General Motors Co
Form 10-K
February 06, 2019
UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549-1004
Form 10-K
þ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2018
OR
¨ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from to

Commission file number 001-34960
GENERAL MOTORS COMPANY
(Exact name of registrant as specified in its charter)

STATE OF DELAWARE	27-0756180
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
300 Renaissance Center, Detroit, Michigan	48265-3000
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code
(313) 667-1500
Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock	New York Stock Exchange
Warrants (expiring July 10, 2019)	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 þ 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 þ
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 þ 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 þ No ¨
Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. þ
Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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 þ Accelerated filer ¨ Non-accelerated filer ¨ Smaller reporting company ¨ Emerging growth company ¨
(Do not check if a smaller reporting company)

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

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

The aggregate market value of the voting stock held by non-affiliates of the registrant (assuming only for purposes of this computation that directors and executive officers may be affiliates) was approximately $55.5 billion as of June 30, 2018.

As of January 25, 2019 there were 1,409,478,926 shares of common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

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

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GENERAL MOTORS COMPANY AND SUBSIDIARIES

PART I

Item 1. Business
General Motors Company (sometimes referred to as we, our, us, ourselves, the Company, General Motors, or GM) was incorporated as a Delaware corporation in 2009. We design, build and sell trucks, crossovers, cars and automobile parts worldwide. We also provide automotive financing services through General Motors Financial Company, Inc. (GM Financial). Except for per share amounts or as otherwise specified, amounts presented within tables are stated in millions.
On July 31, 2017 we closed the sale of the Opel and Vauxhall businesses and certain other assets in Europe (the Opel/Vauxhall Business) to Peugeot, S.A. (PSA Group). On October 31, 2017 we closed the sale of the European financing subsidiaries and branches (the Fincos, and together with the Opel/Vauxhall Business, the European Business) to Banque PSA Finance S.A. and BNP Paribas Personal Finance S.A. The European Business is presented as discontinued operations in our consolidated financial statements for all periods presented. Unless otherwise indicated, information in this report relates to our continuing operations.

Automotive Our automotive operations meet the demands of our customers through our automotive segments: GM North America (GMNA) and GM International (GMI). GMNA meets the demands of customers in North America with vehicles developed, manufactured and/or marketed under the Buick, Cadillac, Chevrolet and GMC brands. GMI primarily meets the demands of customers outside North America with vehicles developed, manufactured and/or marketed under the Buick, Cadillac, Chevrolet, GMC and Holden brands. We also have equity ownership stakes in entities that meet the demands of customers in other countries, primarily in China, with vehicles developed, manufactured and/or marketed under the Baojun, Buick, Cadillac, Chevrolet, Jiefang and Wuling brands.

In addition to the vehicles we sell through our dealer network to retail customers, we also sell vehicles directly or through our dealer network to fleet customers, including daily rental car companies, commercial fleet customers, leasing companies and governments. Our customers can obtain a wide range of aftersale vehicle services and products through our dealer network, such as maintenance, light repairs, collision repairs, vehicle accessories and extended service warranties.

Competitive Position and Vehicle Sales The principal factors that determine consumer vehicle preferences in the markets in which we operate include overall vehicle design, price, quality, available options, safety, reliability, fuel economy and functionality. Market leadership in individual countries in which we compete varies widely.

We present both wholesale and total vehicle sales data to assist in the analysis of our revenue and our market share. Wholesale vehicle sales data consists of sales to GM's dealers and distributors as well as sales to the U.S. Government, and excludes vehicles sold by our joint ventures. Wholesale vehicle sales data correlates to our revenue recognized from the sale of vehicles, which is the largest component of Automotive net sales and revenue. In the year ended December 31, 2018 36% of our wholesale vehicle sales volume was generated outside the U.S. The following table summarizes wholesale vehicle sales by automotive segment (vehicles in thousands):

	Years Ended December 31,					
	2018		2017		2016	
GMNA(a)	3,555	75.5 %	3,511	73.5 %	3,958	75.9 %
GMI(b)	1,152	24.5 %	1,267	26.5 %	1,255	24.1 %
Total	4,707	100.0%	4,778	100.0%	5,213	100.0%
Discontinued operations	—		696		1,199	

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(a) Wholesale vehicle sales related to transactions with the European Business were insignificant for the years ended December 31, 2017 and 2016.

(b) Wholesale vehicle sales include 131 and 128 vehicles related to transactions with the European Business for the years ended December 31, 2017 and 2016.

Total vehicle sales data represents: (1) retail sales (i.e., sales to consumers who purchase new vehicles from dealers or distributors); (2) fleet sales, such as sales to large and small businesses, governments, and daily rental car companies; and (3) vehicles used by dealers in their businesses, including courtesy transportation vehicles. Total vehicle sales data includes all sales by joint ventures on a total vehicle basis, not based on our percentage ownership interest in the joint venture. Certain joint venture agreements in China allow for the contractual right to report vehicle sales of non-GM trademarked vehicles by those joint ventures, which are included in the total vehicle sales we report for China. While total vehicle sales data does not correlate directly to the revenue we

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recognize during a particular period, we believe it is indicative of the underlying demand for our vehicles. Total vehicle sales data represents management's good faith estimate based on sales reported by GM's dealers, distributors, and joint ventures, commercially available data sources such as registration and insurance data, and internal estimates and forecasts when other data is not available.

