15% Senior Notes, as well as \$420 million paid to repurchase ordinary shares and \$226 million of dividend payments. Cash flows used in financing activities for the year ended December 31, 2018 primarily included \$499 million paid to repurchase ordinary shares and \$233 million of dividend payments, partially offset by \$268 million in borrowings under other short-term debt agreements.

Off-Balance Sheet Arrangements and Other Matters

We do not engage in any off-balance sheet financial arrangements that have or are reasonably likely to have a material current or future effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources.

Pension Benefits

Certain of our non-U.S. subsidiaries sponsor defined benefit pension plans, which generally provide benefits based on negotiated amounts for each year of service. Our primary non-U.S. plans are located in France, Germany, Mexico, Portugal and the United Kingdom (“U.K.”). The U.K. and certain Mexican plans are funded. In addition, we have defined benefit plans in South Korea, Turkey and Italy for which amounts are payable to employees immediately upon separation. The obligations for these plans are recorded over the requisite service period. We anticipate making pension contributions and benefit payments of approximately \$45 million for non-U.S. plans in 2020.

Aptiv sponsors a Supplemental Executive Retirement Program (“SERP”) for those employees who were U.S. executives of DPHH prior to September 30, 2008 and were still U.S. executives of the Company on October 7, 2009, the effective date of the program. This program is unfunded. Executives receive benefits over 5 years after an involuntary or voluntary separation from Aptiv. The SERP is closed to new members and was frozen effective September 30, 2008. There are no required contributions for the SERP in 2019, although we anticipate making benefit payments of approximately \$5 million for the SERP in 2020.

Refer to Note 12. Pension Benefits to the audited consolidated financial statements included herein for further information on (1) historical benefit costs of the pension plans, (2) the principal assumptions used to determine the pension benefit expense and the actuarial value of the projected benefit obligation for the U.S. and non-U.S. pension plans, (3) a sensitivity analysis of potential changes to pension obligations and expense that would result from changes in key assumptions and (4) funding obligations.

Environmental Matters

We are subject to the requirements of U.S. federal, state, local and non-U.S. environmental and safety and health laws and regulations. These include laws regulating air emissions, water discharge, hazardous materials and waste management. We have an environmental management structure designed to facilitate and support our compliance with these requirements globally. Although it is our intent to comply with all such requirements and regulations, we cannot provide assurance that we are at all times in compliance. Environmental requirements are complex, change frequently and have tended to become more stringent over time, and we therefore cannot ensure that our eventual environmental remediation costs and liabilities will not be material.

Certain environmental laws assess liability on current or previous owners or operators of real property for the cost of removal or remediation of hazardous substances. In addition to clean-up actions brought by U.S. federal, state, local and non-U.S. agencies, plaintiffs could raise personal injury or other private claims due to the presence of hazardous substances on or from a property. At this time, we are involved in various stages of investigation and cleanup related to environmental remediation matters at certain of our present and former facilities. In addition, there may be soil or groundwater contamination at several of our properties resulting from historical, ongoing or nearby activities.

As of December 31, 2019 and 2018, the undiscounted reserve for environmental investigation and remediation was approximately \$4 million (of which \$1 million was recorded in accrued liabilities and \$3 million was recorded in other long-term liabilities) and \$4 million (of which \$1 million was recorded in accrued liabilities and \$3 million was recorded in other long-term liabilities). Aptiv cannot ensure that environmental requirements will not change or become more stringent over time or that its eventual environmental remediation costs and liabilities will not exceed the amount of its current reserves. In the event that such liabilities were to significantly exceed the amounts recorded, Aptiv’s results of operations could be materially affected.

Legal Proceedings

For a description of our legal proceedings, see Item 3. Legal Proceedings and Note 13. Commitments and Contingencies to the audited consolidated financial statements included herein.

Significant Accounting Policies and Critical Accounting Estimates

Our significant accounting policies are described in Note 2. Significant Accounting Policies to the audited consolidated financial statements included herein. Certain of our accounting policies require the application of significant judgment by management in selecting the appropriate assumptions for calculating financial estimates. By their nature, these judgments are subject to an inherent degree of uncertainty. These judgments are based on our historical experience, terms of existing contracts, our evaluation of trends in the industry, information provided by our customers and information available from other outside sources, as appropriate.

We consider an accounting estimate to be critical if:

- It requires us to make assumptions about matters that were uncertain at the time we were making the estimate, and
- Changes in the estimate or different estimates that we could have selected would have had a material impact on our financial condition or results of operations.

Acquisitions

In accordance with accounting guidance for the provisions in Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) Topic 805, *Business Combinations*, we allocate the purchase price of an acquired business to its identifiable assets and liabilities based on estimated fair values. The excess of the purchase price over the amount allocated to the assets and liabilities, if any, is recorded as goodwill. In addition, an acquisition may include a contingent consideration component. The fair value of the contingent consideration is estimated as of the date of the acquisition and is recorded as part of the purchase price. This estimate is updated in future periods and any changes in the estimate, which are not considered an adjustment to the purchase price, are recorded in our consolidated statements of operations.

We use all available information to estimate fair values. We typically engage outside appraisal firms to assist in the fair value determination of identifiable intangible assets and any other significant assets or liabilities. We adjust the preliminary purchase price allocation, as necessary, up to one year after the acquisition closing date as we obtain more information regarding asset valuations and liabilities assumed.

Our purchase price allocation methodology contains uncertainties because it requires management to make assumptions and to apply judgment to estimate the fair value of acquired assets and liabilities. Management estimates the fair value of assets and liabilities based upon quoted market prices, the carrying value of the acquired assets and widely accepted valuation techniques, including discounted cash flows and market multiple analyses. Unanticipated events or circumstances may occur which could affect the accuracy of our fair value estimates, including assumptions regarding industry economic factors and business strategies.

Other estimates used in determining fair value include, but are not limited to, future cash flows or income related to intangibles, market rate assumptions, actuarial assumptions for benefit plans and appropriate discount rates. Our estimates of fair value are based upon assumptions believed to be reasonable, but that are inherently uncertain, and therefore, may not be realized. Accordingly, there can be no assurance that the estimates, assumptions, and values reflected in the valuations will be realized, and actual results could vary materially.

Warranty Obligations and Product Recall Costs

Estimating warranty obligations requires us to forecast the resolution of existing claims and expected future claims on products sold. We base our estimate on historical trends of units sold and payment amounts, combined with our current understanding of the status of existing claims and discussions with our customers. The key factors which impact our estimates are (1) the stated or implied warranty period; (2) OEM source; (3) OEM policy decisions regarding warranty claims; and (4) OEMs seeking to hold suppliers responsible for product warranties. These estimates are re-evaluated on an ongoing basis. Actual warranty obligations could differ from the amounts estimated requiring adjustments to existing reserves in future periods. Due to the uncertainty and potential volatility of the factors contributing to developing these estimates, changes in our assumptions could materially affect our results of operations.

In addition to our ordinary warranty provisions with customers, we are also at risk for product recall costs, which are costs incurred when a customer or the Company recalls a product through a formal campaign soliciting return of that product. In addition, the National Highway Traffic Safety Administration (“NHTSA”) has the authority, under certain circumstances, to require recalls to remedy safety concerns. Product recall costs typically include the cost of the product being replaced as well as the customer’s cost of the recall, including labor to remove and replace the recalled part. The Company accrues for costs related to product recalls as part of our warranty accrual at the time an obligation becomes probable and can be reasonably estimated. Actual costs incurred could differ from the amounts estimated, requiring adjustments to these reserves in future periods. It is possible that changes in our assumptions or future product recall issues could materially affect our financial position, results of operations or cash flows.

Legal and Other Contingencies

We are involved from time to time in various legal proceedings and claims, including commercial or contractual disputes, product liability claims, government investigations, product warranties and environmental and other matters, that arise in the normal course of business. We routinely assess the likelihood of any adverse judgments or outcomes related to these matters, as well as ranges of probable losses, by consulting with internal personnel involved with such matters as well as with outside legal counsel handling such matters. We have accrued for estimated losses for those matters where we believe that the likelihood of a loss has occurred, is probable and the amount of the loss is reasonably estimable. The determination of the amount of such reserves is based on knowledge and experience with regard to past and current matters and consultation with internal personnel involved with such matters and with outside legal counsel handling such matters. The amount of such reserves may change in the future due to new developments or changes in circumstances. The inherent uncertainty related to the outcome of these matters can result in amounts materially different from any provisions made with respect to their resolution. Refer to Note 13. Commitments and Contingencies to the audited consolidated financial statements included herein for additional information.

Restructuring

Accruals have been recorded in conjunction with our restructuring actions. These accruals include estimates primarily related to employee termination costs, contract termination costs and other related exit costs in conjunction with workforce reduction and programs related to the rationalization of manufacturing and engineering processes. Actual costs may vary from these estimates. These accruals are reviewed on a quarterly basis and changes to restructuring actions are appropriately recognized when identified.

Pensions

We use actuarial estimates and related actuarial methods to calculate our obligation and expense. We are required to select certain actuarial assumptions, which are determined based on current market conditions, historical information and consultation with and input from our actuaries and asset managers. Refer to Note 12. Pension Benefits to the audited consolidated financial statements included herein for additional details. The key factors which impact our estimates are (1) discount rates; (2) asset return assumptions; and (3) actuarial assumptions such as retirement age and mortality which are determined as of the current year measurement date. We review our actuarial assumptions on an annual basis and make modifications to the assumptions based on current rates and trends when appropriate. Experience gains and losses, as well as the effects of changes in actuarial assumptions and plan provisions are recognized in other comprehensive income. Cumulative actuarial gains and losses in excess of 10% of the projected benefit obligation (“PBO”) for a particular plan are amortized over the average future service period of the employees in that plan.

The principal assumptions used to determine the pension expense and the actuarial value of the projected benefit obligation for the U.S. and non-U.S. pension plans were:

Assumptions used to determine benefit obligations at December 31:

	Pension Benefits			
	U.S. Plans		Non-U.S. Plans	
	2019	2018	2019	2018
Weighted-average discount rate	2.40%	3.80%	2.87%	3.53%
Weighted-average rate of increase in compensation levels	N/A	N/A	3.69%	3.74%

Assumptions used to determine net expense for years ended December 31:

	Pension Benefits					
	U.S. Plans			Non-U.S. Plans		
	2019	2018	2017	2019	2018	2017
Weighted-average discount rate	3.80%	2.70%	2.70%	3.53%	3.39%	2.83%
Weighted-average rate of increase in compensation levels	N/A	N/A	N/A	3.74%	3.65%	3.86%
Weighted-average expected long-term rate of return on plan assets	N/A	N/A	N/A	4.95%	5.63%	5.84%

We select discount rates by analyzing the results of matching each plan’s projected benefit obligations with a portfolio of high-quality fixed income investments rated AA- or higher by Standard and Poor’s.

Aptiv does not have any U.S. pension assets; therefore no U.S. asset rate of return calculation was necessary for 2019, 2018 or 2017. The primary funded non-U.S. plans are in the United Kingdom (“U.K.”) and Mexico. For the determination of 2019 expense, we assumed a long-term expected asset rate of return of approximately 4.50% and 7.50% for the U.K. and Mexico, respectively. We evaluated input from local actuaries and asset managers, including consideration of recent fund performance and historical returns, in developing the long-term rate of return assumptions. The assumptions for the U.K. and Mexico are primarily conservative long-term, prospective rates. To determine the expected return on plan assets, the market-related value of our plan assets is actual fair value.

Our pension expense for 2020 is determined at the December 31, 2019 measurement date. For purposes of analysis, the following table highlights the sensitivity of our pension obligations and expense attributable to continuing operations to changes in key assumptions:

Change in Assumption	Impact on Pension Expense	Impact on PBO
25 basis point (“bp”) decrease in discount rate	+ \$2 million	+ \$31 million
25 bp increase in discount rate	- \$2 million	- \$30 million
25 bp decrease in long-term expected return on assets	+ \$1 million	—
25 bp increase in long-term expected return on assets	- \$1 million	—

The above sensitivities reflect the effect of changing one assumption at a time. It should be noted that economic factors and conditions often affect multiple assumptions simultaneously and the effects of changes in key assumptions are not necessarily linear. The above sensitivities also assume no changes to the design of the pension plans and no major restructuring programs.

Based on information provided by our actuaries and asset managers, we believe that the assumptions used are reasonable; however, changes in these assumptions could impact our financial position, results of operations or cash flows. Refer to Note 12. Pension Benefits to the audited consolidated financial statements included herein for additional information.

Valuation of Long-Lived Assets, Intangible Assets and Investments in Affiliates and Expected Useful Lives

We monitor our long-lived and definite-lived assets for impairment indicators on an ongoing basis based on projections of anticipated future cash flows, including future profitability assessments of various manufacturing sites when events and circumstances warrant such a review. If impairment indicators exist, we perform the required impairment analysis by comparing the undiscounted cash flows expected to be generated from the long-lived assets to the related net book values. If the net book value exceeds the undiscounted cash flows, an impairment loss is measured and recognized. An impairment loss is measured as the difference between the net book value and the estimated fair value of the long-lived assets. Even if an impairment charge is not required, a reassessment of the useful lives over which depreciation or amortization is being recognized may be appropriate based on our assessment of the recoverability of these assets. We estimate cash flows and fair value using internal budgets based on recent sales data, independent automotive production volume estimates and customer commitments and review of appraisals. The key factors which impact our estimates are (1) future production estimates; (2) customer preferences and decisions; (3) product pricing; (4) manufacturing and material cost estimates; and (5) product life / business retention. Any differences in actual results from the estimates could result in fair values different from the estimated fair values, which could materially impact our future results of operations and financial condition. We believe that the projections of anticipated future cash flows and fair value assumptions are reasonable; however, changes in assumptions underlying these estimates could affect our valuations.

Goodwill and Intangible Assets

We periodically review goodwill for impairment indicators. We review goodwill for impairment annually in the fourth quarter or more frequently if events or changes in circumstances indicate that goodwill might be impaired. The Company performs the goodwill impairment review at the reporting unit level. We perform a qualitative assessment (step 0) of whether it is more likely than not that a reporting unit’s fair value is less than its carrying amount. If not, no further goodwill impairment testing is performed. If so, we perform the step 1 and step 2 tests discussed hereafter. Our qualitative assessment involves significant estimates, assumptions, and judgments, including, but not limited to, macroeconomic conditions, industry and market conditions, financial performance of the Company, reporting unit specific events and changes in the Company’s share price.

If the fair value of the reporting unit is *greater* than its carrying amount (step 1), goodwill is not considered to be impaired and the second step is not required. We estimate the fair value of our reporting units using a combination of a future discounted cash flow valuation model and, if possible, a comparable market transaction model. Estimating fair value requires the Company to make judgments about appropriate discount rates, growth rates, relevant comparable company earnings multiples and the

amount and timing of expected future cash flows. If the fair value of the reporting unit is *less* than its carrying amount, an entity must perform the second step to measure the amount of the impairment loss, if any. The second step requires a reporting unit to compare its *implied* fair value of goodwill to its carrying amount. If the carrying amount of goodwill exceeds its implied fair value, the reporting unit would recognize an impairment loss for that excess. We estimate *implied* fair value of goodwill in the same way as goodwill is recognized in a business combination. We estimate fair value of the reporting unit's identifiable net assets excluding goodwill is compared to the fair value of the reporting unit as if the reporting unit had been acquired in a business combination and the fair value of the reporting unit was the purchase price paid. If the carrying amount of the reporting unit's goodwill exceeds the implied fair value of that goodwill, an impairment loss is recognized in an amount equal to that excess.

We review indefinite-lived intangible assets for impairment annually or more frequently if events or changes in circumstances indicate the assets might be impaired. Similar to the goodwill assessment described above, the Company first performs a qualitative assessment of whether it is more likely than not that an indefinite-lived intangible asset is impaired. If necessary, the Company then performs a quantitative impairment test by comparing the estimated fair value of the asset, based upon its forecasted cash flows, to its carrying value. Other intangible assets with definite lives are amortized over their useful lives and are subject to impairment testing only if events or circumstances indicate that the asset might be impaired, as described above.

Income Taxes

Deferred tax assets and liabilities reflect temporary differences between the amount of assets and liabilities for financial and tax reporting purposes. Such amounts are adjusted, as appropriate, to reflect changes in tax rates expected to be in effect when the temporary differences reverse. A valuation allowance is recorded to reduce our deferred tax assets to the amount that is more likely than not to be realized. Changes in tax laws or accounting standards and methods may affect recorded deferred taxes in future periods.

When establishing a valuation allowance, we consider future sources of taxable income such as "future reversals of existing taxable temporary differences, future taxable income exclusive of reversing temporary differences and carryforwards" and "tax planning strategies." A tax planning strategy is defined as "an action that: is prudent and feasible; an enterprise ordinarily might not take, but would take to prevent an operating loss or tax credit carryforward from expiring unused; and would result in realization of deferred tax assets." In the event we determine it is more likely than not that the deferred tax assets will not be realized in the future, the valuation adjustment to the deferred tax assets will be charged to earnings in the period in which we make such a determination. The valuation of deferred tax assets requires judgment and accounting for the deferred tax effect of events that have been recorded in the financial statements or in tax returns and our future projected profitability. Changes in our estimates, due to unforeseen events or otherwise, could have a material impact on our financial condition and results of operations.

We calculate our current and deferred tax provision based on estimates and assumptions that could differ from the actual results reflected in income tax returns filed in subsequent years. Adjustments based on filed returns are recorded when identified. The amount of income taxes we pay is subject to ongoing audits by federal, state and foreign tax authorities. Our estimate of the potential outcome of any uncertain tax issue is subject to management's assessment of relevant risks, facts, and circumstances existing at that time. We use a more-likely-than-not threshold for financial statement recognition and measurement of tax positions taken or expected to be taken in a tax return. We record a liability for the difference between the benefit recognized and measured and tax position taken or expected to be taken on our tax return. To the extent that our assessment of such tax positions changes, the change in estimate is recorded in the period in which the determination is made. We report tax-related interest and penalties as a component of income tax expense. We do not believe there is a reasonable likelihood that there will be a material change in the tax related balances or valuation allowance balances. However, due to the complexity of some of these uncertainties, the ultimate resolution may be materially different from the current estimate. Refer to Note 14. Income Taxes to the audited consolidated financial statements included herein for additional information.

Recently Issued Accounting Pronouncements

Refer to Note 2. Significant Accounting Policies to the audited consolidated financial statements included herein for a complete description of recent accounting standards which we have not yet been required to implement which may be applicable to our operations. Additionally, the significant accounting standards that have been adopted during the year ended December 31, 2019 are described.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to market risks from changes in currency exchange rates and certain commodity prices. In order to manage these risks, we operate a centralized risk management program that consists of entering into a variety of derivative contracts with the intent of mitigating our risk to fluctuations in currency exchange rates and commodity prices. We do not enter into derivative transactions for speculative or trading purposes.

A discussion of our accounting policies for derivative instruments is included in Note 2. Significant Accounting Policies to the audited consolidated financial statements included herein and further disclosure is provided in Note 17. Derivatives and Hedging Activities to the audited consolidated financial statements included herein. We maintain risk management control systems to monitor exchange and commodity risks and related hedge positions. Positions are monitored using a variety of analytical techniques including market value and sensitivity analysis. The following analyses are based on sensitivity tests, which assume instantaneous, parallel shifts in currency exchange rates and commodity prices. For options and instruments with non-linear returns, appropriate models are utilized to determine the impact of shifts in rates and prices.

We have currency exposures related to buying, selling and financing in currencies other than the local currencies in which we operate. Historically, we have reduced our exposure through financial instruments (hedges) that provide offsets or limits to our exposures, which are opposite to the underlying transactions. We also face an inherent business risk of exposure to commodity prices risks, and have historically offset our exposure, particularly to changes in the price of various non-ferrous metals used in our manufacturing operations, through fixed price purchase agreements, commodity swaps and option contracts. We continue to manage our exposures to changes in currency rates and commodity prices using these derivative instruments.

Currency Exchange Rate Risk

Currency exposures may impact future earnings and/or operating cash flows. We have currency exposures related to buying, selling and financing in currencies other than the local functional currencies in which we operate (“transactional exposure”). We also have currency exposures related to the translation of the financial statements of our foreign subsidiaries that use the local currency as their functional currency into U.S. dollars, the Company’s reporting currency (“translational exposure”). The impact of translational exposure is recorded within currency translation adjustment in the consolidated statements of comprehensive income. During the year ended December 31, 2019, the foreign currency translation adjustment loss of \$45 million was primarily due to the impact of a strengthening U.S. dollar, which increased approximately 2% in relation to both the Euro and the Chinese Yuan Renminbi from December 31, 2018.

As described in Note 17. Derivatives and Hedging Activities to the audited consolidated financial statements included herein, in order to manage certain translational exposure, we have designated the 2015 Euro-denominated Senior Notes and the 2016 Euro-denominated Senior Notes as net investment hedges of the foreign currency exposure of our investments in certain Euro-denominated subsidiaries. We have also entered into forward contracts designated as net investment hedges of the foreign currency exposure of our investments in certain Chinese Yuan Renminbi-denominated subsidiaries. The effective portion of the gains or losses on instruments designated as net investment hedges are recognized within the cumulative translation adjustment component in the consolidated statements of comprehensive income to offset changes in the value of the net investment in these foreign currency-denominated operations.

In some instances, we choose to reduce our transactional exposures through financial instruments (hedges) that provide offsets or limits to our exposures. Currently our most significant hedged currency exposures relate to the Mexican Peso, Chinese Yuan Renminbi, Polish Zloty, Euro and Turkish Lira. As of December 31, 2019 and 2018 the net fair value liability of all financial instruments, including hedges and underlying transactions, with exposure to currency risk was approximately \$1,199 million and \$1,412 million, respectively. The potential loss or gain in fair value for such financial instruments from a hypothetical 10% adverse or favorable change in quoted currency exchange rates would be approximately \$78 million and \$131 million as of December 31, 2019 and 2018, respectively. The impact of a 10% change in rates on fair value differs from a 10% change in the net fair value asset due to the existence of hedges. The model assumes a parallel shift in currency exchange rates; however, currency exchange rates rarely move in the same direction. The assumption that currency exchange rates change in a parallel fashion may overstate the impact of changing currency exchange rates on assets and liabilities denominated in currencies other than the U.S. dollar.

Commodity Price Risk

Commodity swaps/average rate forward contracts are executed to offset a portion of our exposure to the potential change in prices mainly for various non-ferrous metals used in the manufacturing of automotive components, primarily copper. The net fair value of our contracts was a liability of less than \$1 million and \$22 million as of December 31, 2019 and 2018, respectively. If the price of the commodities that are being hedged by our commodity swaps/average rate forward contracts changed adversely or favorably by 10%, the fair value of our commodity swaps/average rate forward contracts would decrease or increase by \$21 million and \$25 million as of December 31, 2019 and 2018, respectively. A 10% change in the net fair value liability differs from a 10% change in rates on fair value due to the relative differences between the underlying commodity prices and the prices in place in our commodity swaps/average rate forward contracts. These amounts exclude the offsetting impact of the price risk inherent in the physical purchase of the underlying commodities.

Interest Rate Risk

Our exposure to market risk associated with changes in interest rates relates primarily to our debt obligations. We do not use interest rate swap or other derivative contracts to manage our exposure to fluctuations in interest rates. As of December 31, 2019, we had approximately \$450 million of floating rate debt, related to the Credit Agreement. The Credit Agreement carries an interest rate, at our option, on Tranche A term loan borrowings of either (a) the ABR plus 0.25% per annum, or (b) LIBOR plus 1.25% per annum, and on Revolving Credit Facility borrowings of either (a) the ABR plus 0.10% per annum, or (b) LIBOR plus 1.10% per annum.

The interest rate period with respect to the LIBOR interest rate option can be set at one-, two-, three-, or six-months as selected by us in accordance with the terms of the Credit Agreement (or other period as may be agreed by the applicable lenders), but payable no less than quarterly. We may elect to change the selected interest rate over the term of the Credit Facilities in accordance with the provisions of the Credit Agreement. The applicable interest rates listed above for the Revolving Credit Facility and the Tranche A Term Loan may increase or decrease from time to time in increments of 0.10% to 0.25%, up to a maximum of 0.50% based on changes to our corporate credit ratings. Accordingly, the interest rate will fluctuate during the term of the Credit Agreement based on changes in the Alternate Base Rate, LIBOR or future changes in our corporate credit ratings.

The table below indicates interest rate sensitivity on interest expense to floating rate debt based on amounts outstanding as of December 31, 2019.

Change in Rate	Credit Agreement (impact to annual interest expense, in millions)
25 bps decrease	- \$1
25 bps increase	+\$1

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Aptiv PLC

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Aptiv PLC (the Company) as of December 31, 2019 and 2018, and the related consolidated statements of operations, comprehensive income, shareholders' equity and cash flows for each of the three years in the period ended December 31, 2019, and the related notes and financial statement schedule listed in the Index at Item 15(a)(2) (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 the Company 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), the Company'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 3, 2020 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company'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 the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the 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 consolidated 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.

Uncertain Tax Positions

Description of the Matter As described in Notes 2 and 14, the Company establishes reserves for uncertain tax positions for positions that are taken on their income tax returns that might not be sustained upon examination by the taxing authorities. At December 31, 2019, the Company has recorded approximately \$217 million relating to uncertain tax positions.

In determining whether an uncertain tax position exists, the Company determines, based solely on its technical merits, whether the tax position is more likely than not to be sustained upon examination, and if so, a tax benefit is measured on a cumulative probability basis that is more likely than not to be realized upon the ultimate settlement. The Company identifies its certain and uncertain tax positions and then evaluates the recognition and measurement steps to determine the amount that should be recognized. The Company then evaluates uncertain tax positions in subsequent periods for recognition, de-recognition or re-measurement if changes have occurred, or when effective settlement or expiration of the statute of limitations occurs.

Auditing the uncertain tax positions is complex because of the judgmental nature of the tax accruals and various other tax return positions that might not be sustained upon review by taxing authorities. The Company files tax returns in multiple jurisdictions and is subject to examination by taxing authorities throughout the world due to its complex global footprint. Taxing jurisdictions significant to Aptiv include China, Barbados, Luxembourg, Germany, Mexico, the U.S., Ireland, South Korea and the U.K.

How We Addressed the Matter in Our Audit We obtained an understanding, evaluated the design, and tested the operating effectiveness of controls related to the recognition, measurement and the evaluation of changes in uncertain tax positions. This included testing controls over management's review of the tax positions, their evaluation of whether they met the measurement threshold and then recalculating the amounts recognized based upon a cumulative probability assessment performed by management.

Our audit procedures to test the Company's uncertain tax positions included, among others, involvement of our transfer pricing professionals to evaluate the third-party transfer pricing studies obtained by the Company and assessing the Company's correspondence with the relevant tax authorities. We analyzed the Company's assumptions and data used to determine the amount of tax benefit to recognize and tested the accuracy of the calculations. Our testing also included the evaluation of the ongoing positions and consideration of changes, the recording of penalties and interest and the ultimate settlement and payment of certain tax matters.

Revenue Recognition

Description of the Matter As described in Notes 2 and 26, Aptiv occasionally enters into pricing agreements with its customers that provide for price reductions, some of which are conditional upon achieving certain joint cost saving targets. In addition, from time to time, Aptiv makes payments to customers in conjunction with ongoing business. Revenue is recognized based on the agreed-upon price at the time of shipment, and sales incentives, allowances and certain customer payments are recognized as a reduction to revenue at the time of the commitment to provide such incentives or make these payments. Certain other customer payments or upfront fees are considered to be a cost to obtain a contract as they are directly attributable to a contract, are incremental and management expects the payments to be recoverable. In these cases, the customer payment is capitalized and amortized to revenue based on the transfer of goods and services to the customer for which the upfront payment relates. As of December 31, 2019, Aptiv has recorded \$99 million related to these capitalized upfront payments.

Auditing the accounting for and completeness of arrangements containing elements such as sales incentives, allowances and customer payments, including the appropriate timing and presentation of adjustments to revenue as well as costs to obtain a contract is judgmental due to the unique facts and circumstances involved in each revenue arrangement, as well as on-going commercial negotiations with customers.

How We Addressed the Matter in Our Audit We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the review of customer contracts. This included testing controls over the Company's process to identify and evaluate customer contracts that contain sales incentives, allowances and customer payments that impact revenue recognition.

Our audit procedures to test the completeness of the Company's identification of such contracts included, among others, interviewing sales representatives who are responsible for negotiations with customers and testing cash payments to customers. To test management's assessment of customer contracts containing sales incentives, allowances and customer payments, our procedures included, among others, selecting a sample of customer agreements, obtaining and reviewing source documentation, including master agreements, and other documents that were part of the agreement, and evaluating the contract terms to determine the appropriateness of the accounting treatment.

/s/ Ernst & Young LLP
We have served as the Company's auditor since 2006
Detroit, Michigan
February 3, 2020

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Aptiv PLC

Opinion on Internal Control over Financial Reporting

We have audited Aptiv PLC'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) (the COSO criteria). In our opinion, Aptiv PLC (the Company) 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 the Company as of December 31, 2019 and 2018, and the related consolidated statements of operations, comprehensive income, shareholders' equity and cash flows for each of the three years in the period ended December 31, 2019, and the related notes and financial statement schedule and our report dated February 3, 2020 expressed an unqualified opinion thereon.

Basis for Opinion

The Company'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 Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company'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 the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our 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.

/s/ Ernst & Young LLP
Detroit, Michigan
February 3, 2020

APTIV PLC
CONSOLIDATED STATEMENTS OF OPERATIONS

	Year Ended December 31,		
	2019	2018	2017
	(in millions, except per share amounts)		
Net sales	\$ 14,357	\$ 14,435	\$ 12,884
Operating expenses:			
Cost of sales	11,711	11,706	10,270
Selling, general and administrative	1,076	993	952
Amortization	146	154	117
Restructuring (Note 10)	148	109	129
Total operating expenses	13,081	12,962	11,468
Operating income	1,276	1,473	1,416
Interest expense	(164)	(141)	(140)
Other income (expense), net (Note 19)	14	2	(21)
Income from continuing operations before income taxes and equity income	1,126	1,334	1,255
Income tax expense	(132)	(250)	(223)
Income from continuing operations before equity income	994	1,084	1,032
Equity income, net of tax	15	23	31
Income from continuing operations	1,009	1,107	1,063
Income from discontinued operations, net of tax (Note 25)	—	—	365
Net income	1,009	1,107	1,428
Net income attributable to noncontrolling interest	19	40	73
Net income attributable to Aptiv	\$ 990	\$ 1,067	\$ 1,355
Amounts attributable to Aptiv:			
Income from continuing operations	\$ 990	\$ 1,067	\$ 1,021
Income from discontinued operations	—	—	334
Net income	\$ 990	\$ 1,067	\$ 1,355
Basic net income per share:			
Continuing operations	\$ 3.85	\$ 4.04	\$ 3.82
Discontinued operations	—	—	1.25
Basic net income per share attributable to Aptiv	\$ 3.85	\$ 4.04	\$ 5.07
Weighted average number of basic shares outstanding	256.81	264.41	267.16
Diluted net income per share:			
Continuing operations	\$ 3.85	\$ 4.02	\$ 3.81
Discontinued operations	—	—	1.25
Diluted net income per share attributable to Aptiv	\$ 3.85	\$ 4.02	\$ 5.06
Weighted average number of diluted shares outstanding	257.39	265.22	268.03

See notes to consolidated financial statements.

APTIV PLC
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	Year Ended December 31,		
	2019	2018	2017
	(in millions)		
Net income	\$ 1,009	\$ 1,107	\$ 1,428
Other comprehensive (loss) income:			
Currency translation adjustments	(45)	(194)	315
Net change in unrecognized gain (loss) on derivative instruments, net of tax (Note 17)	56	(39)	15
Employee benefit plans adjustment, net of tax (Note 12)	(30)	2	11
Other comprehensive (loss) income	(19)	(231)	341
Comprehensive income	990	876	1,769
Comprehensive income attributable to noncontrolling interests	16	32	83
Comprehensive income attributable to Aptiv	\$ 974	\$ 844	\$ 1,686

See notes to consolidated financial statements.

APTIV PLC
CONSOLIDATED BALANCE SHEETS

	December 31,	
	2019	2018
	(in millions)	
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 412	\$ 567
Restricted cash	16	1
Accounts receivable, net	2,569	2,487
Inventories (Note 3)	1,286	1,277
Other current assets (Note 4)	504	445
Assets held for sale (Note 25)	532	—
Total current assets	<u>5,319</u>	<u>4,777</u>
Long-term assets:		
Property, net (Note 6)	3,309	3,179
Operating lease right-of-use assets (Note 27)	413	—
Investments in affiliates	106	99
Intangible assets, net (Note 7)	1,186	1,380
Goodwill (Note 7)	2,407	2,524
Other long-term assets (Note 4)	719	521
Total long-term assets	<u>8,140</u>	<u>7,703</u>
Total assets	<u>\$ 13,459</u>	<u>\$ 12,480</u>
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Short-term debt (Note 11)	\$ 393	\$ 306
Accounts payable	2,463	2,334
Accrued liabilities (Note 8)	1,155	1,054
Liabilities held for sale (Note 25)	43	—
Total current liabilities	<u>4,054</u>	<u>3,694</u>
Long-term liabilities:		
Long-term debt (Note 11)	3,971	4,038
Pension benefit obligations (Note 12)	483	445
Long-term operating lease liabilities (Note 27)	329	—
Other long-term liabilities (Note 8)	611	633
Total long-term liabilities	<u>5,394</u>	<u>5,116</u>
Total liabilities	<u>9,448</u>	<u>8,810</u>
Commitments and contingencies (Note 13)		
Shareholders' equity:		
Preferred shares, \$0.01 par value per share, 50,000,000 shares authorized, none issued and outstanding	—	—
Ordinary shares, \$0.01 par value per share, 1,200,000,000 shares authorized, 255,288,240 and 259,991,022 issued and outstanding as of December 31, 2019 and 2018, respectively	3	3
Additional paid-in-capital	1,645	1,639
Retained earnings	2,890	2,511
Accumulated other comprehensive loss (Note 16)	(719)	(694)
Total Aptiv shareholders' equity	<u>3,819</u>	<u>3,459</u>
Noncontrolling interest	192	211
Total shareholders' equity	<u>4,011</u>	<u>3,670</u>
Total liabilities and shareholders' equity	<u>\$ 13,459</u>	<u>\$ 12,480</u>

See notes to consolidated financial statements.