The following table summarizes total industry vehicle sales and our related competitive position by geographic region (vehicles in thousands):

	Years Ended December 31,								
	2018			2017			2016		
	Industry	GM	Market Share	Industry	GM	Market Share	Industry	GM	Market Share
North America									
United States	17,694	2,954	16.7 %	17,570	3,002	17.1 %	17,886	3,043	17.0 %
Other	3,835	536	14.0 %	3,986	574	14.4 %	3,993	587	14.7 %
Total North America(a)	21,529	3,490	16.2 %	21,556	3,576	16.6 %	21,879	3,630	16.6 %
Asia/Pacific, Middle East and Africa									
China(b)	26,466	3,645	13.8 %	28,231	4,041	14.3 %	28,274	3,914	13.8 %
Other(c)	22,252	555	2.5 %	21,287	629	3.0 %	20,602	720	3.5 %
Total Asia/Pacific, Middle East and Africa(a)	48,718	4,200	8.6 %	49,518	4,670	9.4 %	48,876	4,634	9.5 %
South America									
Brazil	2,566	434	16.9 %	2,239	394	17.6 %	2,050	346	16.9 %
Other	1,919	256	13.3 %	1,928	275	14.3 %	1,623	237	14.6 %
Total South America(a)	4,485	690	15.4 %	4,167	669	16.1 %	3,673	583	15.9 %
Total in GM markets	74,732	8,380	11.2 %	75,241	8,915	11.8 %	74,428	8,847	11.9 %
Total Europe	19,045	4	— %	19,190	685	3.6 %	18,620	1,161	6.2 %
Total Worldwide(d)	93,777	8,384	8.9 %	94,431	9,600	10.2 %	93,048	10,008	10.8 %
United States									
Cars	5,361	560	10.4 %	6,145	709	11.5 %	6,897	890	12.9 %
Trucks	5,361	1,360	25.4 %	5,041	1,328	26.3 %	4,911	1,325	27.0 %
Crossovers	6,972	1,034	14.8 %	6,384	965	15.1 %	6,078	828	13.6 %
Total United States	17,694	2,954	16.7 %	17,570	3,002	17.1 %	17,886	3,043	17.0 %
China(b)									
SGMS		1,749			1,906			1,806	
SGMW and FAW-GM		1,896			2,135			2,108	
Total China	26,466	3,645	13.8 %	28,231	4,041	14.3 %	28,274	3,914	13.8 %

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(a) Sales of Opel/Vauxhall outside of Europe were insignificant in the years ended December 31, 2017 and 2016.

(b) Includes sales by the Automotive China JVs SAIC General Motors Sales Co., Ltd. (SGMS), SAIC GM Wuling Automobile Co., Ltd. (SGMW) and FAW-GM Light Duty Commercial Vehicle Co., Ltd. (FAW-GM). In the year ended December 31, 2016 wholesale volumes were used for Industry, GM and Market Share. Our total vehicle sales in China were 3,871 in the year ended December 31, 2016.

(c) Includes Industry and GM sales in India and South Africa where we ceased vehicle sales for those domestic markets as of December 31, 2017.

(d) Cuba, Iran, North Korea, Sudan and Syria are subject to broad economic sanctions. Accordingly these countries are excluded from industry sales data and corresponding calculation of market share.

In the year ended December 31, 2018 we estimate we had the number one market share in each of North America and South America, and the number three market share in the Asia/Pacific, Middle East and Africa region, which included the number two market share in China. Refer to the Overview in Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) for discussion on changes in market share by region.

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As discussed above, total vehicle sales and market share data provided in the table above includes fleet vehicles. Certain fleet transactions, particularly sales to daily rental car companies, are generally less profitable than retail sales to end customers. Prior to January 1, 2018 a significant portion of the sales to daily rental car companies were recorded as operating leases under U.S. GAAP with no recognition of revenue at the date of initial delivery due to guaranteed repurchase obligations. Beginning January 1, 2018, a significant portion of the sales to daily rental car companies are recorded as sales at the time of delivery to daily rental car companies. The following table summarizes estimated fleet sales and those sales as a percentage of total vehicle sales (vehicles in thousands):

	Years Ended December 31,		
	2018	2017	2016
GMNA	740	691	707
GMI	478	541	527
Total fleet sales	1,218	1,232	1,234
Fleet sales as a percentage of total vehicle sales	14.5 %	13.8 %	13.9 %

Product Pricing Several methods are used to promote our products, including the use of dealer, retail and fleet incentives such as customer rebates and finance rate support. The level of incentives is dependent upon the level of competition in the markets in which we operate and the level of demand for our products.

Cyclical Nature of Business Retail sales are cyclical and production varies from month to month. Vehicle model changeovers occur throughout the year as a result of new market entries. The market for vehicles depends in part on general economic conditions, credit availability and consumer spending.

Relationship with Dealers We market vehicles and automotive parts worldwide primarily through a network of independent authorized retail dealers. These outlets include distributors, dealers and authorized sales, service and parts outlets.

The following table summarizes the number of authorized dealerships:

	December 31, 2018	December 31, 2017	December 31, 2016
GMNA	4,793	4,809	4,857
GMI	7,716	7,641	8,598
Total	12,509	12,450	13,455

We and our joint ventures enter into a contract with each authorized dealer agreeing to sell to the dealer one or more specified product lines at wholesale prices and granting the dealer the right to sell those vehicles to retail customers from an approved location. Our dealers often offer more than one GM brand at a single dealership in a number of our markets. Authorized dealers offer parts, accessories, service and repairs for GM vehicles in the product lines that they sell using GM parts and accessories. Our dealers are authorized to service GM vehicles under our limited warranty program and those repairs are made only with GM parts. Our dealers generally provide their customers with access to credit or lease financing, vehicle insurance and extended service contracts provided by GM Financial and other financial institutions.

The quality of GM dealerships and our relationship with our dealers and distributors are critical to our success as dealers maintain the primary sales and service interface with the end consumer of our products. In addition to the terms of our contracts with our dealers, we are regulated by various country and state franchise laws and regulations that may supersede those contractual terms and impose specific regulatory requirements and standards for initiating dealer network changes, pursuing terminations for cause and other contractual matters.

Research, Product and Business Development and Intellectual Property Costs for research, manufacturing engineering, product engineering and design and development activities relate primarily to developing new products or services or improving existing products or services, including activities related to vehicle and greenhouse gas (GHG) emissions control, improved fuel economy, electrification, autonomous vehicles, the safety of drivers and passengers, and urban mobility. Research and development expenses were $7.8 billion, $7.3 billion and $6.6 billion in the years ended December 31, 2018, 2017 and 2016.

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Product Development The Product Development organization is responsible for designing and integrating vehicle and propulsion components to maximize part sharing across multiple vehicle segments. Global teams in Design, Program Management, Component & Subsystem Engineering, Product Integrity, Safety, Propulsion Systems and Purchasing & Supply Chain collaborate to meet customer requirements and maximize global economies of scale.

Our global vehicle architecture development is headquartered at our Global Technical Center in Warren, Michigan. Cross-segment part sharing is an essential enabler to optimize our current vehicle portfolio, as we expect that more than 75% of our global sales volume will come from five vehicle architectures by early next decade. We will continue to leverage our current architecture portfolio to accommodate our customers around the world while achieving our financial goals.

In November 2018 we announced plans to transform our product development and optimize our product portfolio. We are evolving our global product development workforce and processes to drive world-class levels of engineering in advanced technologies and to improve quality and speed to market.

Hybrid, Plug-In, Extended Range and Battery Electric Vehicles We are investing in multiple technologies offering increasing levels of vehicle electrification including eAssist, plug-in hybrid, full hybrid, extended range and zero emission battery electric vehicles that are part of our long-term strategy to reduce petroleum consumption and GHG emissions. We currently offer seven 2018 model year vehicles in the U.S. featuring some form of electrification and continue to develop plug-in hybrid electric vehicle technology and extended range electric vehicles such as the Chevrolet Bolt EV.

Car- and Ride-Sharing Maven is a shared vehicle marketplace that leverages a versatile software and operational platform to provide members with on-demand access to vehicles through two primary services, Maven Gig and Maven Car Sharing. Maven Gig allows members to access vehicles that can be used in ride-sharing and delivery with companies such as Uber Technologies Inc. and GrubHub Inc. Maven Car Sharing is a consumer service that provides on-demand access to Maven owned and peer-owned vehicles through a new peer-to-peer car-sharing offering. Maven is available in 24 cities across the U.S., Canada and Australia. Through December 31, 2018 Maven Gig and Maven Car Sharing have accumulated in aggregate over 171 million miles driven, 34 million all-electric miles driven and 247,000 reservations. Maven now has 190,000 members.

Autonomous Technology We see autonomous technology leading to a future of zero crashes, zero emissions and zero congestion, since more than 90% of crashes are caused by driver error, according to the National Highway Traffic Safety Administration (NHTSA). We are among the leaders in the industry with significant global real-world experience in delivering connectivity and advanced safety features that are the building blocks to more advanced automation features that are driving our leadership position in the development of autonomous technology. An example of advanced technology is Super Cruise, a driver assistance feature that enables hands-free driving on the highway, which will be expanded to all Cadillac models, with roll-out beginning in 2020.

We are actively testing autonomous vehicles in San Francisco, California; Scottsdale, Arizona; and Michigan. Gated by safety and regulation, we continue to make rapid progress toward commercialization of a network of on-demand autonomous vehicles in the U.S.

In January 2018 we revealed the Cruise AV, a production-intent self-driving vehicle that was engineered from the start to operate safely on its own, with no driver.

In May 2018 SoftBank Vision Fund (The Vision Fund) agreed to invest in GM Cruise, our global segment responsible for the development and commercialization of autonomous vehicle technology. In addition, in October 2018 we reached an agreement to work jointly with Honda Motor Co., Ltd (Honda) to fund and develop a shared autonomous vehicle (SAV) for GM Cruise that can serve a wide variety of use cases and be manufactured at high volume. For additional information on third-party investments in GM Cruise, refer to the Overview section of the Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A).

Alternative Fuel Vehicles We believe alternative fuels offer significant potential to reduce petroleum consumption and resulting GHG emissions in the transportation sector. By leveraging experience and capability developed around these technologies in our global operations we continue to develop FlexFuel vehicles that can run on ethanol-gasoline blend fuels as well as technologies that support compressed natural gas and liquefied petroleum gas (LPG).

We offer a variety of FlexFuel vehicles in the U.S. for the 2019 model year to retail and fleet customers capable of operating on gasoline, E85 ethanol or any combination of the two. In Brazil, a substantial majority of vehicles sold are FlexFuel vehicles capable of running on high ethanol blends. We also market FlexFuel vehicles in other global markets where biofuels are in the marketplace. We support the development of biodiesel blend fuels, which are alternative diesel fuels produced from renewable sources.

Hydrogen Fuel Cell Technology Another part of our long-term strategy to reduce petroleum consumption and GHG emissions is our commitment to the development of our hydrogen fuel cell technology. Our Chevrolet Equinox fuel cell electric vehicle demonstration programs, such as Project Driveway, have accumulated more than three million miles of real-world driving. These programs are helping us identify consumer and infrastructure needs to understand the business case for potential production of vehicles with this technology. We are exploring non-traditional automotive uses for fuel cells in several areas, including demonstrations with the U.S. Army and U.S. Navy.

We signed a co-development agreement and established a nonconsolidated JV with Honda in 2016 for a next-generation fuel cell system and hydrogen storage technologies, aiming for commercialization in the early 2020s. We expect the collaboration to succeed by sharing expertise, economies of scale and common sourcing strategies and building upon GM's and Honda's strengths as leaders in hydrogen fuel cell technology.