APTIV PLC
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended December 31,		
	2019	2018	2017
	(in millions)		
Cash flows from operating activities:			
Net income	\$ 1,009	\$ 1,107	\$ 1,428
Income from discontinued operations, net of tax	—	—	365
Income from continuing operations	1,009	1,107	1,063
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation	571	522	429
Amortization	146	154	117
Amortization of deferred debt issuance costs	6	7	7
Restructuring expense, net of cash paid	29	(26)	2
Deferred income taxes	(33)	(14)	(26)
Pension and other postretirement benefit expenses	44	35	51
Income from equity method investments, net of dividends received	(6)	(11)	(18)
Loss on extinguishment of debt	6	—	—
Gain on sale of assets	(1)	(2)	(3)
Share-based compensation	66	58	62
Changes in operating assets and liabilities:			
Accounts receivable, net	(74)	55	(287)
Inventories	8	(120)	(224)
Other assets	(202)	(165)	(187)
Accounts payable	133	62	268
Accrued and other long-term liabilities	(9)	73	(72)
Other, net	(31)	(47)	(36)
Pension contributions	(38)	(48)	(40)
Net cash provided by operating activities from continuing operations	1,624	1,640	1,106
Net cash (used in) provided by operating activities from discontinued operations	—	(12)	362
Net cash provided by operating activities	1,624	1,628	1,468
Cash flows from investing activities:			
Capital expenditures	(781)	(846)	(698)
Proceeds from sale of property / investments	14	13	7
Cost of business acquisitions, net of cash acquired	(334)	(1,197)	(324)
Cost of technology investments	(10)	(16)	(50)
Settlement of derivatives	—	(2)	(28)
Net cash used in investing activities from continuing operations	(1,111)	(2,048)	(1,093)
Net cash used in investing activities from discontinued operations	—	—	(159)
Net cash used in investing activities	(1,111)	(2,048)	(1,252)
Cash flows from financing activities:			
Net proceeds (repayments) under other short-term debt agreements	80	268	(15)
Repayments under other long-term debt agreements	(25)	(13)	(2)
Repayment of senior notes	(654)	—	—
Proceeds from issuance of senior notes, net of issuance costs	641	—	796
Contingent consideration and deferred acquisition purchase price payments	—	(13)	(24)
Dividend payments of consolidated affiliates to minority shareholders	(11)	(30)	(38)
Repurchase of ordinary shares	(420)	(499)	(383)
Distribution of cash dividends	(226)	(233)	(310)
Dividend received from spin-off of Delphi Technologies	—	—	1,148
Cash transferred to Delphi Technologies related to spin-off	—	—	(863)
Cash transferred from Delphi Technologies related to spin-off	—	—	180
Taxes withheld and paid on employees' restricted share awards	(34)	(35)	(33)

Net cash (used in) provided by financing activities	(649)	(555)	456
Effect of exchange rate fluctuations on cash, cash equivalents and restricted cash	(3)	(54)	86
(Decrease) increase in cash, cash equivalents and restricted cash	(139)	(1,029)	758
Cash, cash equivalents and restricted cash at beginning of the year	568	1,597	839
Cash, cash equivalents and restricted cash at end of the year	\$ 429	\$ 568	\$ 1,597

See notes to consolidated financial statements.

APTIV PLC
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

	Year Ended December 31,									
	Number of Ordinary Shares	Amount of Ordinary Shares	Additional Paid in Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Total Aptiv Shareholders' Equity	Noncontrolling Interest	Total Shareholders' Equity		
2019	(in millions)									
Balance at January 1, 2019	260	\$ 3	\$ 1,639	\$ 2,511	\$ (694)	\$ 3,459	\$ 211	\$ 3,670		
Net income	—	—	—	990	—	990	19	1,009		
Other comprehensive loss	—	—	—	—	(16)	(16)	(3)	(19)		
Dividends on ordinary shares	—	—	3	(229)	—	(226)	—	(226)		
Dividend payments of consolidated affiliates to minority shareholders	—	—	—	—	—	—	(35)	(35)		
Taxes withheld on employees' restricted share award vestings	—	—	(34)	—	—	(34)	—	(34)		
Repurchase of ordinary shares	(5)	—	(29)	(391)	—	(420)	—	(420)		
Share-based compensation	—	—	66	—	—	66	—	66		
Adjustment for recently adopted accounting pronouncements (Note 2)	—	—	—	9	(9)	—	—	—		
Balance at December 31, 2019	<u>255</u>	<u>\$ 3</u>	<u>\$ 1,645</u>	<u>\$ 2,890</u>	<u>\$ (719)</u>	<u>\$ 3,819</u>	<u>\$ 192</u>	<u>\$ 4,011</u>		
2018										
Balance at January 1, 2018	266	\$ 3	\$ 1,649	\$ 2,118	\$ (471)	\$ 3,299	\$ 218	\$ 3,517		
Net income	—	—	—	1,067	—	1,067	40	1,107		
Other comprehensive loss	—	—	—	—	(223)	(223)	(8)	(231)		
Dividends on ordinary shares	—	—	2	(176)	—	(174)	—	(174)		
Dividend payments of consolidated affiliates to minority shareholders	—	—	—	—	—	—	(39)	(39)		
Taxes withheld on employees' restricted share award vestings	—	—	(35)	—	—	(35)	—	(35)		
Repurchase of ordinary shares	(7)	—	(35)	(464)	—	(499)	—	(499)		
Share-based compensation	1	—	58	—	—	58	—	58		
Distribution of Delphi Technologies	—	—	—	(25)	—	(25)	—	(25)		
Adjustment for recently adopted accounting pronouncements	—	—	—	(9)	—	(9)	—	(9)		
Balance at December 31, 2018	<u>260</u>	<u>\$ 3</u>	<u>\$ 1,639</u>	<u>\$ 2,511</u>	<u>\$ (694)</u>	<u>\$ 3,459</u>	<u>\$ 211</u>	<u>\$ 3,670</u>		
2017										
Balance at January 1, 2017	270	\$ 3	\$ 1,633	\$ 1,980	\$ (1,215)	\$ 2,401	\$ 362	\$ 2,763		
Net income	—	—	—	1,355	—	1,355	73	1,428		
Other comprehensive income	—	—	—	—	331	331	10	341		
Dividends on ordinary shares	—	—	4	(373)	—	(369)	—	(369)		
Dividend payments of consolidated affiliates to minority shareholders	—	—	—	—	—	—	(67)	(67)		
Taxes withheld on employees' restricted share award vestings	—	—	(33)	—	—	(33)	—	(33)		
Repurchase of ordinary shares	(5)	—	(25)	(358)	—	(383)	—	(383)		
Distribution of Delphi Technologies	—	—	—	(1,814)	413	(1,401)	(160)	(1,561)		
Dividend received from spin-off of Delphi Technologies	—	—	—	1,148	—	1,148	—	1,148		
Cash transferred from Delphi Technologies related to spin-off	—	—	—	180	—	180	—	180		
Share-based compensation	1	—	70	—	—	70	—	70		
Balance at December 31, 2017	<u>266</u>	<u>\$ 3</u>	<u>\$ 1,649</u>	<u>\$ 2,118</u>	<u>\$ (471)</u>	<u>\$ 3,299</u>	<u>\$ 218</u>	<u>\$ 3,517</u>		

See notes to consolidated financial statements.

APTIV PLC
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. GENERAL

General and basis of presentation—“Aptiv,” the “Company,” “we,” “us” and “our” refer to Aptiv PLC, a public limited company formed under the laws of Jersey on May 19, 2011 as Delphi Automotive PLC, which, through its subsidiaries, acquired certain assets of the former Delphi Corporation (now known as DPH Holdings Corp. (“DPHH”)) and completed an initial public offering on November 22, 2011. On December 4, 2017 (the “Distribution Date”), the Company completed the separation (the “Separation”) of its former Powertrain Systems segment by distributing to Aptiv shareholders on a pro rata basis all of the issued and outstanding ordinary shares of Delphi Technologies PLC (“Delphi Technologies”), a public limited company formed to hold the spun-off business. To effect the Separation, the Company distributed to its shareholders one ordinary share of Delphi Technologies for every three Aptiv ordinary shares outstanding as of November 22, 2017, the record date for the distribution. Following the Separation, the remaining company changed its name to Aptiv PLC and New York Stock Exchange (“NYSE”) symbol to “APTIV.” Delphi Technologies’ historical financial results through the Distribution Date are reflected in the Company’s consolidated financial statements as a discontinued operation, as more fully described in Note 25. Discontinued Operations and Held For Sale.

In April 2018, primarily as a result of the impact of the Separation on the Company’s U.K. presence and the centralization of the Company’s non-manufacturing European footprint, along with the long-term stability of the financial and regulatory environment in Ireland and continued uncertainties with regards to the impending exit of the U.K. from the European Union, Aptiv PLC changed its tax residence from the U.K. to Ireland. Aptiv PLC remains a public limited company incorporated under the laws of Jersey, and continues to be subject to U.S. Securities and Exchange Commission reporting requirements and prepare its consolidated financial statements in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”).

Nature of operations—Aptiv is a leading global technology and mobility company primarily serving the automotive sector. We design and manufacture vehicle components and provide electrical, electronic and active safety technology solutions to the global automotive and commercial vehicle markets. Aptiv is one of the largest vehicle component manufacturers, and its customers include 23 of the 25 largest automotive original equipment manufacturers (“OEMs”) in the world. Aptiv operates 126 major manufacturing facilities and 15 major technical centers utilizing a regional service model that enables the Company to efficiently and effectively serve its global customers from best cost countries. Aptiv has a presence in 44 countries and has approximately 20,200 scientists, engineers and technicians focused on developing market relevant product solutions for its customers. In line with the long-term growth in emerging markets, Aptiv has been increasing its focus on these markets, particularly in China, where the Company has a major manufacturing base and strong customer relationships.

2. SIGNIFICANT ACCOUNTING POLICIES

Consolidation—The consolidated financial statements include the accounts of Aptiv and U.S. and non-U.S. subsidiaries in which Aptiv holds a controlling financial or management interest and variable interest entities of which Aptiv has determined that it is the primary beneficiary. Aptiv’s share of the earnings or losses of non-controlled affiliates, over which Aptiv exercises significant influence (generally a 20% to 50% ownership interest), is included in the consolidated operating results using the equity method of accounting. When Aptiv does not have the ability to exercise significant influence (generally when ownership interest is less than 20%), investments in non-consolidated affiliates without readily determinable fair values are measured at cost, less impairments, adjusted for observable price changes in orderly transactions for identical or similar investments of the same issuer. All significant intercompany transactions and balances between consolidated Aptiv businesses have been eliminated. The Company monitors its investments in affiliates for indicators of other-than-temporary declines in value on an ongoing basis. If the Company determines that such a decline has occurred, an impairment loss is recorded, which is measured as the difference between carrying value and estimated fair value. Estimated fair value is generally determined using an income approach based on discounted cash flows or negotiated transaction values.

During the years ended December 31, 2019, 2018 and 2017, Aptiv received dividends of \$9 million, \$12 million and \$15 million, respectively, from its equity method investments. The dividends were recognized as a reduction to the investment and represented a return on investment included in cash flows from operating activities from continuing operations.

Investments in non-consolidated affiliates totaled \$101 million and \$72 million as of December 31, 2019 and 2018, respectively, and are classified within other long-term assets in the consolidated balance sheets. Refer to Note 5. Investments in Affiliates for further information.

Use of estimates—Preparation of consolidated financial statements in conformity with U.S. GAAP requires the use of estimates and assumptions that affect amounts reported therein. Generally, matters subject to estimation and judgment include amounts related to accounts receivable realization, inventory obsolescence, asset impairments, useful lives of intangible and

fixed assets, deferred tax asset valuation allowances, income taxes, pension benefit plan assumptions, accruals related to litigation, warranty costs, environmental remediation costs, contingent consideration arrangements, worker's compensation accruals and healthcare accruals. Due to the inherent uncertainty involved in making estimates, actual results reported in future periods may be based upon amounts that differ from those estimates.

Revenue recognition—Revenue is measured based on consideration specified in a contract with a customer. Customer contracts generally are represented by a combination of a current purchase order and a current production schedule issued by the customer. The Company recognizes revenue when it satisfies a performance obligation by transferring control over a product or service to a customer. From time to time, Aptiv enters into pricing agreements with its customers that provide for price reductions, some of which are conditional upon achieving certain joint cost saving targets. In these instances, revenue is recognized based on the agreed-upon price at the time of shipment.

Sales incentives and allowances are recognized as a reduction to revenue at the time of the related sale. In addition, from time to time, Aptiv makes payments to customers in conjunction with ongoing business. These payments to customers are generally recognized as a reduction to revenue at the time of the commitment to make these payments. However, certain other payments to customers, or upfront fees, meet the criteria to be considered a cost to obtain a contract as they are directly attributable to a contract, are incremental and management expects the fees to be recoverable.

Aptiv collects and remits taxes assessed by different governmental authorities that are both imposed on and concurrent with a revenue-producing transaction between the Company and the Company's customers. These taxes may include, but are not limited to, sales, use, value-added, and some excise taxes. Aptiv reports the collection of these taxes on a net basis (excluded from revenues). Shipping and handling fees billed to customers are included in net sales, while costs of shipping and handling are included in cost of sales. Refer to Note 26. Revenue for further information.

Net income per share—Basic net income per share is computed by dividing net income attributable to Aptiv by the weighted-average number of ordinary shares outstanding during the period. Diluted net income per share reflects the weighted average dilutive impact of all potentially dilutive securities from the date of issuance and is computed using the treasury stock method by dividing net income attributable to Aptiv by the diluted weighted-average number of ordinary shares outstanding during the period. Unless otherwise noted, share and per share amounts included in these notes are on a diluted basis. Refer to Note 15. Shareholders' Equity and Net Income Per Share for additional information including the calculation of basic and diluted net income per share.

Research and development—Costs are incurred in connection with research and development programs that are expected to contribute to future earnings. Such costs are charged against income as incurred. Total research and development expenses, including engineering, net of customer reimbursements, were approximately \$1,165 million, \$1,155 million and \$882 million for the years ended December 31, 2019, 2018 and 2017, respectively.

Cash and cash equivalents—Cash and cash equivalents are defined as short-term, highly liquid investments with original maturities of three months or less.

Restricted cash—Restricted cash includes balances on deposit at financial institutions that have issued letters of credit in favor of Aptiv and cash deposited into an escrow account. Refer to Note 18. Fair Value of Financial Instruments for further information regarding amounts deposited into an escrow account.

Accounts receivable—Aptiv enters into agreements to sell certain of its accounts receivable, primarily in Europe. Sales of receivables are accounted for in accordance with Financial Accounting Standards Board ("FASB") ASC Topic 860, *Transfers and Servicing* ("ASC 860"). Agreements which result in true sales of the transferred receivables, as defined in ASC 860, which occur when receivables are transferred without recourse to the Company, are excluded from amounts reported in the consolidated balance sheets. Cash proceeds received from such sales are included in operating cash flows. Agreements that allow Aptiv to maintain effective control over the transferred receivables and which do not qualify as a sale, as defined in ASC 860, are accounted for as secured borrowings and recorded in the consolidated balance sheets within accounts receivable, net and short-term debt. The expenses associated with receivables factoring are recorded in the consolidated statements of operations within interest expense.

The Company exchanges certain amounts of accounts receivable, primarily in the Asia Pacific region, for bank notes with original maturities greater than three months. The collection of such bank notes are included in operating cash flows based on the substance of the underlying transactions, which are operating in nature. Bank notes held by the Company with original maturities of three months or less are classified as cash and cash equivalents within the consolidated balance sheets, and those with original maturities of greater than three months are classified as notes receivable within other current assets. The Company may hold such bank notes until maturity, exchange them with suppliers to settle liabilities, or sell them to third-party financial institutions in exchange for cash.

The allowance for doubtful accounts is established based upon analysis of trade receivables for known collectability issues, the aging of the trade receivables at the end of each period and, generally, all accounts receivable balances greater than

90 days past due are fully reserved. As of December 31, 2019 and 2018, the allowance for doubtful accounts was \$37 million and \$38 million, respectively, and the provision for doubtful accounts was \$9 million, \$9 million, and \$23 million for the years ended December 31, 2019, 2018 and 2017, respectively.

Inventories—As of December 31, 2019 and 2018, inventories are stated at the lower of cost, determined on a first-in, first-out basis, or net realizable value, including direct material costs and direct and indirect manufacturing costs. Refer to Note 3. Inventories for additional information. Obsolete inventory is identified based on analysis of inventory for known obsolescence issues, and, generally, the market value of inventory on hand in excess of one year's supply is fully reserved.

From time to time, payments may be received from suppliers. These payments from suppliers are recognized as a reduction of the cost of the material acquired during the period to which the payments relate. In some instances, supplier rebates are received in conjunction with or concurrent with the negotiation of future purchase agreements and these amounts are amortized over the prospective agreement period.

Property—Major improvements that materially extend the useful life of property are capitalized. Expenditures for repairs and maintenance are charged to expense as incurred. Depreciation is determined based on a straight-line method over the estimated useful lives of groups of property. Leasehold improvements under finance leases are depreciated over the period of the lease or the life of the property, whichever is shorter. Refer to Note 6. Property, Net and Note 27. Leases for additional information.

Pre-production costs related to long-term supply agreements—The Company incurs pre-production engineering, development and tooling costs related to products produced for its customers under long-term supply agreements. Engineering, testing and other costs incurred in the design and development of production parts are expensed as incurred, unless the costs are reimbursable, as specified in a customer contract. As of December 31, 2019 and 2018, \$318 million and \$184 million of such contractually reimbursable costs were capitalized, respectively. These amounts are recorded within other current and other long-term assets in the consolidated balance sheets, as further detailed in Note 4. Assets.

Special tools represent Aptiv-owned tools, dies, jigs and other items used in the manufacture of customer components that will be sold under long-term supply arrangements, the costs of which are capitalized within property, plant and equipment if the Company has title to the assets. Special tools also include capitalized unreimbursed pre-production tooling costs related to customer-owned tools for which the customer has provided Aptiv a non-cancellable right to use the tool. Aptiv-owned special tools balances are depreciated over the expected life of the special tool or the life of the related vehicle program, whichever is shorter. The unreimbursed costs incurred related to customer-owned special tools that are not subject to reimbursement are capitalized and depreciated over the expected life of the special tool or the life of the related vehicle program, whichever is shorter. At December 31, 2019 and 2018, the special tools balance, net of accumulated depreciation, was \$485 million and \$461 million, respectively, included within property, net in the consolidated balance sheets. As of December 31, 2019 and 2018, the Aptiv-owned special tools balances were \$365 million and \$352 million, respectively, and the customer-owned special tools balances were \$120 million and \$109 million, respectively.

Valuation of long-lived assets—The carrying value of long-lived assets held for use, including definite-lived intangible assets, is periodically evaluated when events or circumstances warrant such a review. The carrying value of a long-lived asset held for use is considered impaired when the anticipated separately identifiable undiscounted cash flows from the asset are less than the carrying value of the asset. In that event, a loss is recognized based on the amount by which the carrying value exceeds the estimated fair value of the long-lived asset. Impairment losses on long-lived assets held for sale are recognized if the carrying value of the asset is in excess of the asset's estimated fair value, reduced for the cost to dispose of the asset. Fair value of long-lived assets is determined primarily using the anticipated cash flows discounted at a rate commensurate with the risk involved (an income approach), and in certain situations Aptiv's review of appraisals (a market approach). Refer to Note 6. Property, Net and Note 7. Intangible Assets and Goodwill for additional information.

Assets and liabilities held for sale—The Company considers assets to be held for sale when management approves and commits to a formal plan to actively market the assets for sale at a price reasonable in relation to their estimated fair value, the assets are available for immediate sale in their present condition, an active program to locate a buyer and other actions required to complete the sale have been initiated, the sale of the assets is probable and expected to be completed within one year (or, if it is expected that others will impose conditions on the sale of the assets that will extend the period required to complete the sale, that a firm purchase commitment is probable within one year) and it is unlikely that significant changes will be made to the plan. Upon designation as held for sale, the Company records the assets at the lower of their carrying value or their estimated fair value, less cost to sell, and ceases to record depreciation expense on the assets.

Assets and liabilities of a discontinued operation are reclassified as held for sale for all comparative periods presented in the consolidated balance sheets. For assets that meet the held for sale criteria but do not meet the definition of a discontinued operation, the Company reclassifies the assets and liabilities in the period in which the held for sale criteria are met, but does not reclassify prior period amounts. Refer to Note 25. Discontinued Operations and Held For Sale for further information regarding the Company's assets and liabilities held for sale.

Intangible assets—The Company amortizes definite-lived intangible assets over their estimated useful lives. The Company has definite-lived intangible assets related to patents and developed technology, customer relationships and trade names. Indefinite-lived in-process research and development intangible assets are not amortized, but are tested for impairment annually, or more frequently when indicators of potential impairment exist, until the completion or abandonment of the associated research and development efforts. Upon completion of the projects, the assets will be amortized over the expected economic life of the asset, which will be determined on that date. Should the project be determined to be abandoned, and if the asset developed has no alternative use, the full value of the asset will be charged to expense. The Company also has intangible assets related to acquired trade names that are classified as indefinite-lived when there are no foreseeable limits on the periods of time over which they are expected to contribute cash flows. These indefinite-lived trade name assets are tested for impairment annually, or more frequently when indicators of potential impairment exist. Costs to renew or extend the term of acquired intangible assets are recognized as expense as incurred. The Company recorded intangible asset impairment charges of \$8 million and \$30 million, respectively, during the years ended December 31, 2019 and 2018. No intangible asset impairment charges were recorded in 2017. Refer to Note 7. Intangible Assets and Goodwill for additional information.

Goodwill—Goodwill is the excess of the purchase price over the estimated fair value of identifiable net assets acquired in business combinations. The Company tests goodwill for impairment annually in the fourth quarter, or more frequently when indications of potential impairment exist. The Company monitors the existence of potential impairment indicators throughout the fiscal year. The Company tests for goodwill impairment at the reporting unit level. Our reporting units are the components of operating segments which constitute businesses for which discrete financial information is available and is regularly reviewed by segment management.

The impairment test involves first qualitatively assessing goodwill for impairment. If the qualitative assessment is not met the Company then performs a quantitative assessment by first comparing the estimated fair value of each reporting unit to its carrying value, including goodwill. Fair value reflects the price a market participant would be willing to pay in a potential sale of the reporting unit. If the estimated fair value exceeds carrying value, then we conclude that no goodwill impairment has occurred. If the carrying value of the reporting unit exceeds its estimated fair value, a second step is required to measure possible goodwill impairment loss. The second step includes hypothetically valuing the tangible and intangible assets and liabilities of the reporting unit as if the reporting unit had been acquired in a business combination. Then, the implied fair value of the reporting unit's goodwill is compared to the carrying value of that goodwill. If the carrying value of the reporting unit's goodwill exceeds the implied fair value of the goodwill, the Company recognizes an impairment loss in an amount equal to the excess, not to exceed the carrying value. Refer to Note 20. Acquisitions and Divestitures, for further information on the goodwill attributable to the Company's acquisitions.

Goodwill impairment—In the fourth quarter of 2019, 2018 and 2017, the Company completed a qualitative goodwill impairment assessment, and after evaluating the results, events and circumstances of the Company, the Company concluded that sufficient evidence existed to assert qualitatively that it was more likely than not that the estimated fair value of each reporting unit remained in excess of its carrying values. Therefore, a two-step impairment assessment was not necessary. No goodwill impairments were recorded in 2019, 2018 or 2017. Refer to Note 7. Intangible Assets and Goodwill for additional information.

Discontinued operations—The Company reports financial results for discontinued operations separately from continuing operations to distinguish the financial impact of disposal transactions from ongoing operations. Discontinued operations reporting occurs only when the disposal of a component or a group of components of the Company represents a strategic shift that will have a major effect on the Company's operations and financial results. During the year ended December 31, 2017, the Company completed the Separation of its former Powertrain Systems segment by means of a spin-off into Delphi Technologies PLC. Accordingly, the assets and liabilities, operating results and operating and investing cash flows for the previously reported Powertrain Systems segment are presented as discontinued operations separate from the Company's continuing operations and segment results for all periods presented in these consolidated financial statements and the notes to the consolidated financial statements, unless otherwise noted. Refer to Note 25. Discontinued Operations and Held For Sale for further information regarding the Company's discontinued operations.

Warranty and product recalls—Expected warranty costs for products sold are recognized at the time of sale of the product based on an estimate of the amount that eventually will be required to settle such obligations. These accruals are based on factors such as past experience, production changes, industry developments and various other considerations. Costs of product recalls, which may include the cost of the product being replaced as well as the customer's cost of the recall, including labor to remove and replace the recalled part, are accrued as part of our warranty accrual at the time an obligation becomes probable and can be reasonably estimated. These estimates are adjusted from time to time based on facts and circumstances that impact the status of existing claims. Refer to Note 9. Warranty Obligations for additional information.

Income taxes—Deferred tax assets and liabilities reflect temporary differences between the amount of assets and liabilities for financial and tax reporting purposes. Such amounts are adjusted, as appropriate, to reflect changes in tax rates expected to be in effect when the temporary differences reverse. The effect on deferred tax assets and liabilities of a change in

tax rates is recognized in earnings in the period that includes the enactment date. A valuation allowance is recorded to reduce deferred tax assets to the amount that is more likely than not to be realized. In the event the Company determines it is more likely than not that the deferred tax assets will not be realized in the future, the valuation allowance adjustment to the deferred tax assets will be charged to earnings in the period in which the Company makes such a determination. In determining whether an uncertain tax position exists, the Company determines, based solely on its technical merits, whether the tax position is more likely than not to be sustained upon examination, and if so, a tax benefit is measured on a cumulative probability basis that is more likely than not to be realized upon the ultimate settlement. In determining the provision for income taxes for financial statement purposes, the Company makes certain estimates and judgments which affect its evaluation of the carrying value of its deferred tax assets, as well as its calculation of certain tax liabilities. Refer to Note 14. Income Taxes for additional information.

Foreign currency translation—Assets and liabilities of non-U.S. subsidiaries that use a currency other than U.S. dollars as their functional currency are translated to U.S. dollars at end-of-period currency exchange rates. The consolidated statements of operations of non-U.S. subsidiaries are translated to U.S. dollars at average-period currency exchange rates. The effect of translation for non-U.S. subsidiaries is generally reported in other comprehensive income (“OCI”). The effect of remeasurement of assets and liabilities of non-U.S. subsidiaries that use the U.S. dollar as their functional currency is primarily included in cost of sales. Also included in cost of sales are gains and losses arising from transactions denominated in a currency other than the functional currency of a particular entity. Net foreign currency transaction losses of \$3 million, gains of \$8 million and losses of \$13 million were included in the consolidated statements of operations for the years ended December 31, 2019, 2018 and 2017, respectively. The accumulated foreign currency translation adjustment related to an investment in a foreign subsidiary is reclassified to net income upon sale or upon complete or substantially complete liquidation of the respective entity.

Restructuring—Aptiv continually evaluates alternatives to align the business with the changing needs of its customers and to lower operating costs. This includes the realignment of its existing manufacturing capacity, facility closures, or similar actions, either in the normal course of business or pursuant to significant restructuring programs. These actions may result in employees receiving voluntary or involuntary employee termination benefits, which are mainly pursuant to union or other contractual agreements or statutory requirements. Voluntary termination benefits are accrued when an employee accepts the related offer. Involuntary termination benefits are accrued upon the commitment to a termination plan and when the benefit arrangement is communicated to affected employees, or when liabilities are determined to be probable and estimable, depending on the existence of a substantive plan for severance or termination. Contract termination costs are recorded when contracts are terminated or when Aptiv ceases to use the leased facility and no longer derives economic benefit from the contract. All other exit costs are expensed as incurred. Refer to Note 10. Restructuring for additional information.

Environmental liabilities—Environmental remediation liabilities are recognized when a loss is probable and can be reasonably estimated. Such liabilities generally are not subject to insurance coverage. The cost of each environmental remediation is estimated by engineering, financial, and legal specialists based on current law and considers the estimated cost of investigation and remediation required and the likelihood that, where applicable, other responsible parties will be able to fulfill their commitments. The process of estimating environmental remediation liabilities is complex and dependent primarily on the nature and extent of historical information and physical data relating to a contaminated site, the complexity of the site, the uncertainty as to what remediation and technology will be required, and the outcome of discussions with regulatory agencies and, if applicable, other responsible parties at multi-party sites. In future periods, new laws or regulations, advances in remediation technologies and additional information about the ultimate remediation methodology to be used could significantly change estimates by Aptiv. Refer to Note 13. Commitments and Contingencies for additional information.

Asset retirement obligations—Asset retirement obligations are recognized in accordance with FASB ASC 410, *Asset Retirement and Environmental Obligations*. Conditional retirement obligations have been identified primarily related to asbestos abatement at certain sites. To a lesser extent, conditional retirement obligations also exist at certain sites related to the removal of storage tanks and disposal costs. Asset retirement obligations were \$1 million and \$1 million at December 31, 2019 and 2018, respectively.

Customer concentrations—As reflected in the table below, net sales to GM, VW and FCA, Aptiv’s three largest customers, totaled approximately 27%, 29% and 29% of our total net sales for the years ended December 31, 2019, 2018 and 2017, respectively.

	Percentage of Total Net Sales			Accounts and Other Receivables	
	Year Ended December 31,			December 31, 2019	December 31, 2018
	2019	2018	2017		
				(in millions)	
GM (1)	9%	11%	13%	\$ 205	\$ 169
VW	9%	9%	9%	135	149
FCA	9%	9%	7%	207	175

(1) Net sales to GM includes net sales to GM’s former European Opel business prior to its sale to PSA on August 1, 2017, after which date these sales are excluded from net sales to GM.

Derivative financial instruments—All derivative instruments are required to be reported on the balance sheet at fair value unless the transactions qualify and are designated as normal purchases or sales. Changes in fair value are reported currently through earnings unless they meet hedge accounting criteria.

Exposure to fluctuations in currency exchange rates, interest rates and certain commodity prices are managed by entering into a variety of forward and option contracts and swaps with various counterparties. Such financial exposures are managed in accordance with the policies and procedures of Aptiv. Aptiv does not enter into derivative transactions for speculative or trading purposes. As part of the hedging program approval process, Aptiv identifies the specific financial risk which the derivative transaction will minimize, the appropriate hedging instrument to be used to reduce the risk and the correlation between the financial risk and the hedging instrument. Purchase orders, sales contracts, letters of intent, capital planning forecasts and historical data are used as the basis for determining the anticipated values of the transactions to be hedged. Aptiv does not enter into derivative transactions that do not have a high correlation with the underlying financial risk. Hedge positions, as well as the correlation between the transaction risks and the hedging instruments, are reviewed on an ongoing basis.

Foreign exchange forward contracts are accounted for as hedges of firm or forecasted foreign currency commitments or foreign currency exposure of the net investment in certain foreign operations to the extent they are designated and assessed as highly effective. All foreign exchange contracts are marked to market on a current basis. Commodity swaps are accounted for as hedges of firm or anticipated commodity purchase contracts to the extent they are designated and assessed as effective. All other commodity derivative contracts that are not designated as hedges are either marked to market on a current basis or are exempted from mark to market accounting as normal purchases. At December 31, 2019 and 2018, the Company’s exposure to movements in interest rates was not hedged with derivative instruments. Refer to Note 17. Derivatives and Hedging Activities and Note 18. Fair Value of Financial Instruments for additional information.

Extended disability benefits—Costs associated with extended disability benefits provided to inactive employees are accrued throughout the duration of their active employment. Workforce demographic data and historical experience are utilized to develop projections of time frames and related expense for post-employment benefits.

Workers’ compensation benefits—Workers’ compensation benefit accruals are actuarially determined and are subject to the existing workers’ compensation laws that vary by location. Accruals for workers’ compensation benefits represent the discounted future cash expenditures expected during the period between the incidents necessitating the employees to be idled and the time when such employees return to work, are eligible for retirement or otherwise terminate their employment.

Share-based compensation—The Company’s share-based compensation arrangements consist of the Aptiv PLC Long Term Incentive Plan, as amended and restated effective April 23, 2015 (the “PLC LTIP”), under which grants of restricted stock units (“RSUs”) have been made in each period from 2012 to 2019. The RSU awards include a time-based vesting portion and a performance-based vesting portion. The performance-based vesting portion includes performance and market conditions in addition to service conditions. The grant date fair value of the RSUs is determined based on the closing price of the Company’s ordinary shares on the date of the grant of the award, including an estimate for forfeitures, or a contemporaneous valuation performed by an independent valuation specialist with respect to awards with market conditions. Compensation expense is recognized based upon the grant date fair value of the awards applied to the Company’s best estimate of ultimate performance against the respective targets on a straight-line basis over the requisite vesting period of the awards. The performance conditions require management to make assumptions regarding the likelihood of achieving certain performance goals. Changes in these performance assumptions, as well as differences in actual results from management’s estimates, could result in estimated or actual values different from previously estimated fair values. Refer to Note 21. Share-Based Compensation for additional information.

Business combinations—The Company accounts for its business combinations in accordance with the accounting guidance in FASB ASC 805, *Business Combinations*. The purchase price of an acquired business is allocated to its identifiable assets and liabilities based on estimated fair values. The excess of the purchase price over the amount allocated to the assets and liabilities, if any, is recorded as goodwill. Determining the fair values of assets acquired and liabilities assumed requires management’s judgment, the utilization of independent appraisal firms and often involves the use of significant estimates and assumptions with respect to the timing and amount of future cash flows, market rate assumptions, actuarial assumptions, and appropriate discount rates, among other items. Refer to Note 20. Acquisitions and Divestitures for additional information.