OnStar and Vehicle Connectivity OnStar, LLC (OnStar) provides subscription-based and complementary services to more than 20 million connected vehicles globally. OnStar provides connected safety, security and mobility solutions for retail and fleet customers, including automatic crash response, stolen vehicle assistance, roadside assistance, dealer maintenance notifications, remote door unlock, turn-by-turn navigation, vehicle location services, hands-free calling, Smart Driver and Marketplace. OnStar also offers additional connectivity packages that include remote vehicle access through a mobile application, on-demand vehicle diagnostics, connected navigation and 4G LTE wireless connectivity.

Intellectual Property We generate and hold a significant number of patents in a number of countries in connection with the operation of our business. While none of these patents are individually material to our business as a whole, these patents are important to our operations and continued technological development. We hold a number of trademarks and service marks that are very important to our identity and recognition in the marketplace.

Raw Materials, Services and Supplies We purchase a wide variety of raw materials, parts, supplies, energy, freight, transportation and other services from numerous suppliers to manufacture our products. The raw materials primarily include steel, aluminum, resins, copper, lead and platinum group metals. We have not experienced any significant shortages of raw materials and normally do not carry substantial inventories of such raw materials in excess of levels reasonably required to meet our production requirements. We continue to experience higher commodity costs and anticipate higher costs associated with tariffs.

In some instances, we purchase systems, components, parts and supplies from a single source and may be at an increased risk for supply disruptions. The inability or unwillingness of these sources to supply us with parts and supplies could have a material adverse effect on our production capacity. Combined purchases from our two largest suppliers have been approximately 12% of our total purchases in each of the years ended December 31, 2018, 2017 and 2016. Refer to Item 1A. Risk Factors for further discussion of these risks.

Environmental and Regulatory Matters

Automotive Emissions Control We are subject to laws and regulations that require us to control automotive emissions, including vehicle and engine exhaust emission standards, vehicle evaporative emission standards and onboard diagnostic (OBD) system requirements. Advanced OBD systems are used to identify and diagnose problems with emission control systems. Problems detected by the OBD system and other in-use compliance monitoring activities may increase warranty costs and the likelihood of recall. Emission and OBD requirements have become more stringent as a result of lower emission standards and new diagnostic requirements that have come into force in many markets around the world driven by policy priorities such as air quality, energy security and climate change, often with very little harmonization. While we believe all of our products are designed and manufactured in material compliance with substantially all vehicle emissions requirements, regulatory authorities may conduct ongoing evaluations of the emissions compliance of products from all manufacturers. This includes vehicle emissions testing, including CO_2 and nitrogen oxide emissions testing, and review of emission control designs and strategies.

The U.S. federal government, through the Environmental Protection Agency (EPA), imposes stringent exhaust and evaporative emission control requirements on vehicles sold in the U.S. The California Air Resources Board (CARB) likewise imposes stringent exhaust and evaporative emission standards, as well as the requirement that increasing percentages of Zero Emission Vehicle (ZEVs) must be sold in California. The Clean Air Act permits states that have areas with air quality compliance issues to adopt California emission standards in lieu of federal requirements. Thirteen states have adopted California emission standards, and ten of these have adopted the ZEV requirements. There is a possibility that additional U.S. jurisdictions could adopt California emissions and ZEV requirements in the future.

Although the EPA has not imposed ZEV requirements, the EPA and California's emissions control standards will likely increase the time and mileage periods over which manufacturers are responsible for a vehicle's emission performance. The Canadian federal government's vehicle emission requirements are generally aligned with the U.S. federal requirements. The Canadian province of Quebec has adopted ZEV requirements starting with the 2018 model year largely based on California program requirements.

Each model year we must obtain certification that our vehicles and heavy-duty engines will meet emission requirements of the EPA before we can sell vehicles in the U.S. and Canada, and of the CARB before we can sell vehicles in California and other states that have adopted the California emissions requirements.

China implemented the China 5 emission standard nationwide at the beginning of 2017. China 5 is more stringent than the previous program on all levels including overall emission requirements and the time and mileage period for which vehicles need to meet China 5 level performance. China will implement a unique China 6 emission standard that combines elements of both European and U.S. standards and includes more stringent emission requirements and increases the time and mileage periods over which manufacturers are responsible for a vehicle's emission performance. Nationwide implementation for new registrations is expected in July 2020 for China 6a and July 2023 for the more stringent China 6b standard. Localities can pull ahead China 6 requirements if certain criteria are met. The majority of cities that have announced plans to implement China 6 early have projected implementation in July 2019, but one city has indicated implementation in the three months ended March 31, 2019. For additional information, refer to Item 1A. Risk Factors.

In South America certain countries follow the U.S. test procedures, standards and OBD requirements and others follow the European Union test procedures, standards and OBD requirements with different levels of stringency. Brazil implemented national L6 standards for light diesel vehicles in 2012 and OBD installation for light diesel vehicles in 2015. L6 standards for light gasoline vehicles were implemented in 2015 for all models.

As a result of the sale of the Opel/Vauxhall Business, GM’s vehicle presence in Europe is smaller, but GM may still be affected by actions taken by regulators related both to Opel/Vauxhall vehicles sold before the sale of the Opel/Vauxhall Business as well as to other vehicles GM continues to sell in Europe. In the European Union, increased scrutiny of compliance with emissions standards may result in changes to these standards, including implementation of “real world driving” emissions tests, as well as stricter interpretations or redefinition of these standards and more rigorous enforcement. For example, our former German subsidiary has participated in continuing discussions with German and European authorities concerning emissions control systems. For additional information, refer to Note 22 to our consolidated financial statements.