Recently adopted accounting pronouncements—Aptiv adopted Accounting Standards Update (“ASU”) 2016-02, *Leases*, in the first quarter of 2019 using the optional transition method. This guidance requires lessees to recognize a lease liability and a right-of-use asset for all leases, with the exception of short-term leases with terms of twelve months or less. The lease liability represents the lessee’s obligation to make lease payments arising from a lease, and is measured as the present value of the lease payments. The right-of-use asset represents the lessee’s right to use a specified asset for the lease term, and is measured at the lease liability amount, adjusted for lease prepayment, lease incentives received and the lessee’s initial direct costs. Under the optional transition method, the Company’s reporting for the comparative periods in the consolidated financial statements continues to be in accordance with ASC Topic 840, *Leases* (“ASC 840”). The adoption of this guidance resulted in the recording of operating lease right-of-use assets and operating lease liabilities in the consolidated balance sheet as of January 1, 2019 and did not have a significant impact on the Company’s results of operations or cash flows.

As permitted by ASU 2016-02, Aptiv elected to apply the package of practical expedients allowing the Company to not reassess whether any expired or existing contracts are, or contain, leases, the lease classification for any expired or existing leases or initial direct costs for any expired or existing leases. Aptiv did not elect to apply the hindsight practical expedient allowing the Company to use hindsight when determining the lease term (i.e., evaluating the Company’s option to renew or terminate the lease or to purchase the underlying asset) and assessing impairment of expired or existing leases. Aptiv elected to apply the land easements practical expedient allowing the Company to not assess whether any expired or existing land easements are, or contain, leases if they were not previously accounted for as leases under ASC 840. Instead, Aptiv will continue to apply its existing accounting policies to historical land easements. Aptiv also elected to apply the short-term lease exception, therefore Aptiv will not record a right-of-use asset or corresponding lease liability for leases with a term of twelve months or less and instead will recognize a single lease cost allocated over the lease term, generally on a straight-line basis. Additionally, Aptiv elected the practical expedient to not separate lease components from non-lease components and instead accounts for both as a single lease component for all asset classes. Refer to Note 27. Leases for additional information.

Aptiv adopted ASU 2017-12, *Derivatives and Hedging—Targeted Improvements to Accounting for Hedging Activities*, in the first quarter of 2019. This guidance expands and refines the application of hedge accounting for both non-financial and financial risk components and aligns the recognition and presentation of the effects of the hedging instrument and the hedged item in the financial statements. The adoption of this guidance did not have a significant impact on Aptiv’s financial statements. Refer to Note 17. Derivatives and Hedging Activities for further information regarding derivatives.

Aptiv adopted ASU 2018-02, *Income Statement—Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*, in the first quarter of 2019. This guidance allows for the elimination of the stranded income tax effects resulting from the enactment of the Tax Cuts and Jobs Act (the “Tax Legislation”) through a reclassification from accumulated other comprehensive income (“OCI”) to retained earnings. Upon adoption, Aptiv recorded an increase to retained earnings of \$9 million and a corresponding decrease to accumulated OCI during the year ended December 31, 2019.

Aptiv adopted ASU 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes*, in the fourth quarter of 2019. This guidance simplifies various aspects related to accounting for income taxes by removing certain exceptions to the general principles in Topic 740 and also clarifies and amends existing guidance to improve consistent application. The guidance is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2020. Early adoption is permitted, including adoption in any interim period for which financial statements have not yet been issued. Certain amendments may be applied on a retrospective, modified retrospective or prospective basis. As permitted, the Company elected to early adopt this guidance for the year ended December 31, 2019. The adoption of this guidance did not have a significant impact on Aptiv’s financial statements and primarily resulted in the reclassification of an immaterial amount from non-income tax expense to income tax expense related to the accounting for franchise taxes, with no impact to Aptiv’s consolidated net income, equity or cash flows.

Recently issued accounting pronouncements not yet adopted—In June 2016, the FASB issued ASU 2016-13, *Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. This guidance requires the measurement of all expected credit losses for financial assets held at the reporting date based on historical experience, current conditions and reasonable and supportable forecasts. This guidance also requires enhanced disclosures regarding significant estimates and judgments used in estimating credit losses. The guidance is effective for fiscal years beginning after December 15, 2019. Early adoption is permitted for fiscal years, and interim periods within those fiscal years,

beginning after December 15, 2018. The adoption of this guidance is not expected to have a significant impact on Aptiv's consolidated financial statements.

In January 2017, the FASB issued ASU 2017-04, *Intangibles - Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment*. This guidance simplifies how an entity is required to test goodwill for impairment by eliminating step two from the goodwill impairment test, which measures a goodwill impairment loss by comparing the implied fair value of a reporting unit's goodwill with the carrying amount. Under the new guidance, if a reporting unit's carrying amount exceeds its estimated fair value, an entity will record an impairment charge based on that difference. The impairment charge will be limited to the amount of goodwill allocated to that reporting unit. The standard will be applied prospectively and is effective for annual and interim impairment tests performed in periods beginning after December 15, 2019. Early adoption is permitted. As this standard is prospective in nature, the impact to Aptiv's consolidated financial statements will depend on various factors associated with the Company's assessment of goodwill for impairment in those future periods. The adoption of this guidance is not expected to have a significant impact on Aptiv's consolidated financial statements.

3. INVENTORIES

Inventories are stated at the lower of cost, determined on a first-in, first-out basis, or net realizable value, including direct material costs and direct and indirect manufacturing costs. A summary of inventories is shown below:

	December 31, 2019	December 31, 2018
	(in millions)	
Productive material	\$ 706	\$ 724
Work-in-process	102	101
Finished goods	478	452
Total	<u>\$ 1,286</u>	<u>\$ 1,277</u>

4. ASSETS

Other current assets consisted of the following:

	December 31, 2019	December 31, 2018
	(in millions)	
Value added tax receivable	\$ 205	\$ 185
Prepaid insurance and other expenses	88	72
Reimbursable engineering costs	101	47
Notes receivable	10	43
Income and other taxes receivable	45	73
Deposits to vendors	4	4
Derivative financial instruments (Note 17)	30	6
Capitalized upfront fees (Note 26)	20	8
Other	1	7
Total	<u>\$ 504</u>	<u>\$ 445</u>

Other long-term assets consisted of the following:

	December 31, 2019	December 31, 2018
	(in millions)	
Deferred income taxes, net (Note 14)	\$ 164	\$ 143
Unamortized Revolving Credit Facility debt issuance costs (Note 11)	3	6
Income and other taxes receivable	45	6
Reimbursable engineering costs	217	137
Value added tax receivable	59	38
Equity investments (Note 5)	101	72
Derivative financial instruments (Note 17)	8	2
Capitalized upfront fees (Note 26)	79	64
Other	43	53
Total	<u>\$ 719</u>	<u>\$ 521</u>

5. INVESTMENTS IN AFFILIATES

As part of Aptiv's continuing operations, it has investments in three non-consolidated affiliates accounted for under the equity method of accounting. These affiliates are not publicly traded companies and are located primarily in Asia Pacific and North America. Aptiv's ownership percentages vary generally from approximately 20% to 50%, with the most significant investment in Promotora de Partes Electricas Automotrices, S.A. de C.V. (of which Aptiv owns approximately 40%). The Company's aggregate investments in affiliates was \$106 million and \$99 million at December 31, 2019 and 2018, respectively. Dividends of \$9 million, \$12 million and \$15 million for the years ended December 31, 2019, 2018 and 2017, respectively, have been received from these non-consolidated affiliates. No impairment charges were recorded for the years ended December 31, 2019, 2018 and 2017.

The following is a summary of the combined financial information of significant affiliates accounted for under the equity method for continuing operations as of December 31, 2019 and 2018 and for the years ended December 31, 2019, 2018 and 2017 (unaudited):

	December 31,	
	2019	2018
	(in millions)	
Current assets	\$ 231	\$ 222
Non-current assets	126	124
Total assets	<u>\$ 357</u>	<u>\$ 346</u>
Current liabilities	\$ 92	\$ 99
Non-current liabilities	10	7
Shareholders' equity	255	240
Total liabilities and shareholders' equity	<u>\$ 357</u>	<u>\$ 346</u>

	Year Ended December 31,		
	2019	2018	2017
	(in millions)		
Net sales	\$ 531	\$ 533	\$ 570
Gross profit	59	84	111
Net income	35	53	66

A summary of transactions with affiliates is shown below:

	Year Ended December 31,		
	2019	2018	2017
	(in millions)		
Sales to affiliates	\$ 6	\$ 7	\$ 8
Purchases from affiliates	37	38	19

Technology Investments

The Company has made technology investments in certain non-consolidated affiliates for ownership interests of less than 20%, as described in Note 2. Significant Accounting Policies. These investments do not have readily determinable fair values and are measured at cost, less impairments, adjusted for observable price changes in orderly transactions for identical or similar investments of the same issuer.

During the fourth quarter of 2019, the Company's Advanced Safety and User Experience segment made a \$6 million investment in Krono-Safe, SAS, a leading software developer of safety-critical real-time embedded systems.

During the first quarter of 2019, the Company's Advanced Safety and User Experience segment made an additional \$3 million investment in Otonomo Technologies Ltd. ("Otonomo"), a connected car data marketplace developer. This investment was in addition to the Company's \$15 million investment made in the first quarter of 2017.

During the fourth quarter of 2018, the Company's Advanced Safety and User Experience segment made a \$15 million investment in Affectiva, Inc., a leader in human perception artificial intelligence technology.

During the third quarter of 2017, the Company's Advanced Safety and User Experience segment made investments in two leading developers of LiDAR technology; a \$15 million investment in Innoviz Technologies and a \$10 million investment in LeddarTech, Inc.

During the second quarter of 2017, the Company's Signal and Power Solutions segment made a \$10 million investment in Valens Semiconductor Ltd., a leading provider of signal processing technology for high frequency data transmission of connected car content.

As of December 31, 2019, the Company had the following technology investments, which are classified within other long-term assets in the consolidated balance sheets:

Investment Name	Segment	Investment Date	Investment (in millions)
Krono-Safe, SAS	Advanced Safety and User Experience	Q4 2019	\$ 6
Affectiva, Inc.	Advanced Safety and User Experience	Q4 2018	15
Innoviz Technologies	Advanced Safety and User Experience	Q3 2017	15
LeddarTech, Inc.	Advanced Safety and User Experience	Q3 2017	10
Valens Semiconductor Ltd.	Signal and Power Solutions	Q2 2017	10
Otonomo Technologies Ltd.	Advanced Safety and User Experience	Q1 2017; Q1 2019	37
Quanergy Systems, Inc	Advanced Safety and User Experience	Q2 2015; Q1 2016	6
Other investments	Advanced Safety and User Experience	Q4 2018; Q3 2019	2
			\$ 101

During the year ended December 31, 2019, the Company's investment in Otonomo was remeasured to a fair value of \$37 million, based on a subsequent round of financing observed to be for identical or similar investments of the same issuer. As a result, the Company recorded a pre-tax unrealized gain of \$19 million to other income, net during the year ended December 31, 2019.

There were no other material transactions, events or changes in circumstances requiring an impairment or an observable price change adjustment to these investments. The Company continues to monitor these investments to identify potential transactions which may indicate an impairment or an observable price change requiring an adjustment to its carrying value.

6. PROPERTY, NET

Property, net consisted of:

	Estimated Useful Lives (Years)	December 31,	
		2019	2018
		(in millions)	
Land	—	\$ 81	\$ 78
Land and leasehold improvements	3-20	163	170
Buildings	40	646	582
Machinery, equipment and tooling	3-20	4,057	3,594
Furniture and office equipment	3-10	648	562
Construction in progress	—	322	357
Total		5,917	5,343
Less: accumulated depreciation		(2,608)	(2,164)
Total property, net		\$ 3,309	\$ 3,179

For the years ended December 31, 2019, 2018 and 2017, Aptiv recorded non-cash asset impairment charges of \$3 million, \$4 million and \$9 million, respectively, in cost of sales related to declines in the fair values of certain fixed assets.

7. INTANGIBLE ASSETS AND GOODWILL

The changes in the carrying amount of intangible assets and goodwill were as follows as of December 31, 2019 and 2018. See Note 20. Acquisitions and Divestitures for a further description of the goodwill and intangible assets resulting from Aptiv's acquisitions in 2019 and 2018.

	Estimated Useful Lives (Years)	As of December 31, 2019			As of December 31, 2018		
		Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
		(in millions)			(in millions)		
Amortized intangible assets:							
Patents and developed technology	3-15	\$ 656	\$ 415	\$ 241	\$ 647	\$ 371	\$ 276
Customer relationships	5-14	1,130	375	755	1,046	261	785
Trade names	15-20	73	44	29	66	35	31
Total		1,859	834	1,025	1,759	667	1,092
Unamortized intangible assets:							
In-process research and development	—	—	—	—	126	—	126
Trade names	—	161	—	161	162	—	162
Goodwill	—	2,407	—	2,407	2,524	—	2,524
Total		\$ 4,427	\$ 834	\$ 3,593	\$ 4,571	\$ 667	\$ 3,904

Estimated amortization expense for the years ending December 31, 2020 through 2024 is presented below:

	Year Ending December 31,				
	2020	2021	2022	2023	2024
(in millions)					
Estimated amortization expense	\$ 145	\$ 145	\$ 141	\$ 118	\$ 104

A roll-forward of the gross carrying amounts of intangible assets for the years ended December 31, 2019 and 2018 is presented below.

	2019	2018
	(in millions)	
Balance at January 1	\$ 4,571	\$ 3,731
Acquisitions (1)	316	1,000
Impairment (2)	—	(20)
Reclassified as held for sale	(445)	—
Foreign currency translation and other	(15)	(140)
Balance at December 31	<u>\$ 4,427</u>	<u>\$ 4,571</u>

- (1) Primarily attributable to the 2019 acquisitions of gabocom and Falmat, and the 2018 acquisitions of KUM and Winchester, as further described in Note 20. Acquisitions and Divestitures.
- (2) Primarily attributable to the impairment of certain indefinite-lived in-process research and development assets within the Advanced Safety and User Experience segment during the year ended December 31, 2018, which is included within amortization in the consolidated statements of operations. The fair value of the impaired assets was determined primarily using the anticipated cash flows discounted at a rate commensurate with the risk involved and a review of other market indicators and management estimates.

A roll-forward of the accumulated amortization for the years ended December 31, 2019 and 2018 is presented below:

	2019	2018
	(in millions)	
Balance at January 1	\$ 667	\$ 568
Amortization	138	124
Impairment (1)	8	10
Reclassified as held for sale	(1)	—
Foreign currency translation and other	22	(35)
Balance at December 31	<u>\$ 834</u>	<u>\$ 667</u>

- (1) Primarily attributable to the impairment of certain definite-lived trade name assets within the Advanced Safety and User Experience segment during the years ended December 31, 2019 and 2018, which is included within amortization in the consolidated statements of operations. The fair value of the impaired assets was determined primarily using the anticipated cash flows discounted at a rate commensurate with the risk involved and a review of other market indicators and management estimates.

A roll-forward of the carrying amount of goodwill, by operating segment, for the years ended December 31, 2019 and 2018 is presented below:

	Signal and Power Solutions	Advanced Safety and User Experience	Total
	(in millions)		
Balance at January 1, 2018	\$ 1,594	\$ 350	\$ 1,944
Acquisitions (1)	657	—	657
Foreign currency translation and other	(71)	(6)	(77)
Balance at December 31, 2018	<u>\$ 2,180</u>	<u>\$ 344</u>	<u>\$ 2,524</u>
Acquisitions (2)	\$ 229	\$ —	\$ 229
Reclassified as held for sale	—	(318)	(318)
Foreign currency translation and other	(28)	—	(28)
Balance at December 31, 2019	<u>\$ 2,381</u>	<u>\$ 26</u>	<u>\$ 2,407</u>

- (1) Primarily attributable to the acquisitions of KUM and Winchester, as further described in Note 20. Acquisitions and Divestitures.
- (2) Primarily attributable to the acquisitions of gabocom and Falmat, as further described in Note 20. Acquisitions and Divestitures.

8. LIABILITIES

Accrued liabilities consisted of the following:

	December 31, 2019	December 31, 2018
	(in millions)	
Payroll-related obligations	\$ 226	\$ 235
Employee benefits, including current pension obligations	97	96
Income and other taxes payable	180	187
Warranty obligations (Note 9)	29	33
Restructuring (Note 10)	86	55
Customer deposits	43	36
Derivative financial instruments (Note 17)	4	19
Accrued interest	47	42
Deferred compensation related to nuTonomy acquisition (Note 20)	35	31
Operating lease liabilities (Note 27)	94	—
Other	314	320
Total	<u>\$ 1,155</u>	<u>\$ 1,054</u>

Other long-term liabilities consisted of the following:

	December 31, 2019	December 31, 2018
	(in millions)	
Environmental (Note 13)	\$ 3	\$ 3
Extended disability benefits	6	5
Warranty obligations (Note 9)	8	17
Restructuring (Note 10)	48	49
Payroll-related obligations	10	10
Accrued income taxes	199	201
Deferred income taxes, net (Note 14)	229	233
Derivative financial instruments (Note 17)	—	9
Deferred compensation related to nuTonomy acquisition (Note 20)	—	18
Other	108	88
Total	<u>\$ 611</u>	<u>\$ 633</u>

9. WARRANTY OBLIGATIONS

Expected warranty costs for products sold are recognized principally at the time of sale of the product based on an estimate of the amount that will eventually be required to settle such obligations. These accruals are based on factors such as past experience, production changes, industry developments and various other considerations. The estimated costs related to product recalls based on a formal campaign soliciting return of that product are accrued at the time an obligation becomes probable and can be reasonably estimated. These estimates are adjusted from time to time based on facts and circumstances that impact the status of existing claims. Aptiv has recognized its best estimate for its total aggregate warranty reserves, including product recall costs, across all of its operating segments as of December 31, 2019. The Company estimates the reasonably possible amount to ultimately resolve all matters in excess of the recorded reserves as of December 31, 2019 to be zero to \$10 million.

The table below summarizes the activity in the product warranty liability for the years ended December 31, 2019 and 2018:

	Year Ended December 31,	
	2019	2018
	(in millions)	
Accrual balance at beginning of year	\$ 50	\$ 58
Provision for estimated warranties incurred during the year	39	39
Changes in estimate for pre-existing warranties	—	5
Settlements made during the year (in cash or in kind)	(52)	(51)
Foreign currency translation and other	—	(1)
Accrual balance at end of year	\$ 37	\$ 50

10. RESTRUCTURING

Aptiv's restructuring activities are undertaken as necessary to implement management's strategy, streamline operations, take advantage of available capacity and resources, and ultimately achieve net cost reductions. These activities generally relate to the realignment of existing manufacturing capacity and closure of facilities and other exit or disposal activities, as it relates to executing Aptiv's strategy, either in the normal course of business or pursuant to significant restructuring programs.

As part of Aptiv's continued efforts to optimize its cost structure, it has undertaken several restructuring programs which include workforce reductions as well as plant closures. These programs are primarily focused on the continued rotation of our manufacturing footprint to best cost locations in Europe and on reducing global overhead costs, including programs implemented to realign the Company's organizational structure due to changes in roles and workforce as a result of the spin-off of the former Powertrain Systems segment. The Company recorded employee-related and other restructuring charges related to these programs totaling approximately \$148 million during the year ended December 31, 2019, of which \$74 million was recognized for programs implemented in the European region, pursuant to the Company's ongoing overhead cost reduction strategy. None of the Company's individual restructuring programs initiated during 2019 were material and there have been no changes in previously initiated programs that have resulted (or are expected to result) in a material change to our restructuring costs. The Company expects to incur additional restructuring costs of approximately \$35 million (of which approximately \$20 million relates to the Signal and Power Solutions segment and approximately \$15 million relates to the Advanced Safety and User Experience segment) by the end of 2020 related to programs approved as of December 31, 2019.

During the year ended December 31, 2018, Aptiv recorded employee-related and other restructuring charges totaling approximately \$109 million, of which \$64 million was recognized for programs focused on the continued rotation of our manufacturing footprint to best cost locations in Europe and on reducing overhead costs in the region. During the year ended December 31, 2017, the Company recorded employee-related and other restructuring charges totaling approximately \$129 million, of which \$89 million was recognized for programs focused on the continued rotation of our manufacturing footprint to best cost locations in Europe and on reducing global overhead costs in the region. The charges recorded during the the year ended December 31, 2017 included the recognition of approximately \$36 million of employee-related and other costs related to the initiation of a program to close a Western European Advanced Safety and User Experience manufacturing site, pursuant to the Company's ongoing European footprint rotation strategy.

Additionally, the Company recorded approximately \$90 million of restructuring costs within discontinued operations during the year ended December 31, 2017 related to the Powertrain Systems business. These amounts were primarily incurred related to the Company's ongoing European footprint rotation strategy, and included charges of approximately \$54 million for the closure of a European manufacturing site.

Restructuring charges for employee separation and termination benefits are paid either over the severance period or in a lump sum in accordance with either statutory requirements or individual agreements. Aptiv incurred cash expenditures related to its restructuring programs of approximately \$119 million and \$135 million in the years ended December 31, 2019 and 2018, respectively.

The following table summarizes the restructuring charges recorded for the years ended December 31, 2019, 2018 and 2017 by operating segment:

	Year Ended December 31,		
	2019	2018	2017
	(in millions)		
Signal and Power Solutions	\$ 104	\$ 90	\$ 67
Advanced Safety and User Experience	44	19	62
Total	\$ 148	\$ 109	\$ 129

The table below summarizes the activity in the restructuring liability for the years ended December 31, 2019 and 2018:

	Employee Termination Benefits Liability	Other Exit Costs Liability	Total
	(in millions)		
Accrual balance at January 1, 2018	\$ 131	\$ 1	\$ 132
Provision for estimated expenses incurred during the year	109	—	109
Payments made during the year	(134)	(1)	(135)
Foreign currency and other	(2)	—	(2)
Accrual balance at December 31, 2018	\$ 104	\$ —	\$ 104
Provision for estimated expenses incurred during the year	\$ 148	\$ —	\$ 148
Payments made during the year	(119)	—	(119)
Foreign currency and other	1	—	1
Accrual balance at December 31, 2019	\$ 134	\$ —	\$ 134

11. DEBT

The following is a summary of debt outstanding, net of unamortized issuance costs and discounts, as of December 31, 2019 and 2018:

	December 31,	
	2019	2018
	(in millions)	
Accounts receivable factoring	\$ 266	\$ 279
Revolving Credit Facility	90	—
3.15%, senior notes, due 2020 (net of \$0 and \$1 unamortized issuance costs and \$0 and \$1 discount, respectively)	—	648
4.15%, senior notes, due 2024 (net of \$2 and \$3 unamortized issuance costs and \$1 and \$1 discount, respectively)	697	696
1.50%, Euro-denominated senior notes, due 2025 (net of \$3 and \$3 unamortized issuance costs and \$2 and \$3 discount, respectively)	779	795
4.25%, senior notes, due 2026 (net of \$3 and \$3 unamortized issuance costs, respectively)	647	647
1.60%, Euro-denominated senior notes, due 2028 (net of \$3 and \$3 unamortized issuance costs and \$0 and \$1 discount, respectively)	556	568
4.35%, senior notes, due 2029 (net of \$3 and \$0 unamortized issuance costs, respectively)	297	—
4.40%, senior notes, due 2046 (net of \$3 and \$3 unamortized issuance costs and \$2 and \$2 discount, respectively)	295	295
5.40%, senior notes, due 2049 (net of \$4 and \$0 unamortized issuance costs and \$1 and \$0 discount, respectively)	345	—
Tranche A Term Loan, due 2021 (net of \$1 and \$1 unamortized issuance costs, respectively)	359	384
Finance leases and other	33	32
Total debt	4,364	4,344
Less: current portion	(393)	(306)
Long-term debt	\$ 3,971	\$ 4,038

The principal maturities of debt, at nominal value, are as follows:

	Debt and Finance Lease Obligations
	(in millions)
2020	\$ 393
2021	343
2022	3
2023	2
2024	702
Thereafter	2,949
Total	\$ 4,392

Credit Agreement

Aptiv PLC and its wholly-owned subsidiary Aptiv Corporation entered into a credit agreement (the “Credit Agreement”) with JPMorgan Chase Bank, N.A., as administrative agent (the “Administrative Agent”), under which it maintains senior unsecured credit facilities currently consisting of a term loan (the “Tranche A Term Loan”) and a revolving credit facility of \$2.0 billion (the “Revolving Credit Facility”). The Credit Agreement was entered into in March 2011 and has been subsequently amended and restated on several occasions, most recently on August 17, 2016. The 2016 amendment extended the maturity of the Revolving Credit Facility and the Tranche A Term Loan from 2018 to 2021, increased the capacity of the Revolving Credit Facility from \$1.5 billion to \$2.0 billion and permitted Aptiv PLC to act as a borrower on the Revolving Credit Facility.

The Tranche A Term Loan and the Revolving Credit Facility mature on August 17, 2021. Beginning in the fourth quarter of 2017, Aptiv was obligated to begin making quarterly principal payments throughout the term of the Tranche A Term Loan according to the amortization schedule in the Credit Agreement. The Credit Agreement also contains an accordion feature that permits Aptiv to increase, from time to time, the aggregate borrowing capacity under the Credit Agreement by up to an additional \$1 billion (or a greater amount based upon a formula set forth in the Credit Agreement) upon Aptiv’s request, the agreement of the lenders participating in the increase, and the approval of the Administrative Agent and existing lenders.

As of December 31, 2019, \$90 million was outstanding under the Revolving Credit Facility and less than \$1 million in letters of credit were issued under the Credit Agreement. Letters of credit issued under the Credit Agreement reduce availability under the Revolving Credit Facility.

Loans under the Credit Agreement bear interest, at Aptiv’s option, at either (a) the Administrative Agent’s Alternate Base Rate (“ABR” as defined in the Credit Agreement) or (b) the London Interbank Offered Rate (the “Adjusted LIBO Rate” as defined in the Credit Agreement) (“LIBOR”) plus in either case a percentage per annum as set forth in the table below (the “Applicable Rate”). The Applicable Rates under the Credit Agreement on the specified dates are set forth below:

	December 31, 2019		December 31, 2018	
	LIBOR plus	ABR plus	LIBOR plus	ABR plus
Revolving Credit Facility	1.10%	0.10%	1.10%	0.10%
Tranche A Term Loan	1.25%	0.25%	1.25%	0.25%

The Applicable Rate under the Credit Agreement may increase or decrease from time to time based on changes in the Company’s credit ratings. Accordingly, the interest rate will fluctuate during the term of the Credit Agreement based on changes in the ABR, LIBOR or future changes in the Company’s corporate credit ratings. The Credit Agreement also requires that Aptiv pay certain facility fees on the Revolving Credit Facility and certain letter of credit issuance and fronting fees.

The interest rate period with respect to LIBOR interest rate options can be set at one-, two-, three-, or six-months as selected by Aptiv in accordance with the terms of the Credit Agreement (or other period as may be agreed by the applicable lenders). Aptiv may elect to change the selected interest rate option in accordance with the provisions of the Credit Agreement. As of December 31, 2019, Aptiv selected the one-month LIBOR interest rate option on the Tranche A Term Loan, and the rate effective as of December 31, 2019, as detailed in the table below, was based on the Company’s current credit rating and the Applicable Rate for the Credit Agreement:

	Applicable Rate	Borrowings as of	Rates effective as of
		December 31, 2019 (in millions)	December 31, 2019
Revolving Credit Facility	ABR plus 0.10%	\$ 40	4.85%
Revolving Credit Facility	LIBOR plus 1.10%	\$ 50	2.85%
Tranche A Term Loan	LIBOR plus 1.25%	\$ 360	3.00%

Borrowings under the Credit Agreement are prepayable at Aptiv’s option without premium or penalty.

The Credit Agreement contains certain covenants that limit, among other things, the Company’s (and the Company’s subsidiaries’) ability to incur certain additional indebtedness or liens or to dispose of substantially all of its assets. In addition, the Credit Agreement requires that the Company maintain a consolidated leverage ratio (the ratio of Consolidated Total Indebtedness to Consolidated EBITDA, each as defined in the Credit Agreement) of less than 3.50 to 1.0. The Credit Agreement also contains events of default customary for financings of this type. The Company was in compliance with the Credit Agreement covenants as of December 31, 2019.

As of December 31, 2019, all obligations under the Credit Agreement were borrowed by Aptiv Corporation and jointly and severally guaranteed by its direct and indirect parent companies, subject to certain exceptions set forth in the Credit Agreement. Refer to Note 22. Supplemental Guarantor and Non-Guarantor Condensed Consolidating Financial Statements for additional information.

Senior Unsecured Notes

On March 3, 2014, Aptiv Corporation issued \$700 million in aggregate principal amount of 4.15% senior unsecured notes due 2024 (the “2014 Senior Notes”) in a transaction registered under the Securities Act of 1933, as amended (the “Securities Act”). The 2014 Senior Notes were priced at 99.649% of par, resulting in a yield to maturity of 4.193%. The proceeds were primarily utilized to redeem \$500 million of 5.875% senior unsecured notes due 2019 and to repay a portion of the Tranche A

Term Loan. Aptiv paid approximately \$6 million of issuance costs in connection with the 2014 Senior Notes. Interest is payable semi-annually on March 15 and September 15 of each year to holders of record at the close of business on March 1 or September 1 immediately preceding the interest payment date.

On March 10, 2015, Aptiv PLC issued €700 million in aggregate principal amount of 1.50% Euro-denominated senior unsecured notes due 2025 (the “2015 Euro-denominated Senior Notes”) in a transaction registered under the Securities Act. The 2015 Euro-denominated Senior Notes were priced at 99.54% of par, resulting in a yield to maturity of 1.55%. The proceeds were primarily utilized to redeem \$500 million of 6.125% senior unsecured notes due 2021, and to fund growth initiatives, such as acquisitions, and share repurchases. Aptiv incurred approximately \$5 million of issuance costs in connection with the 2015 Euro-denominated Senior Notes. Interest is payable annually on March 10. The Company has designated the 2015 Euro-denominated Senior Notes as a net investment hedge of the foreign currency exposure of its investments in certain Euro-denominated wholly owned subsidiaries. Refer to Note 17. Derivatives and Hedging Activities for further information.

On November 19, 2015, Aptiv PLC issued \$1.3 billion in aggregate principal amount of senior unsecured notes in a transaction registered under the Securities Act, comprised of \$650 million of 3.15% senior unsecured notes due 2020 (the “3.15% Senior Notes”) and \$650 million of 4.25% senior unsecured notes due 2026 (the “4.25% Senior Notes”) (collectively, the “2015 Senior Notes”). The 3.15% Senior Notes were priced at 99.784% of par, resulting in a yield to maturity of 3.197%, and the 4.25% Senior Notes were priced at 99.942% of par, resulting in a yield to maturity of 4.256%. The proceeds were primarily utilized to fund a portion of the cash consideration for the acquisition of HellermannTyton PLC, and for general corporate purposes, including the payment of fees and expenses associated with the HellermannTyton PLC acquisition and the related financing transaction. Aptiv incurred approximately \$8 million of issuance costs in connection with the 2015 Senior Notes. Interest on the 3.15% Senior Notes was payable semi-annually on May 19 and November 19 of each year to holders of record at the close of business on May 4 or November 4 immediately preceding the interest payment date. Interest on the 4.25% Senior Notes is payable semi-annually on January 15 and July 15 of each year to holders of record at the close of business on January 1 or July 1 immediately preceding the interest payment date. In March 2019, Aptiv redeemed for cash the entire \$650 million aggregate principal amount outstanding of the 3.15% Senior Notes, financed by the proceeds received from the issuance of the 2019 Senior Notes, as defined below. As a result of the redemption of the 3.15% Senior Notes, Aptiv recognized a loss on debt extinguishment of approximately \$6 million during the year ended December 31, 2019 within other expense, net in the consolidated statements of operations.

On September 15, 2016, Aptiv PLC issued €500 million in aggregate principal amount of 1.60% Euro-denominated senior unsecured notes due 2028 (the “2016 Euro-denominated Senior Notes”) in a transaction registered under the Securities Act. The 2016 Euro-denominated Senior Notes were priced at 99.881% of par, resulting in a yield to maturity of 1.611%. The proceeds, together with proceeds from the 2016 Senior Notes described below, were utilized to redeem the \$800 million of 5.00% senior unsecured notes due 2023. Aptiv incurred approximately \$4 million of issuance costs in connection with the 2016 Euro-denominated Senior Notes. Interest is payable annually on September 15. The Company has designated the 2016 Euro-denominated Senior Notes as a net investment hedge of the foreign currency exposure of its investments in certain Euro-denominated wholly-owned subsidiaries. Refer to Note 17. Derivatives and Hedging Activities for further information.

On September 20, 2016, Aptiv PLC issued \$300 million in aggregate principal amount of 4.40% senior unsecured notes due 2046 (the “2016 Senior Notes”) in a transaction registered under the Securities Act. The 2016 Senior Notes were priced at 99.454% of par, resulting in a yield to maturity of 4.433%. The proceeds, together with proceeds from the 2016 Euro-denominated Senior Notes, were utilized to redeem the \$800 million of 5.00% senior unsecured notes due 2023. Aptiv incurred approximately \$3 million of issuance costs in connection with the 2016 Senior Notes. Interest is payable semi-annually on April 1 and October 1 of each year to holders of record at the close of business on March 15 or September 15 immediately preceding the interest payment date.

On March 14, 2019, Aptiv PLC issued \$650 million in aggregate principal amount of senior unsecured notes in a transaction registered under the Securities Act, comprised of \$300 million of 4.35% senior unsecured notes due 2029 (the “4.35% Senior Notes”) and \$350 million of 5.40% senior unsecured notes due 2049 (the “5.40% Senior Notes”) (collectively, the “2019 Senior Notes”). The 4.35% Senior Notes were priced at 99.879% of par, resulting in a yield to maturity of 4.365%, and the 5.40% Senior Notes were priced at 99.558% of par, resulting in a yield to maturity of 5.430%. The proceeds were utilized to redeem the 3.15% Senior Notes. Aptiv incurred approximately \$7 million of issuance costs in connection with the 2019 Senior Notes. Interest on the 2019 Senior Notes is payable semi-annually on March 15 and September 15 of each year to holders of record at the close of business on March 1 or September 1 immediately preceding the interest payment date.

Although the specific terms of each indenture governing each series of senior notes vary, the indentures contain certain restrictive covenants, including with respect to Aptiv’s (and Aptiv’s subsidiaries) ability to incur liens, enter into sale and leaseback transactions and merge with or into other entities. As of December 31, 2019, the Company was in compliance with the provisions of all series of the outstanding senior notes.

The 2014 Senior Notes issued by Aptiv Corporation are fully and unconditionally guaranteed, jointly and severally, by Aptiv PLC and by certain of Aptiv PLC's direct and indirect subsidiaries which are directly or indirectly 100% owned by Aptiv PLC, subject to customary release provisions (other than in the case of Aptiv PLC). The 2015 Euro-denominated Senior Notes, 4.25% Senior Notes, 2016 Euro-denominated Senior Notes, 2016 Senior Notes and 2019 Senior Notes issued by Aptiv PLC are, and prior to their redemption, the 3.15% Senior Notes were, fully and unconditionally guaranteed, jointly and severally, by certain of Aptiv PLC's direct and indirect subsidiaries (including Aptiv Corporation), which are directly or indirectly 100% owned by Aptiv PLC, subject to customary release provisions. Refer to Note 22. Supplemental Guarantor and Non-Guarantor Condensed Consolidating Financial Statements for additional information.

Other Financing

Receivable factoring—Aptiv maintains a €300 million European accounts receivable factoring facility that is available on a committed basis. This facility is accounted for as short-term debt and borrowings are subject to the availability of eligible accounts receivable. Collateral is not required related to these trade accounts receivable. This program renews on a non-committed, indefinite basis unless terminated by either party. Borrowings bear interest at Euro Interbank Offered Rate (“EURIBOR”) plus 0.42% for borrowings denominated in Euros. The rate effective on amounts outstanding as of December 31, 2019 was 0.42%. As of December 31, 2019 and 2018, Aptiv had \$266 million and \$279 million, respectively, outstanding on the European accounts receivable factoring facility.

Finance leases and other—As of December 31, 2019 and 2018, approximately \$33 million and \$32 million, respectively, of other debt primarily issued by certain non-U.S. subsidiaries and finance lease obligations were outstanding.

Interest—Cash paid for interest related to debt outstanding totaled \$153 million, \$134 million and \$124 million for the years ended December 31, 2019, 2018 and 2017, respectively.

Letter of credit facilities—In addition to the letters of credit issued under the Credit Agreement, Aptiv had approximately \$2 million and \$2 million outstanding through other letter of credit facilities as of December 31, 2019 and 2018, respectively, primarily to support arrangements and other obligations at certain of its subsidiaries.

Indebtedness Related to the Delphi Technologies Separation

As further described in Note 25. Discontinued Operations and Held For Sale, the Company received a dividend of approximately \$1,148 million from Delphi Technologies in connection with the Separation. Delphi Technologies financed this dividend through the issuance of approximately \$1.55 billion of debt, consisting of a senior secured five-year \$750 million term loan facility that was issued upon the Separation and \$800 million aggregate principal amount of 5.00% senior unsecured notes due 2025 that were issued in September 2017 (collectively, the “Delphi Technologies Debt”). As of December 4, 2017, in connection with the Separation, the Delphi Technologies Debt was transferred to Delphi Technologies and is no longer reflected in the Company's consolidated financial statements.

12. PENSION BENEFITS

Certain of Aptiv's non-U.S. subsidiaries sponsor defined benefit pension plans, which generally provide benefits based on negotiated amounts for each year of service. Aptiv's primary non-U.S. plans are located in France, Germany, Mexico, Portugal and the U.K. The U.K. and certain Mexican plans are funded. In addition, Aptiv has defined benefit plans in South Korea, Turkey and Italy for which amounts are payable to employees immediately upon separation. The obligations for these plans are recorded over the requisite service period.

Aptiv sponsors a Supplemental Executive Retirement Program (“SERP”) for those employees who were U.S. executives of DPHH prior to September 30, 2008 and were still U.S. executives of the Company on October 7, 2009, the effective date of the program. This program is unfunded. Executives receive benefits over 5 years after an involuntary or voluntary separation from Aptiv. The SERP is closed to new members.

Funded Status

The amounts shown below reflect the change in the U.S. defined benefit pension obligations during 2019 and 2018.

	Year Ended December 31,	
	2019	2018
	(in millions)	
Benefit obligation at beginning of year	\$ 18	\$ 29
Interest cost	1	1
Actuarial gain	—	(2)
Benefits paid	(8)	(10)
Benefit obligation at end of year	11	18
Change in plan assets:		
Fair value of plan assets at beginning of year	—	—
Aptiv contributions	8	10
Benefits paid	(8)	(10)
Fair value of plan assets at end of year	—	—
Underfunded status	(11)	(18)
Amounts recognized in the consolidated balance sheets consist of:		
Current liabilities	(4)	(7)
Non-current liabilities	(7)	(11)
Total	(11)	(18)
Amounts recognized in accumulated other comprehensive loss consist of (pre-tax):		
Actuarial loss	7	8
Total	\$ 7	\$ 8

The amounts shown below reflect the change in the non-U.S. defined benefit pension obligations during 2019 and 2018.

	Year Ended December 31,	
	2019	2018
	(in millions)	
Benefit obligation at beginning of year	\$ 809	\$ 835
Obligation assumed in KUM acquisition	—	25
Service cost	17	17
Interest cost	25	23
Actuarial loss (gain)	79	(4)
Benefits paid	(33)	(30)
Impact of curtailments	7	(1)
Plan amendments	—	6
Exchange rate movements and other	(4)	(62)
Benefit obligation at end of year	900	809
Change in plan assets:		
Fair value of plan assets at beginning of year	362	377
Assets acquired in KUM acquisition	—	19
Actual return on plan assets	40	(6)
Aptiv contributions	30	38
Benefits paid	(33)	(30)
Exchange rate movements and other	4	(36)
Fair value of plan assets at end of year	403	362
Underfunded status	(497)	(447)
Amounts recognized in the consolidated balance sheets consist of:		
Non-current assets	2	2
Current liabilities	(25)	(17)
Non-current liabilities	(474)	(432)
Total	(497)	(447)
Amounts recognized in accumulated other comprehensive loss consist of (pre-tax):		
Actuarial loss	188	143
Prior service cost	5	6
Total	\$ 193	\$ 149

The projected benefit obligation (“PBO”), accumulated benefit obligation (“ABO”), and fair value of plan assets for pension plans with accumulated benefit obligations in excess of plan assets and with plan assets in excess of accumulated benefit obligations are as follows:

	U.S. Plans		Non-U.S. Plans	
	2019	2018	2019	2018
	(in millions)			
	Plans with ABO in Excess of Plan Assets			
PBO	\$ 11	\$ 18	\$ 770	\$ 699
ABO	11	18	721	655
Fair value of plan assets at end of year	—	—	291	258
	Plans with Plan Assets in Excess of ABO			
PBO	\$ —	\$ —	\$ 130	\$ 110
ABO	—	—	97	85
Fair value of plan assets at end of year	—	—	112	104
	Total			
PBO	\$ 11	\$ 18	\$ 900	\$ 809
ABO	11	18	818	740
Fair value of plan assets at end of year	—	—	403	362

Benefit costs presented below were determined based on actuarial methods and included the following, which include the results of discontinued operations for the year ended December 31, 2017:

	U.S. Plans		
	Year Ended December 31,		
	2019	2018	2017
	(in millions)		
Interest cost	\$ 1	\$ 1	\$ 1
Amortization of actuarial losses	1	1	1
Net periodic benefit cost	\$ 2	\$ 2	\$ 2

	Non-U.S. Plans		
	Year Ended December 31,		
	2019	2018	2017
	(in millions)		
Service cost	\$ 17	\$ 17	\$ 48
Interest cost	25	23	54
Expected return on plan assets	(18)	(22)	(63)
Settlement loss	1	3	1
Curtailed loss (gain)	7	(1)	16
Amortization of actuarial losses	9	13	35
Other	1	—	—
Net periodic benefit cost	\$ 42	\$ 33	\$ 91

Other postretirement benefit obligations were approximately \$2 million and \$3 million at December 31, 2019 and 2018, respectively.

Experience gains and losses, as well as the effects of changes in actuarial assumptions and plan provisions are recognized in other comprehensive income. Cumulative gains and losses in excess of 10% of the PBO for a particular plan are amortized over the average future service period of the employees in that plan. The estimated actuarial loss for the defined benefit pension plans that will be amortized from accumulated other comprehensive income into net periodic benefit cost in 2020 is \$15 million.

The principal assumptions used to determine the pension expense and the actuarial value of the projected benefit obligation for the U.S. and non-U.S. pension plans were:

Assumptions used to determine benefit obligations at December 31:

	Pension Benefits			
	U.S. Plans		Non-U.S. Plans	
	2019	2018	2019	2018
Weighted-average discount rate	2.40%	3.80%	2.87%	3.53%
Weighted-average rate of increase in compensation levels	N/A	N/A	3.69%	3.74%

Assumptions used to determine net expense for years ended December 31:

	Pension Benefits					
	U.S. Plans			Non-U.S. Plans		
	2019	2018	2017	2019	2018	2017
Weighted-average discount rate	3.80%	2.70%	2.70%	3.53%	3.39%	2.83%
Weighted-average rate of increase in compensation levels	N/A	N/A	N/A	3.74%	3.65%	3.86%
Weighted-average expected long-term rate of return on plan assets	N/A	N/A	N/A	4.95%	5.63%	5.84%

Aptiv selects discount rates by analyzing the results of matching each plan's projected benefit obligations with a portfolio of high-quality fixed income investments rated AA-or higher by Standard and Poor's.

Aptiv does not have any U.S. pension assets; therefore no U.S. asset rate of return calculation was necessary. The primary funded non-U.S. plans are in the U.K. and Mexico. For the determination of 2019 expense, Aptiv assumed a long-term expected asset rate of return of approximately 4.50% and 7.50% for the U.K. and Mexico, respectively. Aptiv evaluated input from local actuaries and asset managers, including consideration of recent fund performance and historical returns, in developing the long-term rate of return assumptions. The assumptions for the U.K. and Mexico are primarily long-term, prospective rates. To determine the expected return on plan assets, the market-related value of our plan assets is actual fair value.

Aptiv's pension expense for 2020 is determined at the 2019 year end measurement date. For purposes of analysis, the following table highlights the sensitivity of the Company's pension obligations and expense attributable to continuing operations to changes in key assumptions:

Change in Assumption	Impact on Pension Expense	Impact on PBO
25 basis point ("bp") decrease in discount rate	+ \$2 million	+ \$31 million
25 bp increase in discount rate	- \$2 million	- \$30 million
25 bp decrease in long-term expected return on assets	+ \$1 million	—
25 bp increase in long-term expected return on assets	- \$1 million	—

The above sensitivities reflect the effect of changing one assumption at a time. It should be noted that economic factors and conditions often affect multiple assumptions simultaneously and the effects of changes in key assumptions are not necessarily linear. The above sensitivities also assume no changes to the design of the pension plans and no major restructuring programs.

Pension Funding

The following benefit payments, which reflect expected future service, as appropriate, are expected to be paid:

	Projected Pension Benefit Payments	
	U.S. Plans	Non-U.S. Plans
	(in millions)	
2020	\$ 5	\$ 55
2021	3	35
2022	1	38
2023	1	43
2024	1	44
2025 – 2029	1	273

Aptiv anticipates making pension contributions and benefit payments of approximately \$50 million in 2020.

Aptiv sponsors defined contribution plans for certain hourly and salaried employees. Expense related to the contributions for these plans attributable to continued operations was \$40 million, \$37 million, and \$36 million for the years ended December 31, 2019, 2018 and 2017, respectively.

Plan Assets

Certain pension plans sponsored by Aptiv invest in a diversified portfolio consisting of an array of asset classes that attempts to maximize returns while minimizing volatility. These asset classes include developed market equities, emerging market equities, private equity, global high quality and high yield fixed income, real estate and absolute return strategies.

The fair values of Aptiv's pension plan assets weighted-average asset allocations at December 31, 2019 and 2018, by asset category, are as follows:

Asset Category	Fair Value Measurements at December 31, 2019			
	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
	(in millions)			
Cash	\$ 21	\$ 21	\$ —	\$ —
Time deposits	25	—	25	—
Equity mutual funds	31	—	31	—
Bond mutual funds	174	—	174	—
Real estate trust funds	31	—	—	31
Hedge funds	15	—	—	15
Insurance contracts	7	—	—	7
Debt securities	57	57	—	—
Equity securities	42	42	—	—
Total	\$ 403	\$ 120	\$ 230	\$ 53

Fair Value Measurements at December 31, 2018

Asset Category	Fair Value Measurements at December 31, 2018			
	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
	(in millions)			
Cash	\$ 22	\$ 22	\$ —	\$ —
Time deposits	23	—	23	—
Equity mutual funds	25	—	25	—
Bond mutual funds	148	—	148	—
Real estate trust funds	24	—	—	24
Hedge funds	21	—	—	21
Insurance contracts	6	—	—	6
Debt securities	53	53	—	—
Equity securities	40	40	—	—
Total	\$ 362	\$ 115	\$ 196	\$ 51

Following is a description of the valuation methodologies used for pension assets measured at fair value.

Time deposits—The fair value of fixed-maturity certificates of deposit was estimated using the rates offered for deposits of similar remaining maturities.

Equity mutual funds—The fair value of the equity mutual funds is determined by the indirect quoted market prices on regulated financial exchanges of the underlying investments included in the fund.

Bond mutual funds—The fair value of the bond mutual funds is determined by the indirect quoted market prices on regulated financial exchanges of the underlying investments included in the fund.

Real estate—The fair value of real estate properties is estimated using an annual appraisal provided by the administrator of the property investment. Management believes this is an appropriate methodology to obtain the fair value of these assets.

Hedge funds—The fair value of the hedge funds is accounted for by a custodian. The custodian obtains valuations from the underlying hedge fund managers based on market quotes for the most liquid assets and alternative methods for assets that do not have sufficient trading activity to derive prices. Management and the custodian review the methods used by the underlying managers to value the assets. Management believes this is an appropriate methodology to obtain the fair value of these assets.

Insurance contracts—The insurance contracts are invested in a fund with guaranteed minimum returns. The fair values of these contracts are based on the net asset value underlying the contracts.

Debt securities—The fair value of debt securities is determined by direct quoted market prices on regulated financial exchanges.

Equity securities—The fair value of equity securities is determined by direct quoted market prices on regulated financial exchanges.

	Fair Value Measurements Using Significant Unobservable Inputs (Level 3)		
	Real Estate Trust Fund	Hedge Funds	Insurance Contracts
	(in millions)		
Beginning balance at January 1, 2018	\$ 13	\$ 27	\$ 6
Actual return on plan assets:			
Relating to assets still held at the reporting date	2	—	—
Purchases, sales and settlements	9	(4)	—
Foreign currency translation and other	—	(2)	—
Ending balance at December 31, 2018	\$ 24	\$ 21	\$ 6
Actual return on plan assets:			
Relating to assets still held at the reporting date	\$ —	\$ (1)	\$ —
Purchases, sales and settlements	6	(6)	—
Foreign currency translation and other	1	1	1
Ending balance at December 31, 2019	\$ 31	\$ 15	\$ 7

13. COMMITMENTS AND CONTINGENCIES

Ordinary Business Litigation

Aptiv is from time to time subject to various legal actions and claims incidental to its business, including those arising out of alleged defects, alleged breaches of contracts, product warranties, intellectual property matters, and employment-related matters. It is the opinion of Aptiv that the outcome of such matters will not have a material adverse impact on the consolidated financial position, results of operations, or cash flows of Aptiv. With respect to warranty matters, although Aptiv cannot ensure that the future costs of warranty claims by customers will not be material, Aptiv believes its established reserves are adequate to cover potential warranty settlements.

Unsecured Creditors Litigation

Aptiv was subject to litigation related to general unsecured claims against DPHH, resulting from that entity's 2005 bankruptcy filing. In January 2017, the U.S. Bankruptcy Court for the Southern District of New York (the "Bankruptcy Court") which had jurisdiction over the general unsecured claims, granted summary judgment in favor of the holders of the general unsecured claims against DPHH, and a \$300 million distribution for general unsecured claims was triggered. In connection with the January 2017 ruling, the Company recorded a reserve of \$300 million in the fourth quarter of 2016. The reserve was recorded to other expense, net in the consolidated statements of operations, and resulted in a corresponding reduction in earnings per diluted share of approximately \$1.10 for the year ended December 31, 2016.

In March 2017, the Bankruptcy Court issued a ruling on the application of pre-judgment interest owed on the amount of the distribution to be made to the holders of the general unsecured claims. During the second quarter of 2017, Aptiv and the holders of the general unsecured claims against DPHH reached an agreement to settle this matter for \$310 million, which was subsequently approved by the Bankruptcy Court. In July 2017, the Company paid the \$310 million settlement pursuant to the terms of the settlement agreement. In accordance with the terms of the settlement agreement, the Company recorded a net incremental charge of \$10 million to other expense, net during the year ended December 31, 2017.

Brazil Matters

Aptiv conducts business operations in Brazil that are subject to the Brazilian federal labor, social security, environmental, tax and customs laws, as well as a variety of state and local laws. While Aptiv believes it complies with such laws, they are complex, subject to varying interpretations, and the Company is often engaged in litigation with government agencies regarding the application of these laws to particular circumstances. As of December 31, 2019, the majority of claims asserted against Aptiv in Brazil relate to such litigation. The remaining claims in Brazil relate to commercial and labor litigation with private parties. As of December 31, 2019, claims totaling approximately \$140 million (using December 31, 2019 foreign currency rates) have been asserted against Aptiv in Brazil. As of December 31, 2019, the Company maintains accruals for these asserted claims of \$30 million (using December 31, 2019 foreign currency rates). The amounts accrued represent claims that are deemed probable of loss and are reasonably estimable based on the Company's analyses and assessment of the asserted claims and prior experience with similar matters. While the Company believes its accruals are adequate, the final amounts

required to resolve these matters could differ materially from the Company's recorded estimates and Aptiv's results of operations could be materially affected. The Company estimates the reasonably possible loss in excess of the amounts accrued related to these claims to be zero to \$110 million.

Environmental Matters

Aptiv is subject to the requirements of U.S. federal, state, local and non-U.S. environmental and safety and health laws and regulations. As of December 31, 2019 and 2018, the undiscounted reserve for environmental investigation and remediation was approximately \$4 million (of which \$1 million was recorded in accrued liabilities and \$3 million was recorded in other long-term liabilities) and \$4 million (of which \$1 million was recorded in accrued liabilities and \$3 million was recorded in other long-term liabilities), respectively. Aptiv cannot ensure that environmental requirements will not change or become more stringent over time or that its eventual environmental remediation costs and liabilities will not exceed the amount of its current reserves. In the event that such liabilities were to significantly exceed the amounts recorded, Aptiv's results of operations could be materially affected. At December 31, 2019 the difference between the recorded liabilities and the reasonably possible range of potential loss was not material.

14. INCOME TAXES

Income from continuing operations before income taxes and equity income for U.S. and non-U.S. operations are as follows:

	Year Ended December 31,		
	2019	2018	2017
	(in millions)		
U.S. (loss) income	\$ (1)	\$ 369	\$ (32)
Non-U.S. income	1,127	965	1,287
Income from continuing operations before income taxes and equity income	<u>\$ 1,126</u>	<u>\$ 1,334</u>	<u>\$ 1,255</u>

The provision (benefit) for income taxes from continuing operations is comprised of:

	Year Ended December 31,		
	2019	2018	2017
	(in millions)		
Current income tax expense (benefit):			
U.S. federal	\$ 8	\$ 40	\$ 37
Non-U.S.	156	214	214
U.S. state and local	1	10	(2)
Total current	<u>165</u>	<u>264</u>	<u>249</u>
Deferred income tax expense (benefit), net:			
U.S. federal	(23)	13	(15)
Non-U.S.	(8)	(16)	(12)
U.S. state and local	(2)	(11)	1
Total deferred	<u>(33)</u>	<u>(14)</u>	<u>(26)</u>
Total income tax provision	<u>\$ 132</u>	<u>\$ 250</u>	<u>\$ 223</u>

Cash paid or withheld for income taxes was \$189 million, \$283 million and \$275 million for the years ended December 31, 2019, 2018 and 2017, respectively.

For purposes of comparability and consistency, the Company uses the notional U.S. federal income tax rate when presenting the Company's reconciliation of the income tax provision. The Company was formerly a U.K. resident taxpayer and became an Irish resident taxpayer in April 2018. A reconciliation of the provision for income taxes compared with the amounts at the notional U.S. federal statutory rate was:

	Year Ended December 31,		
	2019	2018	2017
	(in millions)		
Notional U.S. federal income taxes at statutory rate	\$ 236	\$ 280	\$ 439
Income taxed at other rates	(92)	(106)	(260)
Change in valuation allowance	(18)	(4)	(6)
Other change in tax reserves	20	36	25
Withholding taxes	19	28	64
Tax credits	(18)	(18)	(32)
Change in tax law	1	26	(6)
Other adjustments	(16)	8	(1)
Total income tax expense	<u>\$ 132</u>	<u>\$ 250</u>	<u>\$ 223</u>
Effective tax rate	12%	19%	18%

The Company's tax rate is affected by the fact that its parent entity was formerly a U.K. resident taxpayer and became an Irish resident taxpayer in April 2018, the tax rates in Ireland, the U.K. and other jurisdictions in which the Company operates, the relative amount of income earned by jurisdiction and the relative amount of losses or income for which no tax benefit or expense was recognized due to a valuation allowance. Included in the non-U.S. income taxed at other rates are tax incentives obtained in various non-U.S. countries, primarily the High and New Technology Enterprise ("HNTE") status in China, a Free Trade Zone exemption in Honduras and the Special Economic Zone exemption in Turkey, which totaled \$19 million in 2019, \$41 million in 2018 and \$45 million in 2017, as well as tax benefit for income earned, and no tax benefit for losses incurred, in jurisdictions where a valuation allowance has been recorded. The Company currently benefits from tax holidays in various non-U.S. jurisdictions with expiration dates from 2020 through 2041. The income tax benefits attributable to these tax holidays are approximately \$7 million (\$0.03 per share) in 2019, \$7 million (\$0.03 per share) in 2018 and \$7 million (\$0.03 per share) in 2017.

The effective tax rate in the year ended December 31, 2019 was impacted by releases of valuation allowances as a result of the Company's determination that it was more likely than not that certain deferred tax assets would be realized, as well as favorable provision to return adjustments. The Company also accrued \$20 million of reserve adjustments for uncertain tax positions, which included reserves for ongoing audits in foreign jurisdictions, as well as for changes in estimates based on relevant new or additional evidence obtained related to certain of the Company's tax positions, including tax authority administrative pronouncements and court decisions.

The effective tax rate in the year ended December 31, 2018 was impacted by additional income tax expense for an adjustment to the provisional effects of the enactment of The Tax Cuts and Jobs Act (the "Tax Legislation") and the income tax expense recorded as a result of the intra-entity transfer of intellectual property, as described below, partially offset by favorable geographic income mix in 2018 as compared to 2017, primarily due to changes in the underlying operations of the business. The Company also accrued \$36 million of reserve adjustments for uncertain tax positions, which included reserves for ongoing audits in foreign jurisdictions, as well as for changes in estimates based on relevant new or additional evidence obtained related to certain of the Company's tax positions, including tax authority administrative pronouncements and court decisions.

The Tax Legislation was enacted in the U.S. on December 22, 2017, significantly revising the U.S. corporate income tax by, among other things, lowering corporate income tax rates and imposing a one-time repatriation tax on deemed repatriated earnings of foreign subsidiaries. Pursuant to ASU 2018-05, *Income Taxes (Topic 740): Amendments to SEC Paragraphs Pursuant to SEC Staff Accounting Bulletin No. 118* ("ASU 2018-05"), the Company recognized the provisional effects of the enactment of the Tax Legislation of approximately \$50 million during the year ended December 31, 2017 for which measurement could be reasonably estimated. The impact was primarily the result of increased tax expense due to the one-time deemed repatriation tax and a reduction of our foreign tax credit, partially offset by the favorable impact of the reduced tax rate on the Company's net deferred tax liabilities. Pursuant to ASU 2018-05, adjustments to the provisional amounts recorded by the Company as of December 31, 2017 identified within a subsequent measurement period of up to one year from the enactment date were included, as discussed above, as an adjustment to tax expense from continuing operations in the period the amounts were determined. During 2018, the U.S. Treasury Department and the Internal Revenue Service ("IRS") issued additional guidance, particularly with respect to computing the transition tax on the untaxed foreign earnings of foreign

subsidiaries. As a result, during the year ended December 31, 2018, the Company recorded approximately \$30 million to income tax expense as an adjustment to the provisional amounts recorded as of December 31, 2017, primarily related to a reduction of our foreign tax credit as a result of recently issued regulatory guidance. Also as a result of the enactment of the Tax Legislation, the Company reclassified \$9 million from accumulated OCI to retained earnings, in accordance with ASU 2018-02, which the Company adopted in the first quarter of 2019, as further described in Note 2. Significant Accounting Policies. The accounting for the Tax Legislation was finalized in the fourth quarter of 2018, and resulted in no further adjustments beyond the amounts described above.

The Tax Legislation also created a provision known as Global Intangible Low-Taxed Income (“GILTI”) that imposes a tax on certain earnings of foreign subsidiaries. U.S. GAAP allows companies to make an accounting policy election to either recognize deferred taxes for temporary basis differences expected to reverse as GILTI in future years or to provide for the tax expense related to GILTI in the year the tax is incurred. We have elected to account for GILTI in the year the tax is incurred.

During the year ended December 31, 2017, the Company also incurred certain intra-entity gains and related tax impacts in connection with transactions comprising the Separation. During the fourth quarter of 2017, the Company finalized its plan and entered into several transactions to separate these businesses into stand-alone legal and operational structures. As these transactions occurred between related subsidiaries that were consolidated at the time the transactions occurred, the gains were deferred within the consolidated financial statements in accordance with ASC 810. The tax impacts of the gains, which totaled approximately \$64 million, were recognized upon the distribution of the related assets to Delphi Technologies and recorded as a reduction to Shareholders’ Equity during the year ended December 31, 2017.

As described above, certain of the Company’s Chinese subsidiaries benefit from a reduced corporate income tax rate as a result of their HNTE status. Aptiv regularly submits applications to reapply for HNTE status as they expire. The Company believes each of the applicable entities will continue to renew HNTE status going forward and has reflected this in calculating total income tax expense.

Intellectual Property Transfer

During the year ended December 31, 2018, the Company finalized changes to its corporate entity operating structure, including transferring certain intellectual property among certain of its subsidiaries, primarily to align corporate entities with the Company’s evolving operations and business model following the Separation of its former Powertrain Systems segment. The transfer of assets occurred between wholly-owned legal entities in different U.S. and non-U.S. tax jurisdictions. As the impact of the transfer was the result of an intra-entity transaction, the resulting gain on the transfer was eliminated for purposes of the consolidated financial statements. However, the transferring entity recognized a gain on the transfer of assets that was subject to income tax in its local jurisdiction. In accordance with ASU 2016-16, *Accounting for Income Taxes: Intra-Entity Asset Transfers of Assets Other than Inventory*, the income tax expense recorded as a result of the intra-entity transfer of the intellectual property was approximately \$30 million, net during the year ended December 31, 2018.

Deferred Income Taxes

The Company accounts for income taxes and the related accounts under the liability method. Deferred income tax assets and liabilities reflect the impact of temporary differences between amounts of assets and liabilities for financial reporting purposes and the bases of such assets and liabilities as measured by tax laws. Significant components of the deferred tax assets and liabilities are as follows:

	December 31,	
	2019	2018
	(in millions)	
Deferred tax assets:		
Pension	\$ 95	\$ 88
Employee benefits	43	43
Net operating loss carryforwards	993	1,089
Warranty and other liabilities	72	63
Operating lease right-of-use assets	84	—
Other	149	136
Total gross deferred tax assets	1,436	1,419
Less: valuation allowances	(1,075)	(1,178)
Total deferred tax assets (1)	\$ 361	\$ 241
Deferred tax liabilities:		
Fixed assets	\$ 48	\$ 38
Tax on unremitted profits of certain foreign subsidiaries	56	59
Intangibles	238	234
Operating lease liabilities	84	—
Total gross deferred tax liabilities	426	331
Net deferred tax liabilities	\$ (65)	\$ (90)

(1) Reflects gross amount before jurisdictional netting of deferred tax assets and liabilities.

Deferred tax assets and liabilities are classified as long-term in the consolidated balance sheets. Net deferred tax assets and liabilities are included in the consolidated balance sheets as follows:

	December 31,	
	2019	2018
	(in millions)	
Long-term assets	\$ 164	\$ 143
Long-term liabilities	(229)	(233)
Total deferred tax liability	\$ (65)	\$ (90)

The net deferred tax liability of \$65 million as of December 31, 2019 are primarily comprised of deferred tax liabilities in South Korea, Singapore and Japan offset by deferred tax asset amounts primarily in Mexico, the U.K. and Germany.

Net Operating Loss and Tax Credit Carryforwards

As of December 31, 2019, the Company has gross deferred tax assets of approximately \$987 million for non-U.S. net operating loss (“NOL”) carryforwards with recorded valuation allowances of \$935 million. These NOL’s are available to offset future taxable income and realization is dependent on generating sufficient taxable income prior to expiration of the loss carryforwards. The NOL’s primarily relate to Luxembourg, the U.K., Poland and Germany. The NOL carryforwards have expiration dates ranging from one year to an indefinite period.

Deferred tax assets include \$75 million and \$64 million of tax credit carryforwards with recorded valuation allowances of \$71 million and \$62 million at December 31, 2019 and 2018, respectively. These tax credit carryforwards expire at various times from 2020 through 2039.

Cumulative Undistributed Foreign Earnings

No income taxes have been provided on indefinitely reinvested earnings of certain foreign subsidiaries at December 31, 2019.

Withholding taxes of \$56 million have been accrued on undistributed earnings that are not indefinitely reinvested and are primarily related to China, Honduras, Morocco and Turkey. There are no other material liabilities for income taxes on the undistributed earnings of foreign subsidiaries, as the Company has concluded that such earnings are either indefinitely reinvested or should not give rise to additional income tax liabilities as a result of the distribution of such earnings.

Uncertain Tax Positions

The Company recognizes tax benefits only for tax positions that are more likely than not to be sustained upon examination by tax authorities. The amount recognized is measured as the largest amount of benefit that is greater than 50 percent likely of being realized upon ultimate settlement. Unrecognized tax benefits are tax benefits claimed in the Company's tax returns that do not meet these recognition and measurement standards.

A reconciliation of the gross change in the unrecognized tax benefits balance, excluding interest and penalties is as follows:

	Year Ended December 31,		
	2019	2018	2017
	(in millions)		
Balance at beginning of year	\$ 209	\$ 224	\$ 180
Additions related to current year	20	33	51
Additions related to prior years	51	65	40
Reductions related to prior years	(46)	(19)	(31)
Reductions due to expirations of statute of limitations	(11)	(78)	(15)
Settlements	(6)	(16)	(1)
Balance at end of year	\$ 217	\$ 209	\$ 224

A portion of the Company's unrecognized tax benefits would, if recognized, reduce its effective tax rate. The remaining unrecognized tax benefits relate to tax positions that, if recognized, would result in an offsetting change in valuation allowance and for which only the timing of the benefit is uncertain. Recognition of these tax benefits would reduce the Company's effective tax rate only through a reduction of accrued interest and penalties. As of December 31, 2019 and 2018, the amounts of unrecognized tax benefit that would reduce the Company's effective tax rate were \$200 million and \$203 million, respectively. For the year ended December 31, 2019, the Company recorded approximately \$26 million of additional reserves for uncertain tax positions, primarily related to prior year net operating loss and other carryforwards on which full valuation allowances have been recorded. For 2019 and 2018, respectively, \$52 million and \$18 million of reserves for uncertain tax positions would be offset by the write-off of a related deferred tax asset, if recognized.

The Company recognizes interest and penalties relating to unrecognized tax benefits as part of income tax expense. Total accrued liabilities for interest and penalties were \$14 million and \$12 million at December 31, 2019 and 2018, respectively. Total interest and penalties recognized as part of income tax expense was a \$7 million expense, a \$7 million benefit and a \$5 million expense for the years ended December 31, 2019, 2018 and 2017, respectively.

The Company files tax returns in multiple jurisdictions and is subject to examination by taxing authorities throughout the world. Taxing jurisdictions significant to Aptiv include Barbados, China, Germany, Ireland, Luxembourg, Mexico, South Korea, the U.K. and the U.S. Open tax years related to these taxing jurisdictions remain subject to examination and could result in additional tax liabilities. In general, the Company's affiliates are no longer subject to income tax examinations by foreign tax authorities for years before 2002. It is reasonably possible that audit settlements, the conclusion of current examinations or the expiration of the statute of limitations in several jurisdictions could impact the Company's unrecognized tax benefits. A reversal of approximately \$15 million is reasonably possible in the next 12 months, due to the running of statutes of limitations in various taxing jurisdictions.

15. SHAREHOLDERS' EQUITY AND NET INCOME PER SHARE

Net Income Per Share

Basic net income per share is computed by dividing net income attributable to Aptiv by the weighted average number of ordinary shares outstanding during the period. Diluted net income per share reflects the weighted average dilutive impact of all potentially dilutive securities from the date of issuance and is computed using the treasury stock method by dividing net income attributable to Aptiv by the diluted weighted average number of ordinary shares outstanding during the period. For all periods presented, the calculation of net income per share contemplates the dilutive impacts, if any, of the Company's share-based compensation plans. Refer to Note 21. Share-Based Compensation for additional information.