Automotive Fuel Economy In the U.S., the National Highway Traffic Safety Administration (NHTSA) promulgates and enforces Corporate Average Fuel Economy (CAFE) standards for three separate fleets: domestically produced cars, imported cars and light-duty trucks. Manufacturers are subject to substantial civil penalties if they fail to meet the applicable CAFE standard in any model year, after taking into account all available credits for the preceding five model years and expected credits for the three succeeding model years, including credits obtained from other manufacturers. In addition to federal CAFE, the EPA promulgates and enforces GHG emission standards, which are effectively fuel economy standards because the majority of vehicle GHG emissions are carbon dioxide emissions that are emitted in direct proportion to the amount of fuel burned by a vehicle. The EPA and NHTSA also regulate the fuel efficiency and GHG emissions of medium- and heavy-duty vehicles, imposing more stringent standards over time.

In Canada, light-duty and heavy-duty GHG regulations are currently patterned after the existing EPA GHG emission standards. However, with both the U.S. and Canadian governments reviewing potential changes to these existing regulations and the difference in each country's climate change policies, there is an increased risk that future Canadian light-duty GHG regulations may not be aligned with future EPA regulations. In addition, CARB has asserted the right to promulgate and enforce its own state GHG standards for motor vehicles, and other states have asserted the right to adopt the California standards. Until recently, CARB regulations have provided that compliance with the federal EPA light-duty GHG program is deemed to be in compliance with the California standards through the 2025 model year. However, on December 12, 2018 CARB amended this regulation to clarify that, in the event the EPA alters the GHG stringency by means of the now-pending EPA GHG rulemaking, compliance with the EPA's GHG emissions standards will no longer be deemed in compliance with CARB's requirements. As a result, depending on the outcome of the EPA GHG rulemaking and finality of CARB's regulatory amendment in the future GM might be required to meet California standards that are different than the EPA GHG standards.

China has two fuel economy requirements for passenger vehicles: an individual vehicle pass-fail type approval requirement and a fleet average fuel consumption requirement. With a focus on the fleet average program, the current China Phase 4 fleet fuel consumption requirement, which went into effect in 2016, is based on curb weight with full compliance to 5.0L/100 km required by 2020. China Phase 4 has continued subsidies for plug-in hybrid, battery electric and fuel cell vehicles. China Phase 5 is currently being developed with a planned start in 2021 with full compliance to 4.0L/100km required by 2025. In addition, China has established the New Energy Vehicle (NEV) Mandate which will require passenger car manufacturers to produce a certain volume of plug-in hybrid, battery electric and fuel cell vehicles to generate "credits" equivalent to 10% in 2019 and 12% in 2020 against the internal combustion engine vehicle production volume. The number of credits per car is based on the level of electric range and energy efficiency. The NEV Mandate requirement for 2021 to 2025 currently is being developed with a goal of NEV volume reaching 20% of total vehicle volume in 2025.

Regulators in other jurisdictions have already adopted or are developing fuel economy or carbon dioxide regulations. If regulators in these jurisdictions seek to impose and enforce emission standards that are misaligned with market conditions, we may be forced to take various actions to increase market support programs for more fuel-efficient vehicles and curtail production of certain high-performance cars, trucks and sport utility vehicles (SUVs) in order to achieve compliance. We regularly evaluate our current and future product plans and strategies for compliance with fuel economy and GHG regulations.

Industrial Environmental Control Our operations are subject to a wide range of environmental protection laws including those regulating air emissions, water discharge, waste management and environmental cleanup. Certain environmental statutes require that responsible parties fund remediation actions regardless of fault, legality of original disposal or ownership of a disposal site. Under certain circumstances these laws impose joint and several liability as well as liability for related damages to natural resources.

To mitigate the effects of our worldwide operations on the environment, we are converting as many of our worldwide operations as practicable to landfill-free operations which reduces GHG emissions associated with waste disposal. At December 31, 2018, 75 (or approximately 50%) of our manufacturing operations and 61 of our non-manufacturing operations were landfill-free, including idled facilities. At our landfill-free manufacturing operations approximately 94% of waste materials are composted, reused, or recycled and approximately 5% are converted to energy at waste-to-energy facilities. In 2018 we estimate that our waste reduction program diverted 1.6 million metric tons of waste from landfill, resulting in approximately 6.9 million metric tons of GHG emissions avoided in global manufacturing operations, including construction, demolition and remediation wastes.

In addition to minimizing our impact on the environment, our landfill-free program and total waste reduction commitments generate revenue from the sale of production by-products, reduce our use of material, reduce our carbon footprint and help to reduce the risks and financial liabilities associated with waste disposal.

We continue to search for ways to increase our use of renewable energy, improve our energy efficiency and work to drive growth and scale of renewables. We are committed to meeting the electricity needs of our operations worldwide with renewable energy by 2050. At December 31, 2018 we had implemented projects or signed renewable energy contracts globally that had increased our total renewable energy capacity to over 400 megawatts, which represents approximately 20% of our global electricity use. In 2018, several wind farms totaling approximately 250 megawatts now match the load of GM facilities in Texas, Ohio and Indiana. We continue to seek opportunities for a diversified renewable energy portfolio including wind, solar, and landfill gas. In 2018 Energy Star certified one assembly plant in Canada through Natural Resources Canada and 17 buildings in the U.S. for superior energy management. We also met the EPA Energy Star Challenge for Industry (EPA Challenge) at eight additional sites globally by reducing energy intensity an average of 13% at these sites within 2.5 years. To meet the EPA Challenge, industrial sites must reduce energy intensity by 10% within a five year period. In total 75 GM-owned manufacturing sites have met the EPA Challenge, with many sites achieving the goal multiple times for a total of 137 recognitions. These efforts minimize our utility expenses and are part of our approach to addressing climate change through setting a GHG emissions reduction target, collecting accurate data, following our business plan to operate more efficiently and publicly reporting progress against our target.