Weighted Average Shares

The following table illustrates net income per share attributable to Aptiv and the weighted average shares outstanding used in calculating basic and diluted income per share:

	Year Ended December 31,		
	2019	2018	2017
(in millions, except per share data)			
Numerator:			
Income from continuing operations	\$ 990	\$ 1,067	\$ 1,021
Income from discontinued operations	—	—	334
Net income attributable to Aptiv	<u>\$ 990</u>	<u>\$ 1,067</u>	<u>\$ 1,355</u>
Denominator:			
Weighted average ordinary shares outstanding, basic	256.81	264.41	267.16
Dilutive shares related to RSUs	0.58	0.81	0.87
Weighted average ordinary shares outstanding, including dilutive shares	<u>257.39</u>	<u>265.22</u>	<u>268.03</u>
Basic net income per share:			
Continuing operations	\$ 3.85	\$ 4.04	\$ 3.82
Discontinued operations	—	—	1.25
Basic net income per share attributable to Aptiv	<u>\$ 3.85</u>	<u>\$ 4.04</u>	<u>\$ 5.07</u>
Diluted net income per share:			
Continuing operations	\$ 3.85	\$ 4.02	\$ 3.81
Discontinued operations	—	—	1.25
Diluted net income per share attributable to Aptiv	<u>\$ 3.85</u>	<u>\$ 4.02</u>	<u>\$ 5.06</u>
Anti-dilutive securities share impact	—	—	—

Share Repurchase Programs

In April 2016, the Board of Directors authorized a share repurchase program of up to \$1.5 billion of ordinary shares, which commenced in September 2016. This share repurchase program provides for share purchases in the open market or in privately negotiated transactions, depending on share price, market conditions and other factors, as determined by the Company.

A summary of the ordinary shares repurchased during the years ended December 31, 2019, 2018 and 2017 is as follows:

	Year Ended December 31,		
	2019	2018	2017
Total number of shares repurchased	5,387,533	6,530,369	4,667,193
Average price paid per share	\$ 77.93	\$ 76.44	\$ 82.00
Total (in millions)	<u>\$ 420</u>	<u>\$ 499</u>	<u>\$ 383</u>

As of December 31, 2019, approximately \$70 million of share repurchases remained available under the April 2016 share repurchase program. All repurchased shares were retired, and are reflected as a reduction of ordinary share capital for the par value of the shares, with the excess applied as reductions to additional paid-in-capital and retained earnings.

New Share Repurchase Program

In January 2019, the Board of Directors authorized a new share repurchase program of up to \$2.0 billion of ordinary shares. This share repurchase program provides for share purchases in the open market or in privately negotiated transactions, depending on share price, market conditions and other factors, as determined by the Company. This program will commence following the completion of the Company's April 2016 share repurchase program described above.

Dividends

The Company has declared and paid cash dividends per ordinary share during the periods presented as follows:

	Dividend Per Share	Amount (in millions)
2019:		
Fourth quarter	\$ 0.22	\$ 56
Third quarter	0.22	56
Second quarter	0.22	57
First quarter	0.22	57
Total	<u>\$ 0.88</u>	<u>\$ 226</u>
2018:		
Fourth quarter	\$ 0.22	\$ 58
Third quarter	0.22	58
Second quarter	0.22	58
First quarter	0.22	59
Total	<u>\$ 0.88</u>	<u>\$ 233</u>

In addition, in January 2020, the Board of Directors declared a regular quarterly cash dividend of \$0.22 per ordinary share, payable on February 19, 2020 to shareholders of record at the close of business on February 5, 2020.

16. CHANGES IN ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)

The changes in accumulated other comprehensive income (loss) attributable to Aptiv (net of tax) are shown below. Other comprehensive income includes activity relating to discontinued operations.

	Year Ended December 31,		
	2019	2018	2017
(in millions)			
Foreign currency translation adjustments:			
Balance at beginning of year	\$ (555)	\$ (369)	\$ (799)
Aggregate adjustment for the year (1)	(42)	(186)	305
Spin-off of Delphi Technologies	—	—	125
Balance at end of year	(597)	(555)	(369)
Gains (losses) on derivatives:			
Balance at beginning of year	\$ (35)	\$ 4	\$ (11)
Other comprehensive income (loss) before reclassifications (net tax effect of \$0 million, \$3 million and \$1 million)	50	(36)	14
Reclassification to income (net tax effect of \$0 million, \$3 million and \$6 million)	6	(3)	1
Adoption of ASU 2018-02 (Note 2)	(8)	—	—
Balance at end of year	13	(35)	4
Pension and postretirement plans:			
Balance at beginning of year	\$ (104)	\$ (106)	\$ (405)
Other comprehensive income (loss) before reclassifications (net tax effect of \$17 million, \$3 million and \$3 million)	(37)	(11)	(19)
Reclassification to income (net tax effect of \$3 million, \$2 million and \$6 million)	7	13	30
Spin-off of Delphi Technologies	—	—	288
Adoption of ASU 2018-02 (Note 2)	(1)	—	—
Balance at end of year	(135)	(104)	(106)
Accumulated other comprehensive loss, end of year	\$ (719)	\$ (694)	\$ (471)

(1) Includes \$29 million of gains, \$67 million of gains and \$177 million of losses for the years ended December 31, 2019, 2018 and 2017, respectively, related to non-derivative net investment hedges. Refer to Note 17. Derivatives and Hedging Activities for further description of the Company's net investment hedges.

Reclassifications from accumulated other comprehensive income (loss) to income were as follows:

Reclassification Out of Accumulated Other Comprehensive Income (Loss)				
Details About Accumulated Other Comprehensive Income Components	Year Ended December 31,			Affected Line Item in the Statement of Operations
	2019	2018	2017	
(in millions)				
Gains (losses) on derivatives:				
Commodity derivatives	\$ (15)	\$ 14	\$ 18	Cost of sales
Foreign currency derivatives	9	(14)	(25)	Cost of sales
	(6)	—	(7)	Income before income taxes
	—	3	6	Income tax expense
	(6)	3	(1)	Net income
	—	—	—	Net income attributable to noncontrolling interest
	<u>\$ (6)</u>	<u>\$ 3</u>	<u>\$ (1)</u>	Net income attributable to Aptiv
Pension and postretirement plans:				
Actuarial loss	\$ (10)	\$ (14)	\$ (35)	Other income (expense), net (1)
Settlement loss	—	(2)	(1)	Other income (expense), net (1)
Curtailement gain	—	1	—	Other income (expense), net (1)
	(10)	(15)	(36)	Income before income taxes
	3	2	6	Income tax expense
	(7)	(13)	(30)	Net income
	—	—	—	Net income attributable to noncontrolling interest
	<u>\$ (7)</u>	<u>\$ (13)</u>	<u>\$ (30)</u>	Net income attributable to Aptiv
Total reclassifications for the year	<u>\$ (13)</u>	<u>\$ (10)</u>	<u>\$ (31)</u>	

(1) These accumulated other comprehensive loss components are included in the computation of net periodic pension cost (see Note 12. Pension Benefits for additional details).

17. DERIVATIVES AND HEDGING ACTIVITIES

Cash Flow Hedges

Aptiv is exposed to market risk, such as fluctuations in foreign currency exchange rates, commodity prices and changes in interest rates, which may result in cash flow risks. To manage the volatility relating to these exposures, Aptiv aggregates the exposures on a consolidated basis to take advantage of natural offsets. For exposures that are not offset within its operations, Aptiv enters into various derivative transactions pursuant to its risk management policies, which prohibit holding or issuing derivative financial instruments for speculative purposes, and designation of derivative instruments is performed on a transaction basis to support hedge accounting. The changes in fair value of these hedging instruments are offset in part or in whole by corresponding changes in the fair value or cash flows of the underlying exposures being hedged. Aptiv assesses the initial and ongoing effectiveness of its hedging relationships in accordance with its documented policy.

As of December 31, 2019, the Company had the following outstanding notional amounts related to commodity and foreign currency forward and option contracts designated as cash flow hedges that were entered into to hedge forecasted exposures:

Commodity	Quantity Hedged	Unit of Measure	Notional Amount (Approximate USD Equivalent)
	(in thousands)		(in millions)
Copper	73,487	pounds	\$ 200

Foreign Currency	Quantity Hedged	Unit of Measure	Notional Amount (Approximate USD Equivalent)
		(in millions)	
Mexican Peso	16,624	MXN	\$ 880
Chinese Yuan Renminbi	2,957	RMB	425
Euro	208	EUR	235
Polish Zloty	521	PLN	135
New Turkish Lira	21	TRY	5

As of December 31, 2019, Aptiv has entered into derivative instruments to hedge cash flows extending out to December 2021.

Gains and losses on derivatives qualifying as cash flow hedges are recorded in accumulated OCI, to the extent that hedges are effective, until the underlying transactions are recognized in earnings. Unrealized amounts in accumulated OCI will fluctuate based on changes in the fair value of hedge derivative contracts at each reporting period. Net gains on cash flow hedges included in accumulated OCI as of December 31, 2019 were \$33 million (approximately \$33 million, net of tax). Of this total, approximately \$24 million of gains are expected to be included in cost of sales within the next 12 months and approximately \$9 million of gains are expected to be included in cost of sales in subsequent periods. Cash flow hedges are discontinued when Aptiv determines it is no longer probable that the originally forecasted transactions will occur. Cash flows from derivatives used to manage commodity and foreign exchange risks designated as cash flow hedges are classified as operating activities within the consolidated statements of cash flows.

Net Investment Hedges

The Company is also exposed to the risk that adverse changes in foreign currency exchange rates could impact its net investment in non-U.S. subsidiaries. To manage this risk, the Company designates certain qualifying derivative and non-derivative instruments, including foreign currency forward contracts and foreign currency-denominated debt, as net investment hedges of certain non-U.S. subsidiaries. The gains or losses on instruments designated as net investment hedges are recognized within OCI to offset changes in the value of the net investment in these foreign currency-denominated operations. Gains and losses reported in accumulated OCI are reclassified to earnings only when the related currency translation adjustments are required to be reclassified, usually upon sale or liquidation of the investment. Cash flows from derivatives designated as net investment hedges are classified as investing activities within the consolidated statements of cash flows.

Since 2016, the Company has entered into a series of forward contracts, each of which have been designated as net investment hedges of the foreign currency exposure of the Company's investments in certain Chinese Yuan Renminbi ("RMB")-denominated subsidiaries. During the years ended December 31, 2019, 2018 and 2017, the Company made net payments of zero, \$6 million and \$28 million, respectively, at settlement related to these series of forward contracts which matured throughout each respective year. In December 2019, the Company entered into a forward contract with a notional amount of 374 million RMB (approximately \$55 million, using December 31, 2019 foreign currency rates), which matures in March 2020. Refer to the tables below for details of the fair value recorded in the consolidated balance sheets and the effects recorded in the consolidated statements of operations and consolidated statements of comprehensive income related to these derivative instruments.

The Company has designated the €700 million 2015 Euro-denominated Senior Notes and the €500 million 2016 Euro-denominated Senior Notes, as more fully described in Note 11. Debt, as net investment hedges of the foreign currency exposure of its investments in certain Euro-denominated subsidiaries. Due to changes in the value of the Euro-denominated debt instruments designated as net investment hedges, during the years ended December 31, 2019 and 2018, \$29 million and \$67 million of gains, respectively, were recognized within the cumulative translation adjustment component of OCI. Cumulative losses included in accumulated OCI on these net investment hedges were \$21 million as of December 31, 2019 and \$50 million as of December 31, 2018.

Derivatives Not Designated as Hedges

In certain occasions the Company enters into certain foreign currency and commodity contracts that are not designated as hedges. When hedge accounting is not applied to derivative contracts, gains and losses are recorded to other income (expense), net and cost of sales in the consolidated statements of operations.

In conjunction with the acquisition of KUM, as more fully disclosed in Note 20. Acquisitions and Divestitures, in March 2018, the Company entered into forward contracts, requiring no initial net investment, with notional amounts totaling 559 billion South Korean Won ("KRW") (approximately \$520 million using March 1, 2018 foreign currency rates) to hedge portions of the currency risk associated with the cash payment for the acquisition. Pursuant to the requirements of ASC

815, *Derivatives and Hedging*, the forwards did not qualify as hedges for accounting purposes, and therefore, changes in the fair value of the forwards were recognized in other income (expense), net. During the year ended December 31, 2018, the change in fair value resulted in a pre-tax gain of \$4 million, included within other income, net in the consolidated statements of operations. In conjunction with the closing of the acquisition, Aptiv settled the forward contracts in the second quarter of 2018 and received \$4 million, which is reflected within investing activities from continuing operations in the consolidated statements of cash flows.

Fair Value of Derivative Instruments in the Balance Sheet

The fair value of derivative financial instruments recorded in the consolidated balance sheets as of December 31, 2019 and 2018 are as follows:

	Asset Derivatives		Liability Derivatives		Net Amounts of Assets and (Liabilities) Presented in the Balance Sheet
	Balance Sheet Location	December 31, 2019	Balance Sheet Location	December 31, 2019	December 31, 2019
(in millions)					
Derivatives designated as cash flow hedges:					
Commodity derivatives	Other current assets	\$ 1	Accrued liabilities	\$ 3	
Foreign currency derivatives*	Other current assets	35	Other current assets	6	\$ 29
Commodity derivatives	Other long-term assets	2	Other long-term liabilities	—	
Foreign currency derivatives*	Other long-term assets	8	Other long-term assets	2	6
Total derivatives designated as hedges		<u>\$ 46</u>		<u>\$ 11</u>	
Derivatives not designated:					
Foreign currency derivatives*	Accrued liabilities	\$ —	Accrued liabilities	\$ 1	(1)
Total derivatives not designated as hedges		<u>\$ —</u>		<u>\$ 1</u>	

	Asset Derivatives		Liability Derivatives		Net Amounts of Assets and (Liabilities) Presented in the Balance Sheet
	Balance Sheet Location	December 31, 2018	Balance Sheet Location	December 31, 2018	December 31, 2018
(in millions)					
Derivatives designated as cash flow hedges:					
Commodity derivatives	Other current assets	\$ —	Accrued liabilities	\$ 15	
Foreign currency derivatives*	Other current assets	9	Other current assets	3	\$ 6
Foreign currency derivatives*	Accrued liabilities	—	Accrued liabilities	4	(4)
Commodity derivatives	Other long-term assets	—	Other long-term liabilities	7	
Foreign currency derivatives*	Other long-term assets	2	Other long-term assets	—	2
Foreign currency derivatives*	Other long-term liabilities	—	Other long-term liabilities	2	(2)
Total derivatives designated as hedges		<u>\$ 11</u>		<u>\$ 31</u>	

* Derivative instruments within this category are subject to master netting arrangements and are presented on a net basis in the consolidated balance sheets in accordance with accounting guidance related to the offsetting of amounts related to certain contracts.

The fair value of Aptiv's derivative financial instruments was in a net asset position as of December 31, 2019 and a net net liability as of December 31, 2018.

Effect of Derivatives on the Statement of Operations and Statement of Comprehensive Income

The pre-tax effect of derivative financial instruments in the consolidated statements of operations and consolidated statements of comprehensive income for the year ended December 31, 2019 is as follows:

<u>Year Ended December 31, 2019</u>	<u>Gain (Loss) Recognized in OCI</u>	<u>(Loss) Gain Reclassified from OCI into Income</u>
	(in millions)	
Derivatives designated as cash flow hedges:		
Commodity derivatives	\$ 7	\$ (15)
Foreign currency derivatives	44	9
Derivatives designated as net investment hedges:		
Foreign currency derivatives	(1)	—
Total	\$ 50	\$ (6)
		<u>Gain Recognized in Income</u>
		(in millions)
Derivatives not designated:		
Foreign currency derivatives		\$ 1
Total		\$ 1

The pre-tax effect of derivative financial instruments in the consolidated statements of operations and consolidated statements of comprehensive income for the year ended December 31, 2018 is as follows:

<u>Year Ended December 31, 2018</u>	<u>(Loss) Gain Recognized in OCI</u>	<u>Gain (Loss) Reclassified from OCI into Income</u>
	(in millions)	
Derivatives designated as cash flow hedges:		
Commodity derivatives	\$ (45)	\$ 14
Foreign currency derivatives	14	(14)
Derivatives designated as net investment hedges:		
Foreign currency derivatives	(2)	—
Total	\$ (33)	\$ —
		<u>Gain Recognized in Income</u>
		(in millions)
Derivatives not designated:		
Foreign currency derivatives		\$ 2
Total		\$ 2

The pre-tax effect of derivative financial instruments in the consolidated statements of operations and consolidated statements of comprehensive income for the year ended December 31, 2017 is as follows:

<u>Year Ended December 31, 2017</u>	<u>Gain (Loss) Recognized in OCI</u>	<u>Gain (Loss) Reclassified from OCI into Income</u>
	(in millions)	
Derivatives designated as cash flow hedges:		
Commodity derivatives	\$ 45	\$ 18
Foreign currency derivatives	4	(27)
Derivatives designated as net investment hedges:		
Foreign currency derivatives	(34)	2
Total	<u>\$ 15</u>	<u>\$ (7)</u>
		Loss Recognized in Income
		(in millions)
Derivatives not designated:		
Foreign currency derivatives		\$ (5)
Total		<u>\$ (5)</u>

The gain or loss recognized in income for designated and non-designated derivative instruments was recorded to cost of sales and other income (expense), net in the consolidated statements of operations for the years ended December 31, 2019, 2018 and 2017.

18. FAIR VALUE OF FINANCIAL INSTRUMENTS

Fair value is defined as the exchange price that would be received to sell an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Fair value measurements are based on one or more of the following three valuation techniques:

Market—This approach uses prices and other relevant information generated by market transactions involving identical or comparable assets or liabilities.

Income—This approach uses valuation techniques to convert future amounts to a single present value amount based on current market expectations.

Cost—This approach is based on the amount that would be required to replace the service capacity of an asset (replacement cost).

Aptiv uses the following fair value hierarchy prescribed by GAAP, which prioritizes the inputs used to measure fair value as follows:

Level 1—Unadjusted quoted prices in active markets for identical assets or liabilities.

Level 2—Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3—Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

Typically, assets and liabilities are considered to be fair valued on a recurring basis if fair value is measured regularly. However, if the fair value measurement of an instrument does not necessarily result in a change in the amount recorded on the consolidated balance sheets, assets and liabilities are considered to be fair valued on a nonrecurring basis. This generally occurs when accounting guidance requires assets and liabilities to be recorded at the lower of cost or fair value, or assessed for impairment.

Fair Value Measurements on a Recurring Basis

Derivative instruments—All derivative instruments are required to be reported on the balance sheet at fair value unless the transactions qualify and are designated as normal purchases or sales. Changes in fair value are reported currently through earnings unless they meet hedge accounting criteria. Aptiv’s derivative exposures are with counterparties with long-term investment grade credit ratings. Aptiv estimates the fair value of its derivative contracts using an income approach based on valuation techniques to convert future amounts to a single, discounted amount. Estimates of the fair value of foreign currency and commodity derivative instruments are determined using exchange traded prices and rates. Aptiv also considers the risk of non-performance in the estimation of fair value, and includes an adjustment for non-performance risk in the measure of fair value of derivative instruments. The non-performance risk adjustment reflects the credit default spread (“CDS”) applied to the net commodity by counterparty and foreign currency exposures by counterparty. When Aptiv is in a net derivative asset position, the counterparty CDS rates are applied to the net derivative asset position. When Aptiv is in a net derivative liability position, estimates of peer companies’ CDS rates are applied to the net derivative liability position.

In certain instances where market data is not available, Aptiv uses management judgment to develop assumptions that are used to determine fair value. This could include situations of market illiquidity for a particular currency or commodity or where observable market data may be limited. In those situations, Aptiv generally surveys investment banks and/or brokers and utilizes the surveyed prices and rates in estimating fair value.

As of December 31, 2019 and 2018, Aptiv was in a net derivative asset position of \$34 million and a net derivative liability position of \$20 million, respectively, and no significant adjustments were recorded for nonperformance risk based on the application of peer companies’ CDS rates, evaluation of our own nonperformance risk and because Aptiv’s exposures were to counterparties with investment grade credit ratings. Refer to Note 17. Derivatives and Hedging Activities for further information regarding derivatives.

Contingent consideration—The liability for contingent consideration is estimated as of the date of the acquisition and is recorded as part of the purchase price, and is subsequently re-measured to fair value at each reporting date based on a probability-weighted analysis using a rate that reflects the uncertainty surrounding the expected outcomes, which the Company believes is appropriate and representative of market participant assumptions. The measurement of the liability for contingent consideration is based on significant inputs that are not observable in the market, and is therefore classified as a Level 3 measurement in accordance with ASC Topic 820-10-35. Examples of utilized unobservable inputs are estimated future earnings or milestone achievements of the acquired businesses and applicable discount rates. The estimate of the liability may fluctuate if there are changes in the actual or forecasted inputs utilized or in the discount rates used to determine the present value of contingent future cash flows. The Company regularly reviews these assumptions, and makes adjustments to the fair value measurements as required by facts and circumstances. As of December 31, 2019, the Company has determined that all earn-out provisions under the nuTonomy acquisition agreement have been achieved.

As of December 31, 2019 and 2018, the liability for contingent consideration was \$51 million (of which \$16 million was classified within other current liabilities and \$35 million was classified within other long-term liabilities) and \$49 million (of which \$16 million was classified within other current liabilities and \$33 million was classified within other long-term liabilities), respectively, representing the maximum required amounts to be paid under existing agreements. Adjustments to this liability for interest accretion are recognized in interest expense, and any other changes in the fair value of this liability are recognized within other income (expense), net in the consolidated statements of operations.

The changes in the contingent consideration liability classified as a Level 3 measurement for the years ended December 31, 2019 and 2018 were as follows:

	Year Ended December 31,	
	2019	2018
	(in millions)	
Fair value at beginning of year	\$ 49	\$ 33
Payments	—	(7)
Interest accretion	2	—
Measurement adjustments	—	23
Fair value at end of year	<u>\$ 51</u>	<u>\$ 49</u>

During the year ended December 31, 2019, the Company was required to deposit \$16 million related to the contingent consideration liability into an escrow account in accordance with existing agreements. Accordingly, this amount is classified as restricted cash in the consolidated balance sheets as of December 31, 2019. The remaining portions of the contingent

consideration liability are required to be deposited into the escrow account in the first quarters of 2020 and 2021, respectively, and all amounts are anticipated to be released from the escrow account in the fourth quarter of 2021.

During the year ended December 31, 2018, Aptiv paid \$7 million of contingent consideration and recorded net increases to its contingent consideration liabilities of \$23 million based on the actual level of earnings or achievement of certain milestones and the forecasted future earnings or milestone achievements of the acquired businesses during the contractual earn-out period.

As of December 31, 2019 and 2018, Aptiv had the following assets measured at fair value on a recurring basis:

	Total	Quoted Prices in Active Markets Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3
(in millions)				
As of December 31, 2019				
Commodity derivatives	\$ 3	\$ —	\$ 3	\$ —
Foreign currency derivatives	35	—	35	—
Total	\$ 38	\$ —	\$ 38	\$ —
As of December 31, 2018				
Foreign currency derivatives	\$ 8	\$ —	\$ 8	\$ —
Total	\$ 8	\$ —	\$ 8	\$ —

As of December 31, 2019 and 2018, Aptiv had the following liabilities measured at fair value on a recurring basis:

	Total	Quoted Prices in Active Markets Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3
(in millions)				
As of December 31, 2019				
Commodity derivatives	\$ 3	\$ —	\$ 3	\$ —
Foreign currency derivatives	1	—	1	—
Contingent consideration	51	—	—	51
Total	\$ 55	\$ —	\$ 4	\$ 51
As of December 31, 2018				
Commodity derivatives	\$ 22	\$ —	\$ 22	\$ —
Foreign currency derivatives	6	—	6	—
Contingent consideration	49	—	—	49
Total	\$ 77	\$ —	\$ 28	\$ 49

Non-derivative financial instruments—Aptiv's non-derivative financial instruments include cash and cash equivalents, accounts and notes receivable, accounts payable, as well as debt, which consists of its accounts receivable factoring arrangement, finance leases and other debt issued by Aptiv's non-U.S. subsidiaries, the Revolving Credit Facility, the Tranche A Term Loan and all series of outstanding senior notes. The fair value of debt is based on quoted market prices for instruments with public market data or significant other observable inputs for instruments without a quoted public market price (Level 2). As of December 31, 2019 and 2018, total debt was recorded at \$4,364 million and \$4,344 million, respectively, and had estimated fair values of \$4,593 million and \$4,222 million, respectively. For all other financial instruments recorded as of December 31, 2019 and 2018, fair value approximates book value.

Fair Value Measurements on a Nonrecurring Basis

In addition to items that are measured at fair value on a recurring basis, Aptiv also has items in its balance sheet that are measured at fair value on a nonrecurring basis. As these items are not measured at fair value on a recurring basis, they are not included in the tables above. Nonfinancial assets and liabilities that are measured at fair value on a nonrecurring basis include certain long-lived assets, equity investments, intangible assets, asset retirement obligations, share-based compensation and liabilities for exit or disposal activities measured at fair value upon initial recognition. During the years ended December 31, 2019, 2018 and 2017, Aptiv recorded non-cash asset impairment charges totaling \$3 million, \$4 million and \$9 million, respectively, within cost of sales related to declines in the fair values of certain fixed assets. During the years ended December 31, 2019 and 2018, Aptiv recorded non-cash asset impairment charges totaling \$8 million and \$30 million,

respectively, within amortization related to declines in the fair values of certain intangible assets. Fair value of long-lived and intangible assets is determined primarily using the anticipated cash flows discounted at a rate commensurate with the risk involved and a review of appraisals or other market indicators and management estimates. As such, Aptiv has determined that the fair value measurements of long-lived and intangible assets fall in Level 3 of the fair value hierarchy.

19. OTHER INCOME, NET

Other income (expense), net included:

	Year Ended December 31,		
	2019	2018	2017
	(in millions)		
Interest income	\$ 13	\$ 21	\$ 7
Loss on extinguishment of debt	(6)	—	—
Components of net periodic benefit cost other than service cost	(27)	(18)	(32)
Reserve for Unsecured Creditors litigation	—	—	(10)
Costs associated with acquisitions	(5)	(14)	(8)
Change in fair value of equity investments (Note 5)	19	—	—
Contingent consideration liability fair value adjustment	—	(23)	14
Other, net	20	36	8
Other income (expense), net	\$ 14	\$ 2	\$ (21)

As further discussed in Note 5. Investments in Affiliates, during the year ended December 31, 2019, Aptiv recorded a pre-tax unrealized gain of \$19 million related to increases in fair value of its equity investments without readily determinable fair values. Also, as further discussed in Note 11. Debt, during the year ended December 31, 2019, Aptiv redeemed for cash the entire \$650 million aggregate principal amount outstanding of the 3.15% Senior Notes, resulting in a loss on debt extinguishment of approximately \$6 million. Aptiv also incurred approximately \$5 million in transaction costs related to the acquisition of gabocom.

During the year ended December 31, 2018, Aptiv incurred approximately \$18 million in transaction costs related to the acquisitions of KUM and Winchester and, as further discussed in Note 17. Derivatives and Hedging Activities, recorded a gain of \$4 million on forward contracts entered into in order to hedge portions of the currency risk associated with the cash payment for the acquisition of KUM, which are reflected within costs associated with acquisitions in the above table. Additionally, as further discussed in Note 25. Discontinued Operations and Held For Sale, during the year ended December 31, 2018, Aptiv recorded \$11 million for certain fees earned pursuant to the transition services agreement in connection with the Separation of the Company's former Powertrain Systems segment.

As further discussed in Note 13. Commitments and Contingencies, during the year ended December 31, 2017, Aptiv and the plaintiffs reached an agreement to settle the Unsecured Creditors litigation for \$310 million, which was subsequently approved by the Bankruptcy Court. In July 2017, the Company paid the \$310 million settlement pursuant to the terms of the settlement agreement. In accordance with the terms of the settlement agreement, the Company recorded a net incremental charge of \$10 million to its previously recorded reserve of \$300 million to other expense, net during the year ended December 31, 2017. Also during the year ended December 31, 2017, Aptiv incurred approximately \$8 million in transaction costs related to the acquisition of nuTonomy.

20. ACQUISITIONS AND DIVESTITURES

Acquisition of gabo Systemtechnik GmbH

On November 19, 2019, Aptiv acquired 100% of the equity interests of gabo Systemtechnik GmbH ("gabocom"), a leading provider of highly-engineered cable management and protection solutions for the telecommunications industry, for total consideration of \$311 million, net of cash acquired. The results of operations of gabocom are reported within the Signal and Power Solutions segment from the date of acquisition. The Company acquired gabocom utilizing cash on hand.

The acquisition was accounted for as a business combination, with the total purchase price allocated on a preliminary basis using information available, in the fourth quarter of 2019. The preliminary purchase price and related allocation to the acquired net assets of gabocom based on their estimated fair values is shown below (in millions):

Assets acquired and liabilities assumed

Purchase price, cash consideration, net of cash acquired	\$	311
Property, plant and equipment	\$	25
Intangible assets		75
Other liabilities, net		(11)
Identifiable net assets acquired		89
Goodwill resulting from purchase		222
Total purchase price allocation	\$	311

Intangible assets include \$66 million recognized for the fair value of customer-based assets with estimated useful lives of approximately 9 years and \$9 million recognized for the fair value of the acquired trade name, which has an estimated useful life of approximately 15 years. The estimated fair value of these assets was based on third-party valuations and management's estimates, generally utilizing income and market approaches. Goodwill recognized in this transaction is primarily attributable to synergies expected to arise after the acquisition and the assembled workforce of gabocom, and is not deductible for tax purposes.

The purchase price and related allocation are preliminary and could be revised as a result of adjustments made to the purchase price, additional information obtained regarding liabilities assumed, including, but not limited to, contingent liabilities, revisions of provisional estimates of fair values, including, but not limited to, the completion of independent appraisals and valuations related to property, plant and equipment and intangible assets, and certain tax attributes.

The pro forma effects of this acquisition would not materially impact the Company's reported results for any period presented, and as a result no pro forma financial statements were presented.

Acquisition of Falmat Inc.

On May 14, 2019, Aptiv acquired 100% of the equity interests of Falmat Inc. ("Falmat"), a leading manufacturer of high performance custom cable and cable assemblies for industrial applications, for total consideration of \$25 million, net of cash acquired. The results of operations of Falmat are reported within the Signal and Power Solutions segment from the date of acquisition. The Company acquired Falmat utilizing cash on hand.

The acquisition was accounted for as a business combination, with the total purchase price allocated on a preliminary basis using information available, in the second quarter of 2019. The preliminary purchase price and related allocation to the acquired net assets of Falmat based on their estimated fair values is shown below (in millions):

Assets acquired and liabilities assumed

Purchase price, cash consideration, net of cash acquired	\$	25
Intangible assets	\$	12
Other assets, net		6
Identifiable net assets acquired		18
Goodwill resulting from purchase		7
Total purchase price allocation	\$	25

Intangible assets primarily include amounts recognized for the fair value of customer-based assets, which will be amortized over their estimated useful lives of approximately 9 years. The estimated fair value of these assets was based on third-party valuations and management's estimates, generally utilizing income and market approaches. Goodwill recognized in this transaction is primarily attributable to synergies expected to arise after the acquisition and the assembled workforce of Falmat, and is not deductible for tax purposes.

The purchase price and related allocation are preliminary and could be revised as a result of adjustments made to the purchase price, additional information obtained regarding liabilities assumed, including, but not limited to, contingent

liabilities, revisions of provisional estimates of fair values, including, but not limited to, the completion of independent appraisals and valuations related to property, plant and equipment and intangible assets, and certain tax attributes.

The pro forma effects of this acquisition would not materially impact the Company's reported results for any period presented, and as a result no pro forma financial statements were presented.

Acquisition of Winchester Interconnect

On October 24, 2018, Aptiv acquired 100% of the equity interests of Winchester Interconnect ("Winchester"), a leading provider of custom engineered interconnect solutions for harsh environment applications, for total consideration of \$680 million, net of cash acquired. The results of operations of Winchester are reported within the Signal and Power Solutions segment from the date of acquisition. The Company acquired Winchester utilizing cash on hand and short-term borrowings.

The acquisition was accounted for as a business combination, with the total purchase price allocated on a preliminary basis using information available, in the fourth quarter of 2018. The purchase price and related allocation were finalized in the fourth quarter of 2019, and resulted in minor adjustments from the amounts previously disclosed. These adjustments were not significant for any period presented after the acquisition date. The final purchase price and related allocation to the acquired net assets of Winchester based on their estimated fair values is shown below (in millions):

Assets acquired and liabilities assumed

Purchase price, cash consideration, net of cash acquired	\$	680
Property, plant and equipment	\$	31
Intangible assets		226
Other assets, net		21
Identifiable net assets acquired		278
Goodwill resulting from purchase		402
Total purchase price allocation	\$	680

Intangible assets include \$180 million recognized for the fair value of customer-based assets with estimated useful lives of approximately 9 years, \$9 million of technology-related assets with estimated useful lives of approximately 5 years and \$37 million recognized for the fair value of the acquired trade name, which has an indefinite useful life. The estimated fair value of these assets was based on third-party valuations and management's estimates, generally utilizing income and market approaches. Goodwill recognized in this transaction is primarily attributable to synergies expected to arise after the acquisition and the assembled workforce of Winchester, and is not deductible for tax purposes.

The pro forma effects of this acquisition would not materially impact the Company's reported results for any period presented, and as a result no pro forma financial statements were presented.

Acquisition of KUM

On June 14, 2018, Aptiv acquired 100% of the equity interests of KUM, a specialized manufacturer of connectors for the automotive industry, for total consideration of \$526 million, net of cash acquired. The results of operations of KUM are reported within the Signal and Power Solutions segment from the date of acquisition. The Company acquired KUM utilizing cash on hand.