Chemical Regulations We continually monitor the implementation of chemical regulations to maintain compliance and evaluate their effect on our business, suppliers and the automotive industry.

Globally, governmental agencies continue to introduce new legislation and regulations related to the selection and use of chemicals by mandating broad prohibitions or restrictions and implementing green chemistry, life cycle analysis and product stewardship initiatives. These initiatives give broad regulatory authority to ban or restrict the use of certain chemical substances and potentially affect automobile manufacturers' responsibilities for vehicle components at the end of a vehicle's life, as well as chemical selection for product development and manufacturing. Global treaties and initiatives such as the Stockholm, Basel and Rotterdam

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Conventions on Chemicals and Waste and the Minamata Convention on Mercury, are driving chemical regulations across signatory countries. In addition, more global jurisdictions are establishing substance standards with regard to Vehicle Interior Air Quality.

Chemical regulations are increasing in North America. In the U.S. the EPA is moving forward with risk analysis and management of high priority chemicals under the authority of the 2016 Lautenberg Chemical Safety for the 21st Century Act, and several U.S. states have chemical management regulations that can affect vehicle design such as the California and Washington laws banning the use of copper in brake friction material. Chemical restrictions in Canada continue to progress rapidly as a result of Environment Canada's Chemical Management Plan to assess existing substances and implement risk management controls on any chemical deemed toxic.

China prohibits the use of several chemical substances in vehicles. There are also various regulations in China stipulating the requirements for chemical management. Among other things, these regulations catalogue and restrict the use and the import and export of various chemical substances. The failure of our joint venture partners or our suppliers to comply with these regulations could disrupt production in China or prevent our joint venture partners from selling the affected products in the China market.

These emerging regulations will potentially lead to increases in costs and supply chain complexity. We believe that we are materially in compliance with substantially all of these requirements or expect to be materially in compliance by the required dates.

Safety In the U.S. the National Traffic and Motor Vehicle Safety Act of 1966 prohibits the sale of any new vehicle or equipment in the U.S. that does not conform to applicable vehicle safety standards established by NHTSA. If we or NHTSA determine that either a vehicle or vehicle equipment does not comply with a safety standard or if a vehicle defect creates an unreasonable safety risk the manufacturer is required to notify owners and provide a remedy. We are required to report certain information relating to certain customer complaints, warranty claims, field reports and notices and claims involving property damage, injuries and fatalities in the U.S. and claims involving fatalities outside the U.S. We are also required to report certain information concerning safety recalls and other safety campaigns outside the U.S.

Outside the U.S. safety standards and recall regulations often have the same purpose as the U.S. standards but may differ in their requirements and test procedures, adding complexity to regulatory compliance.

Automotive Financing - GM Financial GM Financial is our global captive automotive finance company and our global provider of automobile finance solutions. GM Financial conducts its business in North America, South America and through joint ventures in China.

GM Financial provides retail loan and lease lending across the credit spectrum. Additionally, GM Financial offers commercial lending products to dealers including new and used vehicle inventory floorplan financing and dealer loans, that are loans to finance improvements to dealership facilities, to provide working capital, and to purchase and/or finance dealership real estate. Other commercial lending products include financing for parts and accessories, dealer fleets and storage centers.

In North America, GM Financial offers a sub-prime lending program. The program is primarily offered to consumers with a FICO score or its equivalent of less than 620 who have limited access to automobile financing through banks and credit unions and is expected to sustain a higher level of credit losses than prime lending.

GM Financial generally seeks to fund its operations in each country through local sources to minimize currency and country risk. GM Financial primarily finances its loan, lease and commercial origination volume through the use of secured and unsecured credit facilities, through securitization transactions and through the issuance of unsecured debt in public markets.

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GENERAL MOTORS COMPANY AND SUBSIDIARIES

Employees At December 31, 2018 we employed 97,000 (56%) hourly employees and 76,000 (44%) salaried employees. At December 31, 2018 50,000 (49%) of our U.S. employees were represented by unions, a majority of which were represented by the International Union, United Automobile, Aerospace and Agriculture Implement Workers of America (UAW). The following table summarizes worldwide employment (in thousands):

	December 31, 2018
GMNA(a)	124
GMI	39
GM Financial	10
Total Worldwide	173
U.S. - Salaried	53
U.S. - Hourly	50

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(a) Includes GM Cruise

In November 2018 we announced our plan to transform our global workforce, which includes reducing our salaried staff in 2019 to ensure we have the right skill sets for today and the future, as well as 25% fewer executives to streamline decision making.

Executive Officers of the Registrant As of February 6, 2019 the names and ages of our executive officers and their positions with GM are as follows:

Name (Age)	Present GM Position (Effective Date)	Positions Held During the Past Five Years (Effective Date)
Mary T. Barra (57)	Chairman and Chief Executive Officer (2016)	Chief Executive Officer and Member of the Board of Directors (2014)
Alan S. Batey (55)	Executive Vice President and President, North America (2014)	
Alicia Boler-Davis (49)	Executive Vice President, Global Manufacturing (2016)	Senior Vice President, Global Connected Customer Experience (2014) Vice President, Global Quality and U.S. Customer Experience (2012)
Barry L. Engle (55)	Executive Vice President and President, GM International (2018)	Executive Vice President and President, South America (2015) Agility Fuel Systems, Chief Executive Officer (2011)
Craig B. Glidden (61)	Executive Vice President and General Counsel (2015)	LyondellBasell, Executive Vice President and Chief Legal Officer (2009)
Christopher T. Hatto (48)	Vice President, Controller and Chief Accounting Officer (2018)	Chief Financial Officer, U.S. Sales Operations (2016) Chief Financial Officer, Customer Care and Aftersales (2013)
Mark L. Reuss (55)	President (2019)	Executive Vice President and President, Global Product Development Group and Cadillac (2018) Executive Vice President, Global Product Development, Purchasing & Supply Chain (2014)
		Vice President Corporate Finance (2017)