The acquisition was accounted for as a business combination, with the total purchase price allocated on a preliminary basis using information available, in the second quarter of 2018. The purchase price and related allocation were finalized in the second quarter of 2019, and resulted in minor adjustments from the amounts previously disclosed. These adjustments were not significant for any period presented after the acquisition date. The final purchase price and related allocation to the acquired net assets of KUM based on their estimated fair values is shown below (in millions):

Assets acquired and liabilities assumed

Purchase price, cash consideration, net of cash acquired	\$	515
Debt and pension liabilities assumed		11
Total consideration, net of cash acquired	\$	526
Property, plant and equipment	\$	121
Intangible assets		110
Other assets, net		34
Identifiable net assets acquired		265
Goodwill resulting from purchase		261
Total purchase price allocation	\$	526

Intangible assets primarily include amounts recognized for the fair value of customer-based assets, which will be amortized over their estimated useful lives of approximately 9 years. The estimated fair value of these assets was based on third-party valuations and management's estimates, generally utilizing income and market approaches. Goodwill recognized in this transaction is primarily attributable to synergies expected to arise after the acquisition and the assembled workforce of KUM, and is not deductible for tax purposes.

The pro forma effects of this acquisition would not materially impact the Company's reported results for any period presented, and as a result no pro forma financial statements were presented.

Acquisition of nuTonomy

On November 21, 2017, Aptiv acquired 100% of the equity interests of nuTonomy, Inc. ("nuTonomy"), a leading provider of autonomous driving software and technology, for total consideration of up to \$454 million. Of the total consideration, \$284 million of the purchase price was paid at closing, subject to certain post-closing adjustments. An additional \$109 million of the purchase price will vest to certain selling shareholders in annual installments over a three-year period from the acquisition date, subject to such shareholders' compliance with certain employment conditions. Of the \$109 million, approximately \$7 million was payable after one year and approximately \$51 million is payable after each of the second and third years following the acquisition date. These remaining installments will be recorded as a component of cost of sales ratably over the respective installment period.

Additionally, the total consideration includes a cash payment of up to \$54 million contingent upon the achievement of certain performance metrics over a future three-year period. The range of the undiscounted amounts the Company could be required to pay under this arrangement is between \$0 and \$54 million. As of the closing date of the acquisition, the contingent consideration was assigned a fair value of approximately \$24 million. Refer to Note 18. Fair Value of Financial Instruments for additional information regarding the measurement of the contingent consideration liability. The results of operations of nuTonomy are reported within the Advanced Safety and User Experience segment from the date of acquisition. The Company acquired nuTonomy utilizing cash on hand.

The acquisition was accounted for as a business combination, with the total purchase price allocated on a preliminary basis using information available, in the fourth quarter of 2017. The purchase price and related allocation were finalized in the fourth quarter of 2018, and resulted in minor adjustments from the amounts previously disclosed. These adjustments were not significant for any period presented after the acquisition date. The final purchase price and related allocation to the acquired net assets of nuTonomy based on their estimated fair values is shown below (in millions):

Assets acquired and liabilities assumed

Purchase price, cash consideration, net of cash acquired	\$	284
Purchase price, fair value of contingent consideration		24
Total purchase price, net of cash acquired	\$	<u>308</u>
Intangible assets	\$	102
Other liabilities, net		(35)
Identifiable net assets acquired		<u>67</u>
Goodwill resulting from purchase		241
Total purchase price allocation	\$	<u>308</u>

Intangible assets include \$102 million of in-process research and development, which will not be amortized, but tested for impairment until the completion or abandonment of the associated research and development efforts. The estimated fair value of these assets was based on third-party valuations and management's estimates, generally utilizing income and market approaches. Goodwill recognized in this transaction is primarily attributable to synergies expected to arise after the acquisition from future growth and potential commercialization opportunities, and is not deductible for tax purposes.

The pro forma effects of this acquisition would not materially impact the Company's reported results for any period presented, and as a result no pro forma financial statements were presented.

Acquisition of Movimento Group

On January 3, 2017, Aptiv acquired 100% of the equity interests of Movimento Group ("Movimento"), a leading provider of Over-the-Air software and data management for the automotive sector, for a purchase price of \$40 million at closing and an additional cash payment of up to \$10 million contingent upon the achievement of certain performance metrics over a future 2-year period. The range of the undiscounted amounts the Company could be required to pay under this arrangement is between \$0 and \$10 million. As of the closing date of the acquisition, the contingent consideration was assigned a fair value of approximately \$8 million. Refer to Note 18. Fair Value of Financial Instruments for additional information regarding the measurement of the contingent consideration liability. The results of operations of Movimento are reported within the Advanced Safety and User Experience segment from the date of acquisition. The Company acquired Movimento utilizing cash on hand.

The acquisition was accounted for as a business combination, with the total purchase price allocated on a preliminary basis using information available, in the first quarter of 2017. The purchase price and related allocation were finalized in the first quarter of 2018, and resulted in no adjustments from the amounts previously disclosed. The final purchase price and related allocation to the acquired net assets of Movimento based on their estimated fair values is shown below (in millions):

Assets acquired and liabilities assumed

Purchase price, cash consideration, net of cash acquired	\$	40
Purchase price, fair value of contingent consideration		8
Total purchase price, net of cash acquired	\$	<u>48</u>
Intangible assets	\$	22
Other liabilities, net		(2)
Identifiable net assets acquired		<u>20</u>
Goodwill resulting from purchase		28
Total purchase price allocation	\$	<u>48</u>

Intangible assets include \$8 million recognized for the fair value of the acquired trade name, which has an estimated useful life of approximately 25 years, \$4 million of customer-based and technology-related assets with estimated useful lives of approximately 7 years and \$10 million of in-process research and development, which will not be amortized, but tested for impairment until the completion or abandonment of the associated research and development efforts. The estimated fair value of these assets was based on third-party valuations and management's estimates, generally utilizing income and market approaches.

The pro forma effects of this acquisition would not materially impact the Company's reported results for any period presented, and as a result no pro forma financial statements were presented.

21. SHARE-BASED COMPENSATION

Long Term Incentive Plan

The PLC LTIP allows for the grant of awards of up to 25,665,448 ordinary shares for long-term compensation. The PLC LTIP is designed to align the interests of management and shareholders. The awards can be in the form of shares, options, stock appreciation rights, restricted stock, RSUs, performance awards, and other share-based awards to the employees, directors, consultants and advisors of the Company. The Company has awarded annual long-term grants of RSUs under the PLC LTIP in each year from 2012 to 2019 in order to align management compensation with Aptiv's overall business strategy. The Company has competitive and market-appropriate ownership requirements. All of the RSUs granted under the PLC LTIP are eligible to receive dividend equivalents for any dividend paid from the grant date through the vesting date. Dividend equivalents are generally paid out in ordinary shares upon vesting of the underlying RSUs. Historical amounts disclosed within this note include amounts attributable to the Company's discontinued operations, unless otherwise noted, and for activity prior to December 4, 2017 represent awards based on shares of Delphi Automotive PLC.

In connection with the Separation, in 2017 the Company made adjustments to the number of unvested RSUs with the intention of preserving the intrinsic value of the recipient's awards prior to the Separation. Accordingly, the number of RSUs underlying each unvested award outstanding as of the date of the Separation was multiplied by a factor of 1.17, and the related grant date fair value was divided by a factor of 1.17, which resulted in no increase in the intrinsic value of awards outstanding. The RSUs continue to vest in accordance with their original vesting period. These adjustments to the Company's share-based compensation awards did not result in additional compensation expense.

RSUs that were held by employees who transferred to Delphi Technologies in connection with the Separation were canceled and replaced by awards issued by Delphi Technologies. Employees remaining with the Company did not receive share-based compensation awards of Delphi Technologies as a result of the spin-off. Except for the conversion of awards, the material terms of the awards remained unchanged.

Board of Director Awards

On April 28, 2016, Aptiv granted 27,238 RSUs to the Board of Directors at a grant date fair value of approximately \$2 million. The grant date fair value was determined based on the closing price of the Company's ordinary shares on April 28, 2016. The RSUs vested on April 26, 2017, and 26,580 ordinary shares, which included shares issued in connection with dividend equivalents, were issued to members of the Board of Directors at a fair value of approximately \$2 million. 3,472 ordinary shares were withheld to cover U.K. withholding taxes.

On April 27, 2017, Aptiv granted 26,782 RSUs to the Board of Directors at a grant date fair value of approximately \$2 million. The grant date fair value was determined based on the closing price of the Company's ordinary shares on April 27, 2017. The RSUs vested on April 25, 2018, and 24,642 ordinary shares, which included shares issued in connection with dividend equivalents, were issued to members of the Board of Directors at a fair value of approximately \$2 million. 2,649 ordinary shares were withheld to cover withholding taxes.

On April 26, 2018, Aptiv granted 22,676 RSUs to the Board of Directors at a grant date fair value of approximately \$2 million. The grant date fair value was determined based on the closing price of the Company's ordinary shares on April 26, 2018. The RSUs vested on April 24, 2019, and 23,999 ordinary shares, which included shares issued in connection with dividend equivalents, were issued to members of the Board of Directors at a fair value of approximately \$2 million. 3,228 ordinary shares were withheld to cover withholding taxes.

On April 25, 2019, Aptiv granted 20,765 RSUs to the Board of Directors at a grant date fair value of approximately \$2 million. The grant date fair value was determined based on the closing price of the Company's ordinary shares on April 25, 2019. The RSUs will vest on April 22, 2020, the day before the 2020 Annual General Meeting of Shareholders.

Executive Awards

Aptiv has made annual grants of RSUs to its executives in February of each year beginning in 2012. These awards include a time-based vesting portion and a performance-based vesting portion, as well as continuity awards in certain years. The time-based RSUs, which make up 25% of the awards for Aptiv's officers and 50% for Aptiv's other executives, vest ratably over three years beginning on the first anniversary of the grant date. The performance-based RSUs, which make up 75% of the awards for Aptiv's officers and 50% for Aptiv's other executives, vest at the completion of a three-year performance period if certain targets are met. Each executive will receive between 0% and 200% of his or her target performance-based award based on the Company's performance against established company-wide performance metrics, which are:

Metric	2016 - 2019 Grants	2015 Grant
Average return on net assets (1)	50%	50%
Cumulative net income	25%	N/A
Cumulative earnings per share (2)	N/A	30%
Relative total shareholder return (3)	25%	20%

- (1) Average return on net assets is measured by tax-affected operating income divided by average net working capital plus average net property, plant and equipment for each calendar year during the respective performance period.
- (2) Cumulative earnings per share is measured by net income attributable to Aptiv divided by the weighted average number of diluted shares outstanding for the respective three-year performance period.
- (3) Relative total shareholder return is measured by comparing the average closing price per share of the Company's ordinary shares for the specified trading days in the fourth quarter of the end of the performance period to the average closing price per share of the Company's ordinary shares for the specified trading days in the fourth quarter of the year preceding the grant, including dividends, and assessed against a comparable measure of competitor and peer group companies.

The details of the executive grants were as follows:

Grant Date	RSUs Granted	Grant Date Fair Value	Time-Based Award Vesting Dates	Performance-Based Award Vesting Date
	(in millions)			
February 2015	0.90	\$ 76	Annually on anniversary of grant date, 2016 - 2018	December 31, 2017
February 2016	0.71	48	Annually on anniversary of grant date, 2017 - 2019	December 31, 2018
February 2017	0.80	63	Annually on anniversary of grant date, 2018 - 2020	December 31, 2019
February 2018	0.63	61	Annually on anniversary of grant date, 2019 - 2021	December 31, 2020
February 2019	0.71	62	Annually on anniversary of grant date, 2020 - 2022	December 31, 2021

The grant date fair value of the RSUs is determined based on the target number of awards issued, the closing price of the Company's ordinary shares on the date of the grant of the award, including an estimate for forfeitures, and a contemporaneous valuation performed by an independent valuation specialist with respect to the relative total shareholder return awards.

Any new executives hired after the annual executive RSU grant date may be eligible to participate in the PLC LTIP. The Company has also granted additional awards to employees in certain periods under the PLC LTIP. Any off cycle grants made for new hires or to other employees are valued at their grant date fair value based on the closing price of the Company's ordinary shares on the date of such grant.

In February 2017, under the time-based vesting terms of the outstanding awards, 248,008 ordinary shares were issued to Aptiv employees at a fair value of approximately \$19 million, of which 88,807 ordinary shares were withheld to cover withholding taxes. The performance-based RSUs associated with the 2014 grant vested at the completion of a three-year performance period on December 31, 2016, and in the first quarter of 2017, 797,210 ordinary shares were issued to employees at a fair value of approximately \$60 million, of which 324,555 ordinary shares were withheld to cover withholding taxes.

In February 2018, under the time-based vesting terms of the outstanding awards, 285,344 ordinary shares were issued to Aptiv employees at a fair value of approximately \$26 million, of which 102,045 ordinary shares were withheld to cover withholding taxes. The performance-based RSUs associated with the 2015 grant vested at the completion of a three-year performance period on December 31, 2017, and in the first quarter of 2018, 640,239 ordinary shares were issued to employees at a fair value of approximately \$59 million, of which 240,483 ordinary shares were withheld to cover withholding taxes.

In February 2019, under the time-based vesting terms of the outstanding awards, 529,812 ordinary shares were issued to Aptiv employees at a fair value of approximately \$44 million, of which 203,839 ordinary shares were withheld to cover withholding taxes. The performance-based RSUs associated with the 2016 grant, and applicable continuity awards, vested at the completion of a three-year performance period on December 31, 2018, and in the first quarter of 2019, 493,674 ordinary shares were issued to employees at a fair value of approximately \$41 million, of which 199,547 ordinary shares were withheld to cover withholding taxes.

A summary of RSU activity, including award grants, vesting and forfeitures is provided below. For periods prior to the Separation, RSU activity and the corresponding weighted average grant date fair value is presented based on the awards of Delphi Automotive PLC RSUs.

	RSUs	Weighted Average Grant Date Fair Value
	(in thousands)	
Nonvested, January 1, 2017	1,740	\$ 76.54
Granted	1,245	82.02
Vested	(980)	73.01
Forfeited	(195)	76.18
Adjustment due to Delphi Technologies Separation (1)	(3)	
Nonvested, December 31, 2017 (2)	1,807	68.66
Granted	1,242	87.08
Vested	(968)	65.83
Forfeited	(202)	77.64
Nonvested, December 31, 2018	1,879	81.24
Granted	1,363	83.93
Vested	(1,131)	70.78
Forfeited	(289)	83.97
Nonvested, December 31, 2019	1,822	89.32

- (1) Reflects the cancellation of awards outstanding as of the Distribution Date held by Delphi Technologies employees, which were converted to Delphi Technologies RSUs as part of the Separation, and the conversion of unvested RSUs for Aptiv employees in accordance with the conversion factor described above.
- (2) Nonvested RSUs and the corresponding weighted average grant date fair value as of December 31, 2017 presented on an Aptiv basis using the conversion factor described above in connection with the Separation.

As of December 31, 2019, there were approximately 577,000 Aptiv performance-based RSUs, with a weighted average grant date fair value of \$70.77, that were vested but not yet distributed.

Aptiv recognized compensation expense from continuing operations of \$66 million (\$65 million, net of tax), \$58 million (\$57 million, net of tax) and \$62 million (\$56 million net of tax) based on the Company's best estimate of ultimate performance against the respective targets during the years ended December 31, 2019, 2018 and 2017, respectively. Aptiv will continue to recognize compensation expense, based on the grant date fair value of the awards applied to the Company's best estimate of ultimate performance against the respective targets, over the requisite vesting periods of the awards. Based on the grant date fair value of the awards and the Company's best estimate of ultimate performance against the respective targets as of December 31, 2019, unrecognized compensation expense on a pre-tax basis of approximately \$91 million is anticipated to be recognized over a weighted average period of approximately 2 years. For the years ended December 31, 2019, 2018 and 2017, respectively, approximately \$34 million, \$35 million and \$33 million of cash was paid and reflected as a financing activity in the statements of cash flows related to the tax withholding for vested RSUs.

22. SUPPLEMENTAL GUARANTOR AND NON-GUARANTOR CONDENSED CONSOLIDATING FINANCIAL STATEMENTS

Basis of Presentation

Notes Issued by the Subsidiary Issuer

As described in Note 11. Debt, Aptiv Corporation (the "Subsidiary Issuer/Guarantor"), a 100% owned subsidiary of Aptiv PLC (the "Parent"), issued the 2014 Senior Notes, which were registered under the Securities Act, and is the borrower of obligations under the Credit Agreement. The 2014 Senior Notes and obligations under the Credit Agreement are fully and unconditionally guaranteed by Aptiv PLC and certain of Aptiv PLC's direct and indirect subsidiary companies, which are directly or indirectly 100% owned by Aptiv PLC (the "Subsidiary Guarantors"), on a joint and several basis, subject to customary release provisions (other than in the case of Aptiv PLC). All other consolidated direct and indirect subsidiaries of Aptiv PLC ("Non-Guarantor Subsidiaries") are not subject to the guarantees.

Notes Issued by the Parent

As described in Note 11. Debt, Aptiv PLC issued the 2015 Euro-denominated Senior Notes, the 3.15% Senior Notes, the 4.25% Senior Notes, the 2016 Euro-denominated Senior Notes, the 2016 Senior Notes and the 2019 Senior Notes, each of which were registered under the Securities Act. The 3.15% Senior Notes were subsequently redeemed and extinguished in March 2019. Each series of these senior notes are, and prior to their redemption, the 3.15% Senior Notes were, fully and unconditionally guaranteed on a joint and several basis, subject to customary release provisions, by certain of Aptiv PLC's direct and indirect subsidiary companies (the "Subsidiary Guarantors"), and Aptiv Corporation, each of which are directly or indirectly 100% owned by Aptiv PLC. All other Non-Guarantor Subsidiaries are not subject to the guarantees.

In lieu of providing separate audited financial statements for the Guarantors, the Company has included the accompanying condensed consolidating financial statements. These condensed consolidating financial statements are presented on the equity method. Under this method, the investments in subsidiaries are recorded at cost and adjusted for the parent's share of the subsidiary's cumulative results of operations, capital contributions and distributions and other equity changes. The Non-Guarantor Subsidiaries are combined in the condensed consolidating financial statements. The principal elimination entries are to eliminate the investments in subsidiaries and intercompany balances and transactions.

The historical presentation of the supplemental guarantor and non-guarantor condensed consolidating financial statements have been revised to be consistent with the presentation of the entities that comprise the structure of the Subsidiary Guarantors as of December 31, 2019.

Statement of Operations for the Year Ended December 31, 2019

	Parent	Subsidiary Guarantors	Subsidiary Issuer/Guarantor	Non-Guarantor Subsidiaries	Eliminations	Consolidated
	(in millions)					
Net sales	\$ —	\$ —	\$ —	\$ 14,357	\$ —	\$ 14,357
Operating expenses:						
Cost of sales	—	—	—	11,711	—	11,711
Selling, general and administrative	4	—	—	1,072	—	1,076
Amortization	—	—	—	146	—	146
Restructuring	—	—	—	148	—	148
Total operating expenses	4	—	—	13,077	—	13,081
Operating (loss) income	(4)	—	—	1,280	—	1,276
Interest (expense) income	(129)	(181)	(134)	(30)	310	(164)
Other (expense) income, net	(6)	1	39	290	(310)	14
(Loss) income from continuing operations before income taxes and equity income	(139)	(180)	(95)	1,540	—	1,126
Income tax benefit (expense)	6	12	22	(172)	—	(132)
(Loss) income from continuing operations before equity income	(133)	(168)	(73)	1,368	—	994
Equity in net income of affiliates	—	—	—	15	—	15
Equity in net income (loss) of subsidiaries	1,123	942	138	—	(2,203)	—
Income (loss) from continuing operations	990	774	65	1,383	(2,203)	1,009
Income from discontinued operations, net of tax	—	—	—	—	—	—
Net income (loss)	990	774	65	1,383	(2,203)	1,009
Net income attributable to noncontrolling interest	—	—	—	19	—	19
Net income (loss) attributable to Aptiv	\$ 990	\$ 774	\$ 65	\$ 1,364	\$ (2,203)	\$ 990

Statement of Operations for the Year Ended December 31, 2018

	Parent	Subsidiary Guarantors	Subsidiary Issuer/Guarantor	Non-Guarantor Subsidiaries	Eliminations	Consolidated
	(in millions)					
Net sales	\$ —	\$ —	\$ —	\$ 14,435	\$ —	\$ 14,435
Operating expenses:						
Cost of sales	—	—	—	11,706	—	11,706
Selling, general and administrative	27	—	—	966	—	993
Amortization	—	—	—	154	—	154
Restructuring	—	—	—	109	—	109
Total operating expenses	27	—	—	12,935	—	12,962
Operating (loss) income	(27)	—	—	1,500	—	1,473
Interest (expense) income	(141)	(147)	(200)	(25)	372	(141)
Other income (expense), net	—	1	80	293	(372)	2
(Loss) income from continuing operations before income taxes and equity income	(168)	(146)	(120)	1,768	—	1,334
Income tax benefit (expense)	—	—	27	(277)	—	(250)
(Loss) income from continuing operations before equity income	(168)	(146)	(93)	1,491	—	1,084
Equity in net income of affiliates	—	—	—	23	—	23
Equity in net income (loss) of subsidiaries	1,235	1,246	41	—	(2,522)	—
Income (loss) from continuing operations	1,067	1,100	(52)	1,514	(2,522)	1,107
Income from discontinued operations, net of tax	—	—	—	—	—	—
Net income (loss)	1,067	1,100	(52)	1,514	(2,522)	1,107
Net income attributable to noncontrolling interest	—	—	—	40	—	40
Net income (loss) attributable to Aptiv	\$ 1,067	\$ 1,100	\$ (52)	\$ 1,474	\$ (2,522)	\$ 1,067

Statement of Operations for the Year Ended December 31, 2017

	Parent	Subsidiary Guarantors	Subsidiary Issuer/Guarantor	Non-Guarantor Subsidiaries	Eliminations	Consolidated
	(in millions)					
Net sales	\$ —	\$ —	\$ —	\$ 12,884	\$ —	\$ 12,884
Operating expenses:						
Cost of sales	—	—	—	10,270	—	10,270
Selling, general and administrative	137	—	—	815	—	952
Amortization	—	—	—	117	—	117
Restructuring	—	—	—	129	—	129
Total operating expenses	137	—	—	11,331	—	11,468
Operating (loss) income	(137)	—	—	1,553	—	1,416
Interest (expense) income	(255)	(24)	(174)	(11)	324	(140)
Other income (expense), net	—	144	13	146	(324)	(21)
(Loss) income from continuing operations before income taxes and equity income	(392)	120	(161)	1,688	—	1,255
Income tax benefit (expense)	—	—	59	(282)	—	(223)
(Loss) income from continuing operations before equity income	(392)	120	(102)	1,406	—	1,032
Equity in net income of affiliates	—	—	—	31	—	31
Equity in net income (loss) of subsidiaries	1,747	1,629	62	—	(3,438)	—
Income (loss) from continuing operations	1,355	1,749	(40)	1,437	(3,438)	1,063
Income from discontinued operations, net of tax	—	—	—	365	—	365
Net income (loss)	1,355	1,749	(40)	1,802	(3,438)	1,428
Net income attributable to noncontrolling interest	—	—	—	73	—	73
Net income (loss) attributable to Aptiv	\$ 1,355	\$ 1,749	\$ (40)	\$ 1,729	\$ (3,438)	\$ 1,355

Statement of Comprehensive Income for the Year Ended December 31, 2019

	Parent	Subsidiary Guarantors	Subsidiary Issuer/Guarantor	Non-Guarantor Subsidiaries	Eliminations	Consolidated
	(in millions)					
Net income (loss)	\$ 990	\$ 774	\$ 65	\$ 1,383	\$ (2,203)	\$ 1,009
Other comprehensive income (loss):						
Currency translation adjustments	29	—	—	(74)	—	(45)
Net change in unrecognized gain on derivative instruments, net of tax	—	—	—	56	—	56
Employee benefit plans adjustment, net of tax	—	—	—	(30)	—	(30)
Other comprehensive income (loss)	29	—	—	(48)	—	(19)
Equity in other comprehensive (loss) income of subsidiaries	(45)	20	17	—	8	—
Comprehensive income (loss)	974	794	82	1,335	(2,195)	990
Comprehensive income attributable to noncontrolling interests	—	—	—	16	—	16
Comprehensive income (loss) attributable to Aptiv	\$ 974	\$ 794	\$ 82	\$ 1,319	\$ (2,195)	\$ 974

Statement of Comprehensive Income for the Year Ended December 31, 2018

	Parent	Subsidiary Guarantors	Subsidiary Issuer/Guarantor	Non-Guarantor Subsidiaries	Eliminations	Consolidated
	(in millions)					
Net income (loss)	\$ 1,067	\$ 1,100	\$ (52)	\$ 1,514	\$ (2,522)	\$ 1,107
Other comprehensive income (loss):						
Currency translation adjustments	67	—	—	(261)	—	(194)
Net change in unrecognized loss on derivative instruments, net of tax	—	—	—	(39)	—	(39)
Employee benefit plans adjustment, net of tax	—	—	—	2	—	2
Other comprehensive income (loss)	67	—	—	(298)	—	(231)
Equity in other comprehensive (loss) income of subsidiaries	(290)	(194)	25	—	459	—
Comprehensive income (loss)	844	906	(27)	1,216	(2,063)	876
Comprehensive income attributable to noncontrolling interests	—	—	—	32	—	32
Comprehensive income (loss) attributable to Aptiv	\$ 844	\$ 906	\$ (27)	\$ 1,184	\$ (2,063)	\$ 844

Statement of Comprehensive Income for the Year Ended December 31, 2017

	Parent	Subsidiary Guarantors	Subsidiary Issuer/Guarantor	Non-Guarantor Subsidiaries	Eliminations	Consolidated
	(in millions)					
Net income (loss)	\$ 1,355	\$ 1,749	\$ (40)	\$ 1,802	\$ (3,438)	\$ 1,428
Other comprehensive (loss) income:						
Currency translation adjustments	(177)	—	—	492	—	315
Net change in unrecognized gain on derivative instruments, net of tax	—	—	—	15	—	15
Employee benefit plans adjustment, net of tax	—	—	—	11	—	11
Other comprehensive (loss) income	(177)	—	—	518	—	341
Equity in other comprehensive income (loss) of subsidiaries	508	567	31	—	(1,106)	—
Comprehensive income (loss)	1,686	2,316	(9)	2,320	(4,544)	1,769
Comprehensive income attributable to noncontrolling interests	—	—	—	83	—	83
Comprehensive income (loss) attributable to Aptiv	\$ 1,686	\$ 2,316	\$ (9)	\$ 2,237	\$ (4,544)	\$ 1,686

Balance Sheet as of December 31, 2019

	Parent	Subsidiary Guarantors	Subsidiary Issuer/Guarantor	Non-Guarantor Subsidiaries	Eliminations	Consolidated
(in millions)						
ASSETS						
Current assets:						
Cash and cash equivalents	\$ —	\$ —	\$ —	\$ 412	\$ —	\$ 412
Restricted cash	—	—	—	16	—	16
Accounts receivable, net	—	—	—	2,569	—	2,569
Intercompany receivables, current	58	17	464	5,981	(6,520)	—
Inventories	—	—	—	1,286	—	1,286
Other current assets	—	—	—	504	—	504
Assets held for sale	—	—	—	532	—	532
Total current assets	<u>58</u>	<u>17</u>	<u>464</u>	<u>11,300</u>	<u>(6,520)</u>	<u>5,319</u>
Long-term assets:						
Intercompany receivables, long-term	—	—	768	415	(1,183)	—
Property, net	—	—	—	3,309	—	3,309
Operating lease right-of-use assets	—	—	—	413	—	413
Investments in affiliates	—	—	—	106	—	106
Investments in subsidiaries	8,452	9,145	1,758	—	(19,355)	—
Intangible assets, net	—	—	—	3,593	—	3,593
Other long-term assets	1	—	3	715	—	719
Total long-term assets	<u>8,453</u>	<u>9,145</u>	<u>2,529</u>	<u>8,551</u>	<u>(20,538)</u>	<u>8,140</u>
Total assets	<u>\$ 8,511</u>	<u>\$ 9,162</u>	<u>\$ 2,993</u>	<u>\$ 19,851</u>	<u>\$ (27,058)</u>	<u>\$ 13,459</u>
LIABILITIES AND SHAREHOLDERS' EQUITY						
Current liabilities:						
Short-term debt	\$ —	\$ —	\$ 120	\$ 273	\$ —	\$ 393
Accounts payable	3	—	—	2,460	—	2,463
Intercompany payables, current	1,539	4,259	628	94	(6,520)	—
Accrued liabilities	38	—	9	1,108	—	1,155
Liabilities held for sale	—	—	—	43	—	43
Total current liabilities	<u>1,580</u>	<u>4,259</u>	<u>757</u>	<u>3,978</u>	<u>(6,520)</u>	<u>4,054</u>
Long-term liabilities:						
Long-term debt	2,920	—	1,026	25	—	3,971
Intercompany payables, long-term	—	—	226	957	(1,183)	—
Pension benefit obligations	—	—	—	483	—	483
Long-term operating lease liabilities	—	—	—	329	—	329
Other long-term liabilities	—	—	—	611	—	611
Total long-term liabilities	<u>2,920</u>	<u>—</u>	<u>1,252</u>	<u>2,405</u>	<u>(1,183)</u>	<u>5,394</u>
Total liabilities	<u>4,500</u>	<u>4,259</u>	<u>2,009</u>	<u>6,383</u>	<u>(7,703)</u>	<u>9,448</u>
Total Aptiv shareholders' equity	4,011	4,903	984	13,276	(19,355)	3,819
Noncontrolling interest	—	—	—	192	—	192
Total shareholders' equity	<u>4,011</u>	<u>4,903</u>	<u>984</u>	<u>13,468</u>	<u>(19,355)</u>	<u>4,011</u>
Total liabilities and shareholders' equity	<u>\$ 8,511</u>	<u>\$ 9,162</u>	<u>\$ 2,993</u>	<u>\$ 19,851</u>	<u>\$ (27,058)</u>	<u>\$ 13,459</u>

Balance Sheet as of December 31, 2018

	Parent	Subsidiary Guarantors	Subsidiary Issuer/Guarantor	Non-Guarantor Subsidiaries	Eliminations	Consolidated
(in millions)						
ASSETS						
Current assets:						
Cash and cash equivalents	\$ 1	\$ —	\$ —	\$ 566	\$ —	\$ 567
Restricted cash	—	—	—	1	—	1
Accounts receivable, net	—	—	—	2,487	—	2,487
Intercompany receivables, current	54	16	3,114	4,201	(7,385)	—
Inventories	—	—	—	1,277	—	1,277
Other current assets	—	—	—	445	—	445
Total current assets	55	16	3,114	8,977	(7,385)	4,777
Long-term assets:						
Intercompany receivables, long-term	—	—	768	1,424	(2,192)	—
Property, net	—	—	—	3,179	—	3,179
Investments in affiliates	—	—	—	99	—	99
Investments in subsidiaries	7,392	8,467	1,899	—	(17,758)	—
Intangible assets, net	—	—	—	3,904	—	3,904
Other long-term assets	—	—	6	515	—	521
Total long-term assets	7,392	8,467	2,673	9,121	(19,950)	7,703
Total assets	\$ 7,447	\$ 8,483	\$ 5,787	\$ 18,098	\$ (27,335)	\$ 12,480
LIABILITIES AND SHAREHOLDERS' EQUITY						
Current liabilities:						
Short-term debt	\$ —	\$ —	\$ 25	\$ 281	\$ —	\$ 306
Accounts payable	2	—	—	2,332	—	2,334
Intercompany payables, current	791	4,479	2,115	—	(7,385)	—
Accrued liabilities	31	—	11	1,012	—	1,054
Total current liabilities	824	4,479	2,151	3,625	(7,385)	3,694
Long-term liabilities:						
Long-term debt	2,953	—	1,055	30	—	4,038
Intercompany payables, long-term	—	—	1,296	896	(2,192)	—
Pension benefit obligations	—	—	—	445	—	445
Other long-term liabilities	—	—	—	633	—	633
Total long-term liabilities	2,953	—	2,351	2,004	(2,192)	5,116
Total liabilities	3,777	4,479	4,502	5,629	(9,577)	8,810
Total Aptiv shareholders' equity	3,670	4,004	1,285	12,258	(17,758)	3,459
Noncontrolling interest	—	—	—	211	—	211
Total shareholders' equity	3,670	4,004	1,285	12,469	(17,758)	3,670
Total liabilities and shareholders' equity	\$ 7,447	\$ 8,483	\$ 5,787	\$ 18,098	\$ (27,335)	\$ 12,480

Statement of Cash Flows for the Year Ended December 31, 2019

	Parent	Subsidiary Guarantors	Subsidiary Issuer/Guarantor	Non-Guarantor Subsidiaries	Eliminations	Consolidated
	(in millions)					
Net cash (used in) provided by operating activities from continuing operations	\$ (50)	\$ —	\$ —	\$ 1,674	\$ —	\$ 1,624
Net cash provided by operating activities from discontinued operations	—	—	—	—	—	—
Net cash (used in) provided by operating activities	(50)	—	—	1,674	—	1,624
Cash flows from investing activities:						
Capital expenditures	—	—	—	(781)	—	(781)
Proceeds from sale of property / investments	—	—	—	14	—	14
Cost of business acquisitions, net of cash acquired	—	—	—	(334)	—	(334)
Cost of technology investments	—	—	—	(10)	—	(10)
Loans to affiliates	—	—	—	(818)	818	—
Repayments of loans from affiliates	—	—	—	175	(175)	—
Net cash (used in) provided by investing activities from continuing operations	—	—	—	(1,754)	643	(1,111)
Net cash used in investing activities from discontinued operations	—	—	—	—	—	—
Net cash (used in) provided by investing activities	—	—	—	(1,754)	643	(1,111)
Cash flows from financing activities:						
Net proceeds (repayments) under other short-term debt agreements	—	—	90	(10)	—	80
Repayments under long-term debt agreements	—	—	(25)	—	—	(25)
Repayment of senior notes	(654)	—	—	—	—	(654)
Proceeds from issuance of senior notes, net of issuance costs	641	—	—	—	—	641
Dividend payments of consolidated affiliates to minority shareholders	—	—	—	(11)	—	(11)
Proceeds from borrowings from affiliates	708	—	110	—	(818)	—
Payments on borrowings from affiliates	—	—	(175)	—	175	—
Repurchase of ordinary shares	(420)	—	—	—	—	(420)
Distribution of cash dividends	(226)	—	—	—	—	(226)
Taxes withheld and paid on employees' restricted share awards	—	—	—	(34)	—	(34)
Net cash provided by (used in) financing activities	49	—	—	(55)	(643)	(649)
Effect of exchange rate fluctuations on cash, cash equivalents and restricted cash	—	—	—	(3)	—	(3)
Decrease in cash, cash equivalents and restricted cash	(1)	—	—	(138)	—	(139)
Cash, cash equivalents and restricted cash at beginning of year	1	—	—	567	—	568
Cash, cash equivalents and restricted cash at end of year	\$ —	\$ —	\$ —	\$ 429	\$ —	\$ 429

Statement of Cash Flows for the Year Ended December 31, 2018

	Parent	Subsidiary Guarantors	Subsidiary Issuer/Guarantor	Non-Guarantor Subsidiaries	Eliminations	Consolidated
(in millions)						
Net cash (used in) provided by operating activities from continuing operations	\$ (170)	\$ —	\$ —	\$ 1,810	\$ —	\$ 1,640
Net cash used in operating activities from discontinued operations	—	—	—	(12)	—	(12)
Net cash (used in) provided by operating activities	(170)	—	—	1,798	—	1,628
Cash flows from investing activities:						
Capital expenditures	—	—	—	(846)	—	(846)
Proceeds from sale of property / investments	—	—	—	13	—	13
Cost of business acquisitions, net of cash acquired	—	—	—	(1,197)	—	(1,197)
Cost of technology investments	—	—	—	(16)	—	(16)
Return of investment from subsidiaries	5,879	4,971	—	—	(10,850)	—
Settlement of derivatives	—	—	—	(2)	—	(2)
Loans to affiliates	—	—	—	(3,642)	3,642	—
Repayments of loans from affiliates	—	—	—	7,598	(7,598)	—
Investments in subsidiaries	(100)	—	—	—	100	—
Net cash provided by (used in) investing activities from continuing operations	5,779	4,971	—	1,908	(14,706)	(2,048)
Net cash used in investing activities from discontinued operations	—	—	—	—	—	—
Net cash provided by (used in) investing activities	5,779	4,971	—	1,908	(14,706)	(2,048)
Cash flows from financing activities:						
Net proceeds under other short-term debt agreements	—	—	—	268	—	268
Repayments under long-term debt agreements	—	—	(13)	—	—	(13)
Contingent consideration and deferred acquisition purchase price payments	—	—	—	(13)	—	(13)
Dividend payments of consolidated affiliates to minority shareholders	—	—	—	(30)	—	(30)
Proceeds from borrowings from affiliates	1,002	2,627	13	—	(3,642)	—
Payments on borrowings from affiliates	(5,879)	(1,719)	—	—	7,598	—
Investment from parent	—	—	—	100	(100)	—
Dividends paid to affiliates	—	(5,879)	—	(4,971)	10,850	—
Repurchase of ordinary shares	(499)	—	—	—	—	(499)
Distribution of cash dividends	(233)	—	—	—	—	(233)
Taxes withheld and paid on employees' restricted share awards	—	—	—	(35)	—	(35)
Net cash (used in) provided by financing activities	(5,609)	(4,971)	—	(4,681)	14,706	(555)
Effect of exchange rate fluctuations on cash, cash equivalents and restricted cash	—	—	—	(54)	—	(54)
Decrease in cash, cash equivalents and restricted cash	—	—	—	(1,029)	—	(1,029)
Cash, cash equivalents and restricted cash at beginning of year	1	—	—	1,596	—	1,597
Cash, cash equivalents and restricted cash at end of year	\$ 1	\$ —	\$ —	\$ 567	\$ —	\$ 568

Statement of Cash Flows for the Year Ended December 31, 2017

	Parent	Subsidiary Guarantors	Subsidiary Issuer/Guarantor	Non-Guarantor Subsidiaries	Eliminations	Consolidated
	(in millions)					
Net cash (used in) provided by operating activities from continuing operations	\$ (93)	\$ (184)	\$ —	\$ 1,383	\$ —	\$ 1,106
Net cash provided by operating activities from discontinued operations	—	—	—	362	—	362
Net cash (used in) provided by operating activities	(93)	(184)	—	1,745	—	1,468
Cash flows from investing activities:						
Capital expenditures	—	—	—	(698)	—	(698)
Proceeds from sale of property / investments	—	—	—	7	—	7
Cost of business acquisitions, net of cash acquired	—	—	—	(324)	—	(324)
Cost of technology investments	—	—	—	(50)	—	(50)
Settlement of derivatives	—	—	—	(28)	—	(28)
Loans to affiliates	—	(126)	—	(988)	1,114	—
Repayments of loans from affiliates	—	—	—	1,345	(1,345)	—
Net cash used in by investing activities from continuing operations	—	(126)	—	(736)	(231)	(1,093)
Net cash used in investing activities from discontinued operations	—	—	—	(159)	—	(159)
Net cash used in investing activities	—	(126)	—	(895)	(231)	(1,252)
Cash flows from financing activities:						
Net repayments under other short-term debt agreements	—	—	—	(15)	—	(15)
Repayments under long-term debt agreements	—	—	(2)	—	—	(2)
Proceeds from issuance of senior notes, net of issuance costs	—	—	—	796	—	796
Contingent consideration and deferred acquisition purchase price payments	—	—	—	(24)	—	(24)
Dividend payments of consolidated affiliates to minority shareholders	—	—	—	(38)	—	(38)
Proceeds from borrowings from affiliates	802	310	2	—	(1,114)	—
Payments on borrowings from affiliates	(1,345)	—	—	—	1,345	—
Repurchase of ordinary shares	(383)	—	—	—	—	(383)
Distribution of cash dividends	(310)	—	—	—	—	(310)
Dividend received from spin-off of Delphi Technologies	1,148	—	—	—	—	1,148
Cash transferred from Delphi Technologies related to spin-off	180	—	—	—	—	180
Cash transferred to Delphi Technologies related to spin-off	—	—	—	(863)	—	(863)
Taxes withheld and paid on employees' restricted share awards	—	—	—	(33)	—	(33)
Net cash provided by (used in) financing activities	92	310	—	(177)	231	456
Effect of exchange rate fluctuations on cash, cash equivalents and restricted cash	—	—	—	86	—	86
(Decrease) increase in cash, cash equivalents and restricted cash	(1)	—	—	759	—	758
Cash, cash equivalents and restricted cash at beginning of year	2	—	—	837	—	839
Cash, cash equivalents and restricted cash at end of year	\$ 1	\$ —	\$ —	\$ 1,596	\$ —	\$ 1,597

23. SEGMENT REPORTING

Aptiv operates its core business along the following operating segments, which are grouped on the basis of similar product, market and operating factors:

- Signal and Power Solutions, which includes complete electrical architecture and component products.
- Advanced Safety and User Experience, which includes component and systems integration expertise in advanced safety, user experience and connectivity and security solutions, as well as advanced software development and autonomous driving technologies.
- Eliminations and Other, which includes i) the elimination of inter-segment transactions, and ii) certain other expenses and income of a non-operating or strategic nature.

The accounting policies of the segments are the same as those described in Note 2. Significant Accounting Policies, except that the disaggregated financial results for the segments have been prepared using a management approach, which is consistent with the basis and manner in which management internally disaggregates financial information for which Aptiv's chief operating decision maker regularly reviews financial results to assess performance of, and make internal operating decisions about allocating resources to, the segments.

Generally, Aptiv evaluates segment performance based on stand-alone segment net income before interest expense, other income (expense), net, income tax expense, equity income (loss), net of tax, income (loss) from discontinued operations, net of tax, restructuring, other acquisition and portfolio project costs (which includes costs incurred to integrate acquired businesses and to plan and execute product portfolio transformation actions, including business and product acquisitions and divestitures), asset impairments, gains (losses) on business divestitures and deferred compensation related to acquisitions ("Adjusted Operating Income") and accounts for inter-segment sales and transfers as if the sales or transfers were to third parties, at current market prices. Aptiv's management utilizes Adjusted Operating Income as the key performance measure of segment income or loss to evaluate segment performance, and for planning and forecasting purposes to allocate resources to the segments, as management believes this measure is most reflective of the operational profitability or loss of Aptiv's operating segments. Segment Adjusted Operating Income should not be considered a substitute for results prepared in accordance with U.S. GAAP and should not be considered an alternative to net income attributable to Aptiv, which is the most directly comparable financial measure to Adjusted Operating Income that is prepared in accordance with U.S. GAAP. Segment Adjusted Operating Income, as determined and measured by Aptiv, should also not be compared to similarly titled measures reported by other companies.

As described in Note 25. Discontinued Operations and Held For Sale, the Company's previously reported Powertrain Systems segment has been classified as discontinued operations for all periods presented. Certain original equipment service businesses that were previously included within the Powertrain Systems segment but which was not included in the spin-off, are reported in continuing operations and have been reclassified within the Advanced Safety and User Experience and Signal and Power Solutions segments for all periods presented. Amounts for shared general and administrative operating expenses that were allocated to the Powertrain Systems segment in prior periods have been re-allocated to the Company's reportable operating segments. No amounts for shared general and administrative operating expense or interest expense were allocated to discontinued operations.

Included below are sales and operating data for Aptiv's segments for the years ended December 31, 2019, 2018 and 2017, as well as balance sheet data as of December 31, 2019 and 2018.

	Signal and Power Solutions	Advanced Safety and User Experience	Eliminations and Other (1)	Total
	(in millions)			
For the Year Ended December 31, 2019:				
Net sales	\$ 10,302	\$ 4,092	\$ (37)	\$ 14,357
Depreciation and amortization	\$ 538	\$ 179	\$ —	\$ 717
Adjusted operating income	\$ 1,274	\$ 274	\$ —	\$ 1,548
Operating income (2)	\$ 1,124	\$ 152	\$ —	\$ 1,276
Equity income, net of tax	\$ 15	\$ —	\$ —	\$ 15
Net income attributable to noncontrolling interest	\$ 19	\$ —	\$ —	\$ 19
Capital expenditures	\$ 495	\$ 250	\$ 36	\$ 781

	Signal and Power Solutions	Advanced Safety and User Experience	Eliminations and Other (1)	Total
	(in millions)			
For the Year Ended December 31, 2018:				
Net sales	\$ 10,402	\$ 4,078	\$ (45)	\$ 14,435
Depreciation and amortization	\$ 490	\$ 186	\$ —	\$ 676
Adjusted operating income	\$ 1,424	\$ 327	\$ —	\$ 1,751
Operating income (3)	\$ 1,279	\$ 194	\$ —	\$ 1,473
Equity income, net of tax	\$ 23	\$ —	\$ —	\$ 23
Net income attributable to noncontrolling interest	\$ 40	\$ —	\$ —	\$ 40
Capital expenditures	\$ 534	\$ 245	\$ 67	\$ 846

	Signal and Power Solutions	Advanced Safety and User Experience	Eliminations and Other (1)	Total
	(in millions)			
For the Year Ended December 31, 2017:				
Net sales	\$ 9,507	\$ 3,446	\$ (69)	\$ 12,884
Depreciation and amortization	\$ 438	\$ 108	\$ —	\$ 546
Adjusted operating income	\$ 1,302	\$ 292	\$ —	\$ 1,594
Operating income (4)	\$ 1,206	\$ 210	\$ —	\$ 1,416
Equity income, net of tax	\$ 31	\$ —	\$ —	\$ 31
Net income attributable to noncontrolling interest	\$ 42	\$ —	\$ —	\$ 42
Capital expenditures	\$ 477	\$ 196	\$ 25	\$ 698

- (1) Eliminations and Other includes the elimination of inter-segment transactions. Capital expenditures amounts are attributable to corporate administrative and support functions, including corporate headquarters and certain technical centers.
- (2) Includes charges recorded in 2019 related to costs associated with employee termination benefits and other exit costs of \$104 million for Signal and Power Solutions and \$44 million for Advanced Safety and User Experience.
- (3) Includes charges recorded in 2018 related to costs associated with employee termination benefits and other exit costs of \$90 million for Signal and Power Solutions and \$19 million for Advanced Safety and User Experience.
- (4) Includes charges recorded in 2017 related to costs associated with employee termination benefits and other exit costs of \$67 million for Signal and Power Solutions and \$62 million for Advanced Safety and User Experience.

	Signal and Power Solutions	Advanced Safety and User Experience	Eliminations and Other (1)	Total
	(in millions)			
Balance as of December 31, 2019:				
Investment in affiliates	\$ 106	\$ —	\$ —	\$ 106
Goodwill	\$ 2,381	\$ 26	\$ —	\$ 2,407
Total segment assets	\$ 12,726	\$ 4,988	\$ (4,255)	\$ 13,459
Balance as of December 31, 2018:				
Investment in affiliates	\$ 99	\$ —	\$ —	\$ 99
Goodwill	\$ 2,180	\$ 344	\$ —	\$ 2,524
Total segment assets	\$ 11,620	\$ 5,024	\$ (4,164)	\$ 12,480

- (1) Eliminations and Other includes the elimination of inter-segment transactions.

The reconciliation of Adjusted Operating Income to Operating Income includes, as applicable, restructuring, other acquisition and portfolio project costs (which includes costs incurred to integrate acquired businesses and to plan and execute product portfolio transformation actions, including business and product acquisitions and divestitures), asset impairments, gains (losses) on business divestitures and deferred compensation related to acquisitions. The reconciliations of Adjusted Operating Income to net income attributable to Aptiv for the years ended December 31, 2019, 2018 and 2017 are as follows:

	Signal and Power Solutions	Advanced Safety and User Experience	Eliminations and Other	Total
(in millions)				
For the Year Ended December 31, 2019:				
Adjusted operating income	\$ 1,274	\$ 274	\$ —	\$ 1,548
Restructuring	(104)	(44)	—	(148)
Other acquisition and portfolio project costs	(44)	(27)	—	(71)
Asset impairments	(2)	(9)	—	(11)
Deferred compensation related to nuTonomy acquisition	—	(42)	—	(42)
Operating income	<u>\$ 1,124</u>	<u>\$ 152</u>	<u>\$ —</u>	<u>1,276</u>
Interest expense				(164)
Other income, net				14
Income from continuing operations before income taxes and equity income				1,126
Income tax expense				(132)
Equity income, net of tax				15
Income from continuing operations				1,009
Income from discontinued operations, net of tax				—
Net income				1,009
Net income attributable to noncontrolling interest				19
Net income attributable to Aptiv				<u>\$ 990</u>

	Signal and Power Solutions	Advanced Safety and User Experience	Eliminations and Other	Total
(in millions)				
For the Year Ended December 31, 2018:				
Adjusted operating income	\$ 1,424	\$ 327	\$ —	\$ 1,751
Restructuring	(90)	(19)	—	(109)
Other acquisition and portfolio project costs	(54)	(24)	—	(78)
Asset impairments	(1)	(33)	—	(34)
Deferred compensation related to nuTonomy acquisition	—	(57)	—	(57)
Operating income	<u>\$ 1,279</u>	<u>\$ 194</u>	<u>\$ —</u>	<u>1,473</u>
Interest expense				(141)
Other income, net				2
Income from continuing operations before income taxes and equity income				1,334
Income tax expense				(250)
Equity income, net of tax				23
Income from continuing operations				1,107
Income from discontinued operations, net of tax				—
Net income				1,107
Net income attributable to noncontrolling interest				40
Net income attributable to Aptiv				<u>\$ 1,067</u>

	Signal and Power Solutions	Advanced Safety and User Experience	Eliminations and Other	Total
	(in millions)			
For the Year Ended December 31, 2017:				
Adjusted operating income	\$ 1,302	\$ 292	\$ —	\$ 1,594
Restructuring	(67)	(62)	—	(129)
Other acquisition and portfolio project costs	(21)	(7)	—	(28)
Asset impairments	(8)	(1)	—	(9)
Deferred compensation related to nuTonomy acquisition	—	(12)	—	(12)
Operating income	<u>\$ 1,206</u>	<u>\$ 210</u>	<u>\$ —</u>	<u>1,416</u>
Interest expense				(140)
Other expense, net				(21)
Income from continuing operations before income taxes and equity income				1,255
Income tax expense				(223)
Equity income, net of tax				31
Income from continuing operations				1,063
Income from discontinued operations, net of tax				365
Net income				1,428
Net income attributable to noncontrolling interest				73
Net income attributable to Aptiv				<u>\$ 1,355</u>

Information concerning principal geographic areas is set forth below. Net sales reflects the manufacturing location and is for the years ended December 31, 2019, 2018 and 2017. Long-lived assets is as of December 31, 2019, 2018 and 2017.

	Year Ended December 31, 2019		Year Ended December 31, 2018		Year Ended December 31, 2017	
	Net Sales	Long-Lived Assets (1)	Net Sales	Long-Lived Assets (1)	Net Sales	Long-Lived Assets (1)
	(in millions)					
United States (2)	\$ 5,308	\$ 1,029	\$ 5,390	\$ 942	\$ 4,652	\$ 839
Other North America	136	264	170	206	171	185
Europe, Middle East & Africa (3)	4,791	1,398	4,689	1,112	4,235	1,029
Asia Pacific (4)	3,876	970	3,916	869	3,544	698
South America	246	61	270	50	282	53
Total	<u>\$ 14,357</u>	<u>\$ 3,722</u>	<u>\$ 14,435</u>	<u>\$ 3,179</u>	<u>\$ 12,884</u>	<u>\$ 2,804</u>

- (1) Includes property, plant and equipment, net of accumulated depreciation and operating lease right-of-use assets of \$413 million as of December 31, 2019.
- (2) Includes net sales and machinery, equipment and tooling that relate to the Company's maquiladora operations located in Mexico. These assets are utilized to produce products sold to customers located in the U.S.
- (3) Includes Aptiv's country of domicile, Jersey, and the country of Aptiv's principal executive offices, Ireland. The Company had no sales in Jersey or Ireland in any period. The Company had long-lived assets in Ireland of \$79 million, \$22 million and less than \$1 million as of December 31, 2019, 2018 and 2017, respectively. The largest portion of net sales in the Europe, Middle East & Africa region was \$1,340 million, \$1,398 million and \$1,191 million in Germany for the years ended December 31, 2019, 2018 and 2017, respectively.
- (4) Net sales and long-lived assets in Asia Pacific are primarily attributable to China.

24. QUARTERLY DATA (UNAUDITED)

The following is a condensed summary of the Company's unaudited quarterly results of operations for fiscal 2019 and 2018.

	Three Months Ended				Total
	March 31,	June 30,	September 30,	December 31,	
(in millions, except per share amounts)					
2019					
Net sales	\$ 3,575	\$ 3,627	\$ 3,559	\$ 3,596	\$ 14,357
Cost of sales	2,962	2,958	2,882	2,909	11,711
Gross margin	\$ 613	\$ 669	\$ 677	\$ 687	\$ 2,646
Operating income (1)	\$ 297	\$ 335	\$ 320	\$ 324	\$ 1,276
Net Income (2)	245	271	252	241	1,009
Net income attributable to Aptiv	\$ 240	\$ 274	\$ 246	\$ 230	\$ 990
Basic net income per share:					
Basic net income per share attributable to Aptiv (3)	\$ 0.93	\$ 1.07	\$ 0.96	\$ 0.90	\$ 3.85
Weighted average number of basic shares outstanding	259.08	257.02	255.89	255.31	256.81
Diluted net income per share:					
Diluted net income per share attributable to Aptiv (3)	\$ 0.92	\$ 1.07	\$ 0.96	\$ 0.90	\$ 3.85
Weighted average number of diluted shares outstanding	259.55	257.26	256.44	256.36	257.39
2018					
Net sales	\$ 3,630	\$ 3,684	\$ 3,485	\$ 3,636	\$ 14,435
Cost of sales	2,947	2,958	2,834	2,967	11,706
Gross margin	\$ 683	\$ 726	\$ 651	\$ 669	\$ 2,729
Operating income (4)	\$ 374	\$ 421	\$ 323	\$ 355	\$ 1,473
Net Income (5)	316	303	231	257	1,107
Net income attributable to Aptiv	\$ 307	\$ 291	\$ 222	\$ 247	\$ 1,067
Basic net income per share:					
Basic net income per share attributable to Aptiv (3)	\$ 1.16	\$ 1.10	\$ 0.84	\$ 0.94	\$ 4.04
Weighted average number of basic shares outstanding	265.69	264.81	264.56	262.61	264.41
Diluted net income per share:					
Diluted net income per share attributable to Aptiv (3)	\$ 1.15	\$ 1.10	\$ 0.84	\$ 0.94	\$ 4.02
Weighted average number of diluted shares outstanding	266.44	265.48	265.33	263.65	265.22

- (1) In the third quarter of 2019, Aptiv recorded restructuring charges totaling \$61 million, which includes employee-related and other costs.
- (2) In the first quarter of 2019, Aptiv recorded a pre-tax unrealized gain of \$19 million related to increases in fair value of its equity investments without readily determinable fair values, as further described in Note 19. Other Income, Net.
- (3) Due to the use of the weighted average shares outstanding for each quarter for computing earnings per share, the sum of the quarterly per share amounts may not equal the per share amount for the year.
- (4) In the third quarter of 2018, Aptiv recorded restructuring charges totaling \$65 million, which includes employee-related and other costs. In the fourth quarter of 2018, Aptiv recorded intangible asset impairment charges totaling \$30 million, as further described in Note 7. Intangible Assets and Goodwill.
- (5) In the second quarter of 2018, Aptiv recorded increased tax expense of approximately \$25 million as an adjustment to the provisional amounts recorded due to the enactment of the Tax Cuts and Jobs Act in the U.S. on December 22, 2017. In the third quarter of 2018, Aptiv recorded increased tax expense of approximately \$24 million as a result of the intra-entity transfer of intellectual property, as further described in Note 14. Income Taxes.

25. DISCONTINUED OPERATIONS AND HELD FOR SALE

Spin-Off of Delphi Technologies

On December 4, 2017, the Company completed the Separation of its former Powertrain Systems segment by distributing to Aptiv shareholders on a pro rata basis all of the issued and outstanding ordinary shares of Delphi Technologies PLC ("Delphi Technologies"), a public limited company formed to hold the spun-off business. To effect the Separation, the Company

distributed to its shareholders one ordinary share of Delphi Technologies for every three Aptiv ordinary shares outstanding as of November 22, 2017, the record date for the distribution. Shareholders received cash in lieu of any fractional ordinary shares of Delphi Technologies. Following the Separation, Delphi Technologies is now an independent public company. Aptiv did not retain any equity or other interests in Delphi Technologies.

On December 4, 2017, pursuant to the Separation and Distribution Agreement, the Company transferred to Delphi Technologies the assets and liabilities that comprised Delphi Technologies' business. The Company received a dividend of approximately \$1,148 million from Delphi Technologies in connection with the Separation. Delphi Technologies financed this dividend through the issuance of approximately \$1.55 billion of debt, consisting of a senior secured five-year \$750 million term loan facility that was issued upon the spin-off and \$800 million aggregate principal amount of 5.00% senior unsecured notes due 2025 that were issued in September 2017 (collectively, the "Delphi Technologies Debt"). In connection with the Separation, the Delphi Technologies Debt was transferred to Delphi Technologies and is no longer reflected in the Company's continuing operations in the consolidated financial statements. Also in connection with the Separation, the Company received \$180 million in cash from Delphi Technologies pursuant to the Tax Matters Agreement.

The requirements for the presentation of Delphi Technologies as a discontinued operation were met when the Separation was completed. Accordingly, the accompanying consolidated financial statements reflect this business as a discontinued operation for all periods presented through the Distribution Date. Operations related to certain original equipment service businesses previously included within the Company's Powertrain Systems segment, but which were not included in the spin-off, are reported in continuing operations and have been reclassified within the Advanced Safety and User Experience and Signal and Power Solutions segments for all periods presented. No amounts for shared general and administrative expense or interest expense were allocated to discontinued operations. Aptiv has not had significant continuing involvement with the spun-off Powertrain Systems business following the closing of the transaction.

In connection with the Separation, Aptiv and Delphi Technologies entered into various agreements to effect the Separation and to provide a framework for their relationship following the Separation, which included a Separation and Distribution Agreement, a Transition Services Agreement, a Tax Matters Agreement, an Employee Matters Agreement and Contract Manufacturing Services Arrangements. The transition services primarily involve Aptiv providing certain services to Delphi Technologies related to information technology and human resource infrastructure for terms of up to 24 months following the Separation. Aptiv recorded \$4 million and \$11 million to other income, net during the years ended December 31, 2019 and 2018, respectively, for certain fees earned pursuant to the Transition Services Agreement. Also as a result of the spin-off, Aptiv recorded certain short-term assets and liabilities within the consolidated balance sheets as of December 31, 2018 and 2017 related to various agreements entered into in connection with the spin-off. The changes in these short-term assets and liabilities are reflected within operating activities from discontinued operations in the consolidated statements of cash flows.

As a result of the Separation, the Company incurred approximately \$118 million in separation costs during the year ended December 31, 2017, which are included within earnings from discontinued operations, net of income taxes in the consolidated statements of operations. These costs primarily related to professional fees associated with planning the Separation, as well as Separation activities within finance, tax, legal and information system functions and certain investment banking fees incurred upon the Separation.

As a result of the Separation, the Company separated its defined benefit pension and other post-employment benefit plans, and adjusted its employee share-based compensation awards. See Note 12. Pension Benefits and Note 21. Share-Based Compensation, respectively, for additional information.

As a result of the completion of the Separation on December 4, 2017, there were no assets or liabilities of the discontinued operation as of December 31, 2019 or 2018.

Income from Discontinued Operations

A reconciliation of the major classes of line items constituting pre-tax profit or loss of discontinued operations to income from discontinued operations, net of tax as presented in the consolidated statements of operations is as follows:

	Year Ended December 31, 2017
	(in millions)
Net sales	\$ 4,385
Cost of sales	3,496
Selling, general and administrative	298
Amortization	15
Restructuring	90
Other expense items that are not major, net	(54)
Income from discontinued operations before income taxes and equity income	432
Income tax expense on discontinued operations	(71)
Equity income from discontinued operations, net of tax	4
Income from discontinued operations, net of tax	365
Income from discontinued operations attributable to noncontrolling interests	31
Net income from discontinued operations attributable to Aptiv	\$ 334

Income from discontinued operations before income taxes attributable to Aptiv was \$399 million for the year ended December 31, 2017, which includes \$6 million of income tax expense attributable to noncontrolling interests.

Autonomous Driving Joint Venture

In September 2019, the Company entered into a definitive agreement with Hyundai Motor Group (“Hyundai”) to form a new joint venture focused on the design, development and commercialization of autonomous driving technologies. Under the terms of the agreement, Aptiv will contribute to the joint venture autonomous driving technology, intellectual property and approximately 700 employees for a 50% ownership interest in the newly formed entity. Hyundai will contribute to the joint venture approximately \$1.6 billion in cash at closing and approximately \$0.4 billion in vehicle engineering services, research and development resources and access to intellectual property for a 50% ownership interest in the newly formed entity. Upon closing of the transaction, Aptiv anticipates it will deconsolidate the carrying value of the associated assets and liabilities contributed to the joint venture, recognize an asset for the fair value of its investment in the newly formed joint venture and recognize any difference between the carrying value of its contribution and the fair value of its investment in earnings. Aptiv anticipates recognizing its investment in the newly formed entity prospectively using the equity method of accounting. The transaction is subject to the satisfaction of customary closing conditions and the receipt of regulatory and other approvals, and is expected to close in the first quarter of 2020.

The Company determined that the assets and liabilities associated with Aptiv’s contribution to the joint venture, which are reported within the Advanced Safety and User Experience segment, met the held for sale criteria as of December 31, 2019. Accordingly, the held for sale assets and liabilities were reclassified in the consolidated balance sheet as of December 31, 2019 to current assets held for sale and current liabilities held for sale, respectively, as the contribution of such assets and liabilities to the joint venture is expected to occur within one year. Upon designation as held for sale, the Company ceased recording depreciation of the held for sale assets.

Assets and liabilities classified as held for sale are required to be recorded at the lower of carrying value or fair value less costs to sell. The estimated fair value less costs to sell of Aptiv’s contribution to the joint venture exceeded its carrying value as of December 31, 2019, and therefore no adjustment to these long-lived assets was necessary. Upon closing of the transaction, to the extent the ultimate fair value differs from the current carrying value of the net assets associated with Aptiv’s contribution to the joint venture, the difference will be recognized in earnings.

The following table summarizes the carrying value of the major classes of assets and liabilities held for sale:

	December 31, 2019
	(in millions)
Cash and cash equivalents	\$ 1
Accounts receivable, net	1
Property, net	64
Operating lease right-of-use assets	12
Intangible assets, net	126
Goodwill	318
Other assets	10
Total assets held for sale	<u>\$ 532</u>
Accounts payable	\$ 9
Accrued liabilities	19
Long-term operating lease liabilities	10
Other liabilities	5
Total liabilities held for sale	<u>\$ 43</u>

The pre-tax loss of Aptiv's autonomous driving operations being contributed to the joint venture, included within Aptiv's consolidated operating results, were \$172 million, \$155 million and \$57 million for the years ended December 31, 2019, 2018 and 2017, respectively.

26. REVENUE

Revenue is recognized to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which we expect to be entitled in exchange for those goods or services. Accordingly, revenue is measured based on consideration specified in a contract with a customer. Customer contracts generally are represented by a combination of a current purchase order and a current production schedule issued by the customer. The Company recognizes revenue when it satisfies a performance obligation by transferring control over a product or service to a customer. From time to time, Aptiv enters into pricing agreements with its customers that provide for price reductions, some of which are conditional upon achieving certain joint cost savings targets. In these instances, revenue is recognized based on the agreed-upon price at the time of shipment.

Sales incentives and allowances are recognized as a reduction to revenue at the time of the related sale. Taxes assessed by a governmental authority that are both imposed on and concurrent with a specific revenue-producing transaction that are collected by Aptiv from a customer are excluded from revenue. Shipping and handling fees billed to customers are included in net sales, while costs of shipping and handling are included in cost of sales.

Nature of Goods and Services

The principal activity from which the Company generates its revenue is the manufacturing of production parts for OEM customers. Aptiv recognizes revenue at a point in time, rather than over time, as the performance obligation is satisfied when customers obtain control of the product upon title transfer and not as the product is manufactured or developed.

Aptiv recognizes revenue for production parts at a point in time as title transfers to the customer. Although production parts are highly customized with no alternative use, Aptiv does not have an enforceable right to payment as customers have the right to cancel a product program without a notification period. The amount of revenue recognized is based on the purchase order price and adjusted for revenue allocated to variable consideration (i.e. estimated rebates and price discounts), as applicable. Customers typically pay for production parts based on customary business practices with payment terms averaging 60 days.

Disaggregation of Revenue

Revenue generated from Aptiv's operating segments is disaggregated by primary geographic market in the following tables for the years ended December 31, 2019, 2018 and 2017. Information concerning geographic market reflects the manufacturing location.

For the Year Ended December 31, 2019:	Signal and Power Solutions	Advanced Safety and User Experience	Eliminations and Other	Total
(in millions)				
Geographic Market				
North America	\$ 4,187	\$ 1,260	\$ (3)	\$ 5,444
Europe, Middle East & Africa	3,045	1,758	(12)	4,791
Asia Pacific	2,828	1,070	(22)	3,876
South America	242	4	—	246
Total net sales	<u>\$ 10,302</u>	<u>\$ 4,092</u>	<u>\$ (37)</u>	<u>\$ 14,357</u>

For the Year Ended December 31, 2018:	Signal and Power Solutions	Advanced Safety and User Experience	Eliminations and Other	Total
(in millions)				
Geographic Market				
North America	\$ 4,232	\$ 1,333	\$ (5)	\$ 5,560
Europe, Middle East & Africa	3,049	1,652	(12)	4,689
Asia Pacific	2,858	1,085	(27)	3,916
South America	263	8	(1)	270
Total net sales	<u>\$ 10,402</u>	<u>\$ 4,078</u>	<u>\$ (45)</u>	<u>\$ 14,435</u>

For the Year Ended December 31, 2017:	Signal and Power Solutions	Advanced Safety and User Experience	Eliminations and Other	Total
(in millions)				
Geographic Market				
North America	\$ 3,676	\$ 1,158	\$ (11)	\$ 4,823
Europe, Middle East & Africa	2,894	1,362	(21)	4,235
Asia Pacific	2,659	921	(36)	3,544
South America	278	5	(1)	282
Total net sales	<u>\$ 9,507</u>	<u>\$ 3,446</u>	<u>\$ (69)</u>	<u>\$ 12,884</u>

Contract Balances

Consistent with the recognition of production parts revenue at a point in time as title transfers to the customer, Aptiv has no contract assets or contract liabilities balances as of December 31, 2019 and 2018.

Outstanding Performance Obligations

As customer contracts generally are represented by a combination of a current purchase order and a current production schedule issued by the customer for a production part, there are no contracts outstanding beyond one year. Aptiv does not enter into fixed long-term supply agreements.

As permitted, Aptiv does not disclose information about remaining performance obligations that have original expected durations of one year or less.

Costs to Obtain a Contract

From time to time, Aptiv makes payments to customers in conjunction with ongoing business. These payments to customers are generally recognized as a reduction to revenue at the time of the commitment to make these payments. However,

certain other payments to customers, or upfront fees, meet the criteria to be considered a cost to obtain a contract as they are directly attributable to a contract, are incremental and management expects the fees to be recoverable. As of December 31, 2019 and 2018, Aptiv has recorded \$99 million (of which \$20 million was classified within other current assets and \$79 million was classified within other long-term assets) and \$72 million (of which \$8 million was classified within other current assets and \$64 million was classified within other long-term assets), respectively, related to these capitalized upfront fees.

Capitalized upfront fees are amortized to revenue based on the transfer of goods and services to the customer for which the upfront fees relate, which typically range from three to five years. There have been no impairment losses in relation to the costs capitalized. The amount of amortization to net sales was \$11 million, \$6 million and \$3 million for the years ended December 31, 2019, 2018 and 2017, respectively.