Dhivya Suryadevara (39)	Executive Vice President and Chief Financial Officer (2018)	Vice President Finance and Treasurer (2015) Chief Executive Officer, GM Asset Management (2013)
Matthew Tsien (58)	Executive Vice President and President, GM China (2014)	

There are no family relationships between any of the officers named above and there is no arrangement or understanding between any of the officers named above and any other person pursuant to which he or she was selected as an officer. Each of the officers named above was elected by the Board of Directors to hold office until his or her successor is elected and qualified or until his or her earlier resignation or removal.

Website Access to Our Reports Our internet website address is www.gm.com. In addition to the information about us and our subsidiaries contained in this 2018 Form 10-K information about us can be found on our website including information on our corporate governance principles and practices. Our Investor Relations website at https://investor.gm.com contains a significant amount of information about us, including financial and other information for investors. We encourage investors to visit our website, as we frequently update and post new information about our company on our website and it is possible that this information could be deemed to be material information. Our website and information included in or linked to our website are not part of this 2018 Form 10-K.

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, as amended (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).

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Item 1A. Risk Factors

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

If we do not deliver new products, services and customer experiences in response to increased competition in the automotive industry, our business could suffer. We believe that the automotive industry will continue to experience significant change in the coming years. In addition to our traditional competitors, we must also be responsive to the entrance of non-traditional participants in the automotive industry. Industry participants are disrupting the historic business model of our industry through the introduction of new technologies, products, services, and methods of travel and vehicle ownership. It is strategically significant that we lead the technological disruption occurring in our industry, including consumer adoption of electric vehicles and commercialization of autonomous vehicles in a rideshare environment. To successfully execute our long-term strategy, we must continue to develop new products and services, including products and services that are outside of our historically core business, such as autonomous and electric vehicles, digital services and transportation as a service. The process of designing and developing new technology, products and services is complex, costly, and uncertain and requires extensive capital investment and the ability to retain and recruit talent. There can be no assurance that advances in technology will occur in a timely or feasible way, or that others will not acquire similar or superior technologies sooner than we do or that we will acquire technologies on an exclusive basis or at a significant price advantage. If we do not adequately prepare for and respond to new kinds of technological innovations, market developments and changing customer needs, our sales, profitability and long-term competitiveness may be harmed.

Our ability to maintain profitability is dependent upon our ability to timely fund and introduce new and improved vehicle models that are able to attract a sufficient number of consumers. We operate in a very competitive industry with market participants routinely introducing new and improved vehicle models and features designed to meet rapidly evolving consumer expectations. Producing new and improved vehicle models preserving our reputation for designing, building and selling safe, high-quality cars and trucks is critical to our long-term profitability. Successful launches of our new vehicles are critical to our short-term profitability. It generally takes two years or more to design and develop a new vehicle, and a number of factors may lengthen that time period. Because of this product development cycle and the various elements that may contribute to consumers' acceptance of new vehicle designs, including competitors' product introductions, technological innovations, fuel prices, general economic conditions and changes in quality, safety, reliability and styling demands and preferences, an initial product concept or design may not result in a vehicle that generates sales in sufficient quantities and at high enough prices to be profitable. Our high proportion of fixed costs, both due to our significant investment in property, plant and equipment as well as other requirements of our collective bargaining agreements, which limit our flexibility to adjust personnel costs to changes in demands for our products, may further exacerbate the risks associated with incorrectly assessing demand for our vehicles.

Our profitability is dependent upon the success of SUVs and full-size pick-up trucks. While we offer a balanced portfolio of cars, crossovers, SUVs and trucks, we generally recognize higher profit margins on our SUVs and trucks. Our success is dependent upon our ability to sell higher margin vehicles in sufficient volumes. Any shift in consumer preferences toward smaller, more fuel- efficient vehicles, whether as a result of increases in the price of oil or any sustained shortage of oil, including as a result of global political instability or other reasons, could weaken the demand for our higher margin vehicles.

We may continue to restructure our operations in the U.S. and various other countries and initiate additional cost reduction actions, but we may not succeed in doing so. Since 2017, we have undertaken restructuring actions to lower our operating costs in response to difficult market and operating conditions in various parts of the world, including the U.S., Korea and Europe. As we continue to assess our performance throughout our regions, we may take additional restructuring actions to rationalize our operations, which may result in asset write-downs or impairments and reduce our profitability in the periods incurred. In addition, we are continuing to implement a number of operating effectiveness initiatives to improve productivity and reduce costs. For example, in late 2018, we announced certain transformation actions to drive significant cost efficiencies and realign our current manufacturing capacity and utilization in response to market-related volume declines in passenger cars. There is no guarantee that we will realize the anticipated savings or benefits from past or future restructuring and/or cost reduction actions in full or within the time periods we expect. In addition, these actions also subject us to increased risks of labor unrest or strikes, litigation, negative publicity and business disruption. Failure to realize anticipated savings or benefits from our restructuring and/or cost reduction actions could have a material adverse effect on our business, prospects, financial condition, liquidity, results of operations and cash flows.