27. LEASES

Lease Portfolio

The Company has operating and finance leases for real estate, office equipment, automobiles, forklifts and certain other equipment. The Company's leases have remaining lease terms of 1 year to 30 years, some of which include options to extend the leases for up to 8 years, and some of which include options to terminate the leases within 1 year. Certain of our lease agreements include rental payments which are adjusted periodically for inflation. Our lease agreements do not contain any material residual value guarantees or material restrictive covenants. When available, we use the rate implicit in the lease to discount lease payments to present value; however, most of our leases do not provide a readily determinable implicit rate. Therefore, we must estimate our incremental borrowing rate to discount the lease payments based on information available at lease commencement. The incremental borrowing rate is not a quoted rate and is derived by applying a spread over U.S. Treasury rates with a similar duration to the Company's lease payments. The spread utilized is based on the Company's credit rating and the impact of full collateralization.

The components of lease expense were as follows:

	<u>Year Ended December 31, 2019</u>
	(in millions)
Lease cost:	
Finance lease cost:	
Amortization of right-of-use assets	\$ 4
Interest on lease liabilities	1
Total finance lease cost	<u>5</u>
Operating lease cost	114
Short-term lease cost	13
Variable lease cost	1
Sublease income (1)	—
Total lease cost	<u>\$ 133</u>

(1) Sublease income excludes rental income from owned properties of \$11 million for the year ended December 31, 2019, which is included in other income, net.

Supplemental cash flow and other information related to leases was as follows:

	Year Ended December 31, 2019
	(in millions)
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows for finance leases	\$ 1
Operating cash flows for operating leases	112
Financing cash flows for finance leases	3
Right-of-use assets obtained in exchange for lease obligations:	
Operating leases	\$ 86
Finance leases	5

Supplemental balance sheet information related to leases was as follows:

	December 31, 2019
	(dollars in millions)
Operating leases:	
Operating lease right-of-use assets	\$ 413
Accrued liabilities (Note 8)	\$ 94
Long-term operating lease liabilities	329
Total operating lease liabilities	\$ 423
Finance leases:	
Property and equipment	\$ 30
Less: accumulated depreciation	(9)
Total property, net	\$ 21
Short-term debt (Note 11)	\$ 4
Long-term debt (Note 11)	18
Total finance lease liabilities	\$ 22

Weighted average remaining lease term:	
Operating leases	6 years
Finance leases	6 years

Weighted average discount rate:	
Operating leases	3.5%
Finance leases	4.0%

Additionally, the Company reclassified \$12 million of operating lease right-of-use assets and \$13 million of operating lease liabilities as held for sale in the consolidated balance sheet as of December 31, 2019. Refer to Note 25. Discontinued Operations and Held For Sale for further information regarding the Company's assets and liabilities held for sale.

Maturities of lease liabilities were as follows:

	<u>Operating Leases</u>	<u>Finance Leases</u>
	(in millions)	
As of December 31, 2019		
2020	\$ 106	\$ 5
2021	94	5
2022	79	4
2023	59	3
2024	39	2
Thereafter	93	6
Total lease payments	<u>470</u>	<u>25</u>
Less: imputed interest	(47)	(3)
Total	<u>\$ 423</u>	<u>\$ 22</u>

As of December 31, 2019, the Company has entered into additional operating leases, primarily for real estate, that have not yet commenced of approximately \$25 million. These operating leases primarily relate to Aptiv's held for sale operations and are anticipated to commence primarily in 2020 with lease terms of 10 years.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Management of the Company, under the supervision and with the participation of the Chief Executive Officer and the Chief Financial Officer, carried out an evaluation of the effectiveness of the design and operation of the Company's disclosure controls and procedures as of December 31, 2019. As defined in Rule 13a-15(e) under the Securities Exchange Act of 1934 (the "Exchange Act"), disclosure controls and procedures are controls and procedures designed to provide reasonable assurance that information required to be disclosed in reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported on a timely basis, and that such information is accumulated and communicated to management, including the Company's Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure. The Company's disclosure controls and procedures include components of the Company's internal control over financial reporting. Based upon this evaluation, the Chief Executive Officer and Chief Financial Officer have concluded that the Company's disclosure controls and procedures were effective as of December 31, 2019.

Management's Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f), for the Company. Under the supervision of the Chief Executive Officer and Chief Financial Officer, management conducted an evaluation of the effectiveness of the Company's internal control over financial reporting as of December 31, 2019 based on the framework set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in "Internal Control-Integrated Framework (2013)." Based on that evaluation, management has concluded that the Company's internal control over financial reporting was effective as of December 31, 2019.

Ernst & Young LLP has issued an attestation report which is included herein as the Report of Independent Registered Public Accounting Firm under the section headed Financial Statements and Supplementary Data for the year ended December 31, 2019.

Changes in Internal Control Over Financial Reporting

There were no material changes in the Company's internal control over financial reporting, identified in connection with management's evaluation of internal control over financial reporting, that occurred during the quarter and year ended December 31, 2019 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information called for by Item 10, as to the audit committee and the audit committee financial expert, is incorporated by reference to the Company's Definitive Proxy Statement to be filed with the SEC pursuant to Regulation 14A in connection with the Company's 2020 Annual General Meeting of Shareholders (the "Proxy Statement") under the headings "Board Practices" and "Board Committees." The information called for by Item 10, as to executive officers, is set forth under Executive Officers of the Registrant in the Supplementary Item in Part I of this Annual Report on Form 10-K. The information called for by Item 10, as to directors, is incorporated by reference to the Company's Proxy Statement under the headings "Election of Directors" and "Board Practices."

The Company has adopted a code of ethics, the Code of Ethical Business Conduct, which applies to its principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions, and all other employees and non-employee directors of the Company. The Code of Ethical Business Conduct is posted on the Company's website (aptiv.com). The Company intends to satisfy the disclosure requirement under Item 5.05 of Form 8-K regarding an amendment to, or waiver from, a provision of the code of ethics that applies to the Company's principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions, by posting such information on the Company's website, at the address specified above.

The Company's Corporate Governance Guidelines and charters for each Committee of its Board of Directors are also available on the Company's website. The Code of Ethical Business Conduct, Corporate Governance Guidelines and charters are also available in print to any shareholder who submits a request to: Corporate Secretary, Aptiv PLC, 5 Hanover Quay, Grand Canal Dock, Dublin, D02 VY79, Ireland.

Information on the Company's website is not deemed to be incorporated by reference into this Annual Report on Form 10-K.

ITEM 11. EXECUTIVE COMPENSATION

The information called for by Item 11 is incorporated by reference to the Company's Proxy Statement under the headings "Director Compensation," "Compensation Discussion and Analysis" and "Compensation Committee Report."

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information called for by Item 12, as to security ownership of certain beneficial owners, directors and management, is incorporated by reference to the Company's Proxy Statement under the headings "Security Ownership of Certain Beneficial Owners" and "Security Ownership of Management."

Information as of December 31, 2019 about the Company's ordinary shares that may be issued under all of its equity compensation plans is set forth in Part II Item 5 of this Annual Report on Form 10-K.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE

The information called for by Item 13, as to director independence, is incorporated by reference to the Company's Proxy Statement under the heading "Board Practices." The information called for by Item 13, as to related person transactions, is incorporated by reference to the Company's Proxy Statement under the heading "Relationships and Related Party Transactions."

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information called for by Item 14 is incorporated by reference to the Company's Proxy Statement under the heading "Independent Registered Public Accounting Firm's Fees."

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a) The following documents are filed as part of this Form 10-K.

(1) Financial Statements:

	<u>Page No.</u>
— Reports of Independent Registered Public Accounting Firm	58
— Consolidated Statements of Operations for the Years Ended December 31, 2019, 2018 and 2017	61
— Consolidated Statements of Comprehensive Income for the Years Ended December 31, 2019, 2018 and 2017	62
— Consolidated Balance Sheets as of December 31, 2019 and 2018	63
— Consolidated Statements of Cash Flows for the Years Ended December 31, 2019, 2018 and 2017	64
— Consolidated Statements of Shareholders' Equity for the Years Ended December 31, 2019, 2018 and 2017	65
— Notes to Consolidated Financial Statements	66

(2) Financial Statement Schedule:

SCHEDULE II—VALUATION AND QUALIFYING ACCOUNTS AND RESERVES

	Balance at Beginning of Period	Additions		Deductions	Other Activity	Balance at End of Period
		Charged to Costs and Expenses				
(in millions)						
December 31, 2019:						
Allowance for doubtful accounts	\$ 38	\$ 9	\$ (10)	\$ —	\$	37
Tax valuation allowance (a)	\$ 1,178	\$ 35	\$ (137)	\$ (1)	\$	1,075
December 31, 2018:						
Allowance for doubtful accounts	\$ 34	\$ 9	\$ (7)	\$ 2	\$	38
Tax valuation allowance (a)	\$ 1,008	\$ 292	\$ (120)	\$ (2)	\$	1,178
December 31, 2017:						
Allowance for doubtful accounts	\$ 33	\$ 23	\$ (24)	\$ 2	\$	34
Tax valuation allowance (a)	\$ 1,399	\$ —	\$ (406)	\$ 15	\$	1,008

(a) Additions Charged to Costs and Expenses are primarily related to taxable losses for which the tax benefit has been reserved.

The other schedules have been omitted because they are not applicable, not required or the information to be set forth therein is included in the Consolidated Financial Statements or notes thereto.

(3) Exhibits: (including those incorporated by reference)

<u>Exhibit Number</u>	<u>Description</u>
2.1	Master Disposition Agreement among Delphi Corporation, GM Components Holdings, LLC, General Motors Company, Motors Liquidation Company (fka General Motors Corporation), DIP Holdco 3, LLC, and the other sellers and other buyers party thereto, dated July 26, 2009(1)
2.2	Separation and Distribution Agreement, dated as of November 15, 2017, by and between Aptiv PLC and Delphi Technologies PLC (incorporated by reference to Exhibit 2.1 to the Current Report on Form 8-K of the Company filed with the SEC on November 15, 2017)
3.1	Memorandum and Articles of Association (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K of the Company filed with the SEC on December 7, 2017)
4.1	Senior Notes Indenture, dated as of February 14, 2013, among Delphi Corporation, the guarantors named therein, Wilmington Trust, National Association, as Trustee, and Deutsche Bank Trust Company Americas, as Registrar, Paying Agent and Authenticating Agent (incorporated by reference to Exhibit 4.1 to the Current Report on Form 8-K of the Company filed with the SEC on February 14, 2013)
4.2	Second Supplemental Indenture, dated as of March 3, 2014, among Delphi Corporation, the Guarantors named therein, Wilmington Trust, National Association, as Trustee, and Deutsche Bank Trust Company Americas, as Registrar, Paying Agent and Authenticating Agent (incorporated by reference to Exhibit 4.2 to the Current Report on Form 8-K of the Company filed with the SEC on March 3, 2014)
4.3	Senior Notes Indenture, dated as of March 10, 2015, among Aptiv PLC, Wilmington Trust, National Association, as Trustee and Deutsche Bank Trust Company Americas, as Registrar, Paying Agent and Authenticating Agent (incorporated by reference to Exhibit 4.1 to the Current Report on Form 8-K of the Company filed with the SEC on March 10, 2015)
4.4	First Supplemental Indenture, dated as of March 10, 2015, among Aptiv PLC, the guarantors named therein, Wilmington Trust, National Association, as Trustee and Deutsche Bank Trust Company Americas, as Registrar, Paying Agent and Authenticating Agent (incorporated by reference to Exhibit 4.2 to the Current Report on Form 8-K of the Company filed with the SEC on March 10, 2015)
4.5	Second Supplemental Indenture, dated as of November 19, 2015, among Aptiv PLC, the guarantors named therein, Wilmington Trust, National Association, as Trustee and Deutsche Bank Trust Company Americas, as Registrar, Paying Agent and Authenticating Agent (incorporated by reference to Exhibit 4.2 to the Current Report on Form 8-K of the Company filed with the SEC on November 19, 2015)
4.6	Third Supplemental Indenture, dated as of September 15, 2016, among Aptiv PLC, the guarantors named therein, Wilmington Trust, National Association, as Trustee and Deutsche Bank Trust Company Americas, as Registrar, Paying Agent and Authenticating Agent (incorporated by reference to Exhibit 4.2 to the Current Report on Form 8-K of the Company filed with the SEC on September 15, 2016)
4.7	Fourth Supplemental Indenture, dated as of September 20, 2016, among Aptiv PLC, the guarantors named therein, Wilmington Trust, National Association, as Trustee and Deutsche Bank Trust Company Americas, as Registrar, Paying Agent and Authenticating Agent (incorporated by reference to Exhibit 4.2 to the Current Report on Form 8-K of the Company filed with the SEC on September 20, 2016)
4.8	Fifth Supplemental Indenture, dated as of March 14, 2019, among Aptiv PLC, the guarantors named therein, Wilmington Trust, National Association, as Trustee, and Deutsche Bank Trust Company Americas, as Registrar, Paying Agent and Authenticating Agent (incorporated by reference to Exhibit 4.2 to the Current Report on Form 8-K of the Company filed with the SEC on March 14, 2019)
10.1	Restatement Agreement to Amended and Restated Credit Agreement, dated as of August 17, 2016, among Aptiv PLC, Delphi Corporation, JPMorgan Chase Bank, N.A., as Administrative Agent, Swingline Lender, Issuing Bank and a Lender (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K of the Company filed with the SEC on August 18, 2016)
10.2	Aptiv PLC Executive Severance Plan, effective February 1, 2017(7)+
10.3	Aptiv PLC Executive Change in Control Severance Plan, effective February 1, 2017(7)+
10.4	Aptiv Corporation Supplemental Executive Retirement Program(1)+
10.5	Aptiv Corporation Salaried Retirement Equalization Savings Program(1)+
10.6	Offer letter for Kevin P. Clark, dated June 10, 2010(1)+
10.7	Offer letter for Joseph R. Massaro, dated September 13, 2013(6)+
10.8	Form of Non-Employee Director RSU Award Agreement pursuant to Aptiv PLC Long Term Incentive Plan, as amended(2)+
10.9	Letter Agreement, dated October 29, 2012, between the Company and Kevin P. Clark(3)+
10.10	Aptiv PLC Long-Term Incentive Plan, as amended and restated (incorporated by reference to the Company's Proxy Statement dated March 9, 2015)+
10.11	Form of Officer Performance-Based RSU Award pursuant to the Aptiv PLC Long-Term Incentive Plan, as amended and restated, effective 2016(5)+
10.12	Form of Officer Time-Based RSU Award pursuant to the Aptiv PLC Long-Term Incentive Plan, as amended and restated(4)+
10.13	Offer letter for David Paja, dated December 23, 2016(8)+
10.14	Offer letter for David M. Sherbin, dated October 2, 2009(8)+

<u>Exhibit Number</u>	<u>Description</u>
10.15	Form of Allocation Letter for Executives, effective 2019(9)+
10.16	Aptiv PLC Annual Incentive Plan (as Amended and Restated Effective January 1, 2019)(9)+
21.1	Subsidiaries of the Registrant*
23.1	Consent of Ernst & Young LLP*
31.1	Rule 13a-14(a)/15d-14(a) Certification of Principal Executive Officer*
31.2	Rule 13a-14(a)/15d-14(a) Certification of Principal Financial Officer*
32.1	Certification by Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002*
32.2	Certification by Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002*
101.INS	Inline XBRL Instance Document# - The instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH	Inline XBRL Taxonomy Extension Schema Document#
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document#
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document#
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document#
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document#
104	Cover Page Interactive Data File# - The cover page interactive data file does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.

* Filed herewith.

+ Management contract or compensatory plan or arrangement.

(1) Filed with the Registration Statement on Form S-1 (File No. 333-174493) on June 30, 2011 and incorporated herein by reference.

(2) Filed with Form 10-Q for the period ended June 30, 2012 on July 31, 2012 and incorporated herein by reference.

(3) Filed with Form 10-Q for the period ended September 30, 2012 on November 1, 2012 and incorporated herein by reference.

(4) Filed with Form 10-Q for the period ended March 31, 2015 on April 30, 2015 and incorporated herein by reference.

(5) Filed with Form 10-Q for the period ended March 31, 2016 on May 4, 2016 and incorporated herein by reference.

(6) Filed with Form 10-Q for the period ended June 30, 2016 on August 3, 2016 and incorporated herein by reference.

(7) Filed with Form 10-K for the year ended December 31, 2016 on February 6, 2017 and incorporated herein by reference.

(8) Filed with Form 10-Q for the period ended March 31, 2018 on May 2, 2018 and incorporated herein by reference.

(9) Filed with Form 10-Q for the period ended March 31, 2019 on May 2, 2019 and incorporated herein by reference.

Filed electronically with the Report.

SIGNATURES

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

APTIV PLC

/s/ Joseph R. Massaro

By: Joseph R. Massaro
Senior Vice President and
Chief Financial Officer

Dated: February 3, 2020

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below as of February 3, 2020, by the following persons on behalf of the registrant and in the capacities indicated:

<u>Signature</u>	<u>Title</u>
<u>/s/ Kevin P. Clark</u> Kevin P. Clark	President, Chief Executive Officer and Director (Principal Executive Officer)
<u>/s/ Joseph R. Massaro</u> Joseph R. Massaro	Senior Vice President and Chief Financial Officer (Principal Financial Officer)
<u>/s/ Allan J. Brazier</u> Allan J. Brazier	Vice President and Chief Accounting Officer (Principal Accounting Officer)
<u>/s/ Rajiv L. Gupta</u> Rajiv L. Gupta	Chairman of the Board of Directors
<u>/s/ Nancy E. Cooper</u> Nancy E. Cooper	Director
<u>/s/ Frank J. Dellaquila</u> Frank J. Dellaquila	Director
<u>/s/ Nicholas M. Donofrio</u> Nicholas M. Donofrio	Director
<u>/s/ Sean O. Mahoney</u> Sean O. Mahoney	Director
<u>/s/ Paul M. Meister</u> Paul M. Meister	Director

<u>/s/ Robert K. Ortberg</u> Robert K. Ortberg	Director
<u>/s/ Colin J. Parris</u> Colin J. Parris	Director
<u>/s/ Ana G. Pinczuk</u> Ana G. Pinczuk	Director
<u>/s/ Lawrence A. Zimmerman</u> Lawrence A. Zimmerman	Director

APTIV PLC
All Subsidiaries

Entity Name	Jurisdiction
A.E. Enterprises, LLC	Michigan
Alambrados y Circuitos Eléctricos, S. de R.L. de C.V.	Mexico
Antaya Technologies Asia Ltd.	Hong Kong
Antaya Technologies Corp.	Delaware
Aptiv (China) Holding Company Limited	China
Aptiv (China) Technology Company Limited	China
Aptiv (Shanghai) International Management Company Ltd.	Shanghai
Aptiv (UK) Holdings Limited	England and Wales
Aptiv Asia Pacific Holdings (UK) LLP	England and Wales
Aptiv China Holdings (US) LLC	Delaware
Aptiv Components (Shanghai) Company Limited	China
Aptiv Components India Private Ltd.	India
Aptiv Connection Systems (Nantong) Ltd.	China
Aptiv Connection Systems (Shanghai) Ltd.	China
Aptiv Connection Systems Holding Deutschland GmbH	Germany
Aptiv Connection Systems Holding Hong Kong Limited	Hong Kong
Aptiv Connection Systems Holdings (US) LLC	Delaware
Aptiv Connection Systems Hungary Kft	Hungary
Aptiv Connection Systems India Private Limited	India
Aptiv Connection Systems Korea LLC	Korea
Aptiv Connection Systems Services Austria GmbH	Austria
Aptiv Connection Systems Services Italia S.P.A.	Italy
Aptiv Connection Systems Services Japan, Ltd.	Japan
Aptiv Contract Services Ciudad Juarez, S. de R.L. de C.V.	Mexico
Aptiv Contract Services d.o.o. Leskovac	Serbia
Aptiv Contract Services de Mexico, S. de R.L. de C.V.	Mexico
Aptiv Contract Services Matamoros, S. de R.L. de C.V.	Mexico
Aptiv Contract Services Noreste, S. de R.L. de C.V.	Mexico
Aptiv Contract Services Nuevo Laredo, S. de R.L. de C.V.	Mexico
Aptiv Contract Services Sweden AB	Sweden
Aptiv Contract Services Tamaulipas, S. de R.L. de C.V.	Mexico
Aptiv Contract Services Tijuana, S. de R.L. de C.V.	Mexico
Aptiv Contract Services Zacatecas, S. de R.L. de C.V.	Mexico
Aptiv Contract Services, S. de R.L. de C.V.	Mexico
Aptiv Corporation	Delaware
Aptiv Electric Systems Company Ltd.*	China
Aptiv Electrical Centers (Shanghai) Co. Ltd.	China
Aptiv Electronics (Suzhou) Co. Ltd.	China
Aptiv European Holdings (UK) Limited	England and Wales
Aptiv Financial Holdings (UK) LLP	England and Wales
Aptiv Financial Investment Services (UK) Limited	England and Wales

*Entity is Joint Venture

• Entity in Liquidation

Aptiv Financial Management, LLC	Delaware
Aptiv Financial Services (Luxembourg) S.a r.l.	Luxembourg
Aptiv Financial Services (UK) Limited	England and Wales
Aptiv Global Financial Services (Luxembourg) S.a r.l.	Luxembourg
Aptiv Global Financing Limited	Ireland
Aptiv Global Holdings (Luxembourg) S.a r.l.	Luxembourg
Aptiv Global Holdings (UK) Limited	England and Wales
Aptiv Global Holdings 2 (Luxembourg) S.àr.l	Luxembourg
Aptiv Global Holdings Limited	Ireland
Aptiv Global Investments UK LLP	England and Wales
Aptiv Global Investments UK LLP Luxembourg Branch	Luxembourg
Aptiv Global Operations Limited	Ireland
Aptiv Global Real Estate Services (US), LLC	Michigan
Aptiv Holdfi (UK) Limited	England and Wales
Aptiv Holding Company, LLC	Delaware
Aptiv Holdings (Austria) GmbH	Austria
Aptiv Holdings (Luxembourg) S.a r.l.	Luxembourg
Aptiv Holdings (UK) Limited	England and Wales
Aptiv Holdings (US), LLC	Delaware
Aptiv Holdings Asia Pacific (Luxembourg) S.a r.l.	Luxembourg
Aptiv Holdings Deutschland GmbH	Germany
Aptiv Holdings France SAS	France
Aptiv Holdings Limited	Barbados
Aptiv Holdings Mexico, S. de R.L. de C.V.	Mexico
Aptiv Holdings US Limited	Jersey
Aptiv International Company, LLC	Delaware
Aptiv International Financial Services (UK) LLP	England and Wales
Aptiv International Holdings (Luxembourg) S.a r.l.	Luxembourg
Aptiv International Holdings (UK) LLP	England and Wales
Aptiv International Holdings (US), LLC	Delaware
Aptiv International Holdings 2 (Luxembourg) S.a r.l.	Luxembourg
Aptiv International Holdings UK Two LLP	England and Wales
Aptiv International Operations Luxembourg S.a.r.l.	Luxembourg
Aptiv International Services Company, LLC	Delaware
Aptiv Korea LLC	Korea
Aptiv Latin America Holdings (Luxembourg) S.a r.l.	Luxembourg
Aptiv Latin America Holdings (UK) LLP	England and Wales
Aptiv Luxembourg Financial Services S.a r.l.	Luxembourg
Aptiv Luxembourg Holdings (UK) Limited	England and Wales
Aptiv Luxembourg Holdings S.a r.l.	Luxembourg
Aptiv Malaysia Sdn. Bhd.*	Malaysia
Aptiv Malta Holdings Limited	Malta
Aptiv Manufactura e Servicos de Distribuicao Ltda.	Brazil
Aptiv Manufacturing Management Services S.a r.l.	Luxembourg
Aptiv Medical Systems, LLC	Delaware
Aptiv Mexican Holdings (US) LLC	Michigan

*Entity is Joint Venture
• Entity in Liquidation

Aptiv Mobility Services Austria MAT GmbH	Austria
Aptiv Mobility Services d.o.o. Novi Sad	Serbia
Aptiv Mobility Services Deutschland GmbH	Germany
Aptiv Mobility Services Japan, Ltd.	Japan
Aptiv Properties Management Services (US) LLC	Delaware
Aptiv S&P Mobility Services Spain, S.L.	Spain
Aptiv S&P Solutions Holdings (Spain), S.L.	Spain
Aptiv Safety & Mobility Services Singapore Pte. Ltd.	Singapore
Aptiv Safety Services Deutschland GmbH	Germany
Aptiv Services 2 France SAS	France
Aptiv Services 2 US, Inc.	Delaware
Aptiv Services 3 (US), LLC	Delaware
Aptiv Services 4 US, LLC	Delaware
Aptiv Services 5 US, LLC	Delaware
Aptiv Services Austria GPD. GmbH & Co KG	Austria
Aptiv Services Belgium N.V.	Belgium
Aptiv Services Czech s.r.o.	Czech Republic
Aptiv Services Deutschland GmbH	Germany
Aptiv Services Honduras, S. de R.L. de C.V.	Honduras
Aptiv Services Hungary Kft.	Hungary
Aptiv Services Italia S.r.l.	Italy
Aptiv Services Macedonia DOOEL Skopje	Macedonia
Aptiv Services Netherlands B.V.	Netherlands
Aptiv Services Poland S.A.	Poland
Aptiv Services Tunisia Sarl	Tunisia
Aptiv Services UK Limited	England and Wales
Aptiv Services Ukraine LLC	Ukraine
Aptiv Services US, LLC	Delaware
Aptiv Technologies Limited	Barbados
Aptiv Technology Services & Solutions S.R.L.	Romania
Aptiv Trade Management Services (US), LLC	Delaware
Aptiv Turkey Teknoloji Hizmetleri Limited Şirketi	Turkey
Aptiv UK Pension Trustees Limited	England and Wales
Aptiv US Operations Holdings, LLC	Delaware
Aptiv US Services General Partnership	Delaware
APTIVPORT SERVICES S.A.	Portugal
Arcomex S.A. de C.V.	Mexico
Arneses Electricos Automotrices, S.A. de C.V.	Mexico
Auburn Enterprises, LLC	Delaware
Autoensambles y Logistica, S.A. de C.V.	Mexico
Cablena, S.L.	Spain
Centro Técnico Herramental, S. de R.L. de C.V.	Mexico
Control-Tec LLC	Michigan
Cordaflex Espana, S.A.	Spain
Cordaflex, S.A. de C.V.	Mexico
Daehan Electronics Yantai Co., Ltd.	China

*Entity is Joint Venture
• Entity in Liquidation

Delphi Automotive Systems (Thailand) Ltd.♦	Thailand
Delphi Automotive Systems Maroc S.A.	Morocco
Delphi Connection Systems Morocco S.A.S.	Morocco
Delphi Diesel Systems Service Mexico, S. de R.L. de C.V.*	Mexico
Delphi Packard Kenitra S.A.	Morocco
Delphi Packard Meknes	Morocco
Delphi Packard Moldova Noua S.R.L.	Romania
Delphi Packard Tanger SA	Morocco
Delphi Slovensko s.r.o.♦	Slovak Republic
Falmat, Inc.	California
gabo Systemtechnik GmbH	Germany
Gabocom Ltd	United Kingdom
Gabocom Sarl	France
Gabriel de Mexico, S.A. de C.V.	Mexico
Harwich Holding GmbH	Germany
Harwich Holdings SAS	France
Harwich Holdings, LLC	Delaware
HellermannTyton (Proprietary) Limited	South Africa
HellermannTyton (Wuxi) Electrical Accessories Company Limited	China
HellermannTyton AB	Sweden
HellermannTyton AB Branch Office	Finland
HellermannTyton Alpha S.à r.l.	Luxembourg
HellermannTyton AS	Norway
HellermannTyton Australia Pty Ltd	Australia
HellermannTyton Beta S.à r.l.	Luxembourg
HellermannTyton BV	Netherlands
HellermannTyton Canada Inc.	Canada
HellermannTyton Co. Ltd	Japan
HellermannTyton Corporation	Delaware
HellermannTyton Data Limited	England and Wales
HellermannTyton Engineering GmbH	Germany
HellermannTyton Espana SL	Spain
HellermannTyton Finance PLC	England and Wales
HellermannTyton GmbH (Austria)	Austria
HellermannTyton GmbH (Germany)	Germany
HellermannTyton Gridbow (Proprietary) Limited*	South Africa
HellermannTyton Group PLC	England and Wales
HellermannTyton Holdings AB	Sweden
HellermannTyton Holdings Limited	England and Wales
HellermannTyton Kft	Hungary
HellermannTyton Limited	England and Wales
HellermannTyton Limited Branch Office	Ireland
HellermannTyton Ltda	Brazil
HellermannTyton Manufacturas, S. de R.L. de C.V.	Mexico
HellermannTyton Maroc S.à r.l.	Morocco
HellermannTyton Morocco SARL AU	Morocco

*Entity is Joint Venture
♦ Entity in Liquidation

HellermannTyton OOO	Russia
HellermannTyton Private Limited	India
HellermannTyton Pte Limited	Singapore
HellermannTyton Rohvel SL	Spain
HellermannTyton SAS	France
HellermannTyton Services GmbH	Germany
HellermannTyton Services SARL AU	Morocco
HellermannTyton sp. z.o.o.	Poland
HellermannTyton Srl	Italy
HellermannTyton SRL	Argentina
HellermannTyton YH	Korea
HellermannTyton, S. de R.L. de C.V.	Mexico
Inmobiliaria Marlis, S.A.	Mexico
Inmuebles Wagon, S.A.	Mexico
Interessengemeinschaft für Rundfunkschutzrechte GmbH	Germany
Interessengemeinschaft für Rundfunkschutzrechte GmbH Schutzrechtsverwertung & Co. KG	Germany
Joint Stock Company PES/SCC*	Russia
KUM LLC	Korea
KUMAP Co., Ltd.	Korea
Monarch Antenna, Inc.*	Michigan
Movimento (Shanghai) Co, Ltd.	China
Movimento Europe GmbH	Germany
Movimento Group AB	Sweden
Movimento International, S. de R.L. de C.V.	Mexico
Movimento, Inc.	Delaware
Noteco Comércio e Participacoes Ltda.	Brazil
nuTonomy Asia Pte. Ltd.	Singapore
nuTonomy, Inc.	Delaware
On-Site Limited	England and Wales
Ottomatika, Inc.	Delaware
Packard Korea Inc.*	Korea
Phoenix Assets Holdings, Ltd.	British Virgin Islands
Pipe Holding GmbH	Germany
Potio Holding GmbH	Germany
Productos Delco de Chihuahua, S. de R.L. de C.V.	Mexico
Promotora de Partes Electricas Automotrices S.A. de C.V.*	Mexico
ProSTEP Produktions Technologie AG	Germany
PT Aptiv Components Indonesia	Indonesia
PureDepth Incorporated Limited	New Zealand
PureDepth Limited	New Zealand
PureDepth, Inc.	Delaware
Rebafin GmbH	Austria
Rio Bravo Eléctricos, S. de R.L. de C.V.	Mexico
Staeng Limited	England and Wales
Tyson Intermediate Holdco Corp.	Delaware
Tyson Upper Intermediate Holdco Corp.	Delaware

*Entity is Joint Venture
• Entity in Liquidation

Unterstützungsgesellschaft mbH Delphi Deutschland	Germany
Unwired Holdings, Inc.	Delaware
WF Global (BVI) Limited	British Virgin Islands
WF Global (HK) Limited	Hong Kong
Winchester Holding, Inc.	Delaware
Winchester Interconnect (M) Sdn. Bhd.	Malaysia
Winchester Interconnect (Shanghai) Co. Ltd	China
Winchester Interconnect (Suzhou) Co., Ltd.	China
Winchester Interconnect Cable Assemblies, LLC	South Carolina
Winchester Interconnect CM Corporation	Connecticut
Winchester Interconnect Corporation	Delaware
Winchester Interconnect Hermetics, LLC	Florida
Winchester Interconnect RF Corporation	Massachusetts
Winchester Interconnect Ruggedized Corporation	Texas
YanCheng SeMyung Electronics Co., Ltd.	China

*Entity is Joint Venture

• Entity in Liquidation

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the following Registration Statements:

- (1) Registration Statement (Form S-8 No. 333-179446) pertaining to the Aptiv PLC Long Term Incentive Plan (formerly known as the Delphi Automotive PLC Long Term Incentive Plan), and
- (2) Registration Statement (Form S-3 No. 333-228021) of Aptiv PLC;

of our reports dated February 3, 2020, with respect to the consolidated financial statements and schedule of Aptiv PLC and the effectiveness of internal control over financial reporting of Aptiv PLC included in this Annual Report (Form 10-K) of Aptiv PLC for the year ended December 31, 2019.

/s/ Ernst & Young LLP
Detroit, Michigan
February 3, 2020

CERTIFICATIONS

Certification of Principal Executive Officer

I, Kevin P. Clark, certify that:

1. I have reviewed this annual report on Form 10-K of Aptiv PLC;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 3, 2020

/s/ Kevin P. Clark

Kevin P. Clark

President and Chief Executive Officer

(Principal Executive Officer)

CERTIFICATIONS

Certification of Principal Financial Officer

I, Joseph R. Massaro, certify that:

1. I have reviewed this annual report on Form 10-K of Aptiv PLC;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 3, 2020

/s/ Joseph R. Massaro

Joseph R. Massaro

Senior Vice President and Chief Financial Officer

(Principal Financial Officer)

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the filing of this annual report on Form 10-K of Aptiv PLC (the "Company") for the period ended December 31, 2019, with the Securities and Exchange Commission on the date hereof (the "Report"), I, Kevin P. Clark, Chief Executive Officer, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 to the best of my knowledge, that:

1. The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 3, 2020

/s/ Kevin P. Clark

Kevin P. Clark

President and Chief Executive Officer

(Principal Executive Officer)

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the filing of this annual report on Form 10-K of Aptiv PLC (the "Company") for the period ended December 31, 2019, with the Securities and Exchange Commission on the date hereof (the "Report"), I, Joseph R. Massaro, Chief Financial Officer, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 to the best of my knowledge, that:

1. The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 3, 2020

/s/ Joseph R. Massaro

Joseph R. Massaro

Senior Vice President and Chief Financial Officer

(Principal Financial Officer)

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.