Our electric vehicle strategy is dependent upon our ability to reduce the cost of manufacturing electric vehicles, as well as increased consumer adoption. We anticipate that the production and profitable sale of electric vehicles will become increasingly important to our business. Our inability to reduce the costs associated with the manufacture of battery-electric vehicles may negatively impact our earnings and financial condition. We currently benefit from certain government and economic incentives supporting the development of electric vehicles. The benefits from these incentives could be reduced, eliminated or exhausted, which may negatively affect our ability to sell electric vehicles at high enough prices to be profitable. In addition, our sale of electric vehicles is dependent upon consumer adoption, which could be impacted by numerous factors, including perceptions about electric vehicle features, quality, safety, performance and cost; perceptions about the limited range over which electric vehicles may be driven on a single battery charge; high fuel-economy internal combustion engine vehicles; volatility in the cost of fuel; government regulations and economic incentives; and access to charging facilities.

Our autonomous vehicle strategy is dependent upon our ability to successfully mitigate unique technological, operational, and regulatory risks. In recent years, we announced significant investments in autonomous vehicle technologies, including in GM Cruise Holdings LLC (GM Cruise Holdings), our subsidiary that is responsible for the development and commercialization of autonomous vehicle technology. Our autonomous vehicle operations are capital intensive and subject to a variety of risks inherent with the development of new technologies, including: our ability to continue to develop self-driving software and hardware, such as LiDAR sensors and other components; access to sufficient capital, including with respect to additional Softbank funding that is subject to regulatory approval; risks related to the manufacture of purpose-built autonomous vehicles; and significant competition from both established automotive companies and technology companies, some of which may have more resources and capital to devote to autonomous vehicle technologies than we do. In addition, we face risks related to the commercial deployment of autonomous vehicles on our targeted timeline or at all, including consumer acceptance, achievement of adequate safety and other performance standards and compliance with uncertain, evolving and potentially conflicting federal and state regulations. To the extent accidents, cybersecurity breaches or other adverse events associated with our autonomous driving systems occur, we could be subject to liability, government scrutiny and further regulation. Any of the foregoing could materially and adversely affect our results of operations, financial condition and growth prospects.

Our business is highly dependent upon global automobile market sales volume, which can be volatile. Because we have a high proportion of relatively fixed structural costs, small changes in sales volume can have a disproportionately large effect on our profitability. A number of economic and market conditions drive changes in vehicle sales, including real estate values, the availability and prices of used vehicles, levels of unemployment, availability of affordable financing, fluctuations in the cost of fuel, consumer confidence, political unrest and global economic conditions. For a discussion of economic and market trends, see the Overview section of the MD&A. We cannot predict future economic and market conditions with certainty.

Our significant business in China subjects us to unique operational, competitive and regulatory risks. Maintaining a strong position in the Chinese market is a key component of our global growth strategy. Our business in China is subject to aggressive competition from many of the largest global manufacturers and numerous domestic manufacturers as well as non-traditional market participants, such as domestic technology companies. In addition, our success in China depends upon our ability to adequately address unique market and consumer preferences driven by advancements related to infotainment and other new technologies. Increased competition, increased U.S.-China trade restrictions and weakening economic conditions in China, among other things, may result in price reductions, reduced sales, profitability, and margins, and challenges to gain or hold market share. In addition to increased competition, Chinese regulators have announced aggressive "green" policy initiatives and quotas for the sale of electric vehicles, which have challenging lead times.

Certain risks and uncertainties of doing business in China are solely within the control of the Chinese government, and Chinese law regulates the scope of our foreign investments and business conducted within China. In order to maintain access to the Chinese market, we may be required to comply with significant technical and other regulatory requirements that are unique to the Chinese market, at times with challenging lead times to implement such requirements. These actions may increase the cost of doing business in China and reduce our profitability. In particular, the announced intention of several Chinese cities to implement new China 6 emissions regulations in July 2019 represents a risk for the sales of our Chinese joint ventures.

A significant amount of our operations are conducted by joint ventures that we cannot operate solely for our benefit. Many of our operations, primarily in China and Korea, are carried out by joint ventures. In joint ventures we share ownership and management of a company with one or more parties who may not have the same goals, strategies, priorities or resources as we do and may compete with us outside the joint venture. Joint ventures are intended to be operated for the equal benefit of all co-owners, rather than for our exclusive benefit. Operating a business as a joint venture often requires additional organizational formalities as well as time-consuming procedures for sharing information and making decisions that must further take into consideration our partners' interests. In joint ventures we are required to foster our relationships with our co-owners as well as promote the overall success of the joint venture, and if a co-owner changes, relationships deteriorate or strategic objectives diverge, our success in the joint venture may be materially adversely affected. The benefits from a successful joint venture are shared among the co-owners, therefore we do not receive all the benefits from our successful joint ventures. In addition, because we share ownership and management with one or more parties, we may have limited control over the actions of a joint venture, particularly when we own a minority interest. As a result, we may be unable to prevent misconduct or other violations of applicable laws by a joint venture. Moreover, a joint venture may not follow the same requirements regarding compliance, internal controls and internal control over financial reporting that we follow. To the extent another party makes decisions that negatively impact the joint venture or internal control issues arise within the joint venture, we may have to take responsive or other actions or we may be subject to penalties, fines or other related actions for these activities.

The international scale and footprint of our operations exposes us to additional risks. We manufacture, sell and service products globally and rely upon a global supply chain to deliver the raw materials, components, systems and parts that we need to manufacture our products. Our global operations subject us to extensive domestic and foreign legal and regulatory requirements, and a variety of other political, economic and regulatory risks including: (1) changes in government leadership; (2) changes in labor, tax and other laws, regulations or government policies impacting our overall business model or practices or restricting our ability to manufacture, purchase or sell products consistent with market demand and our business objectives; (3) political pressures to change any aspect of our business model or practices or that impair our ability to source raw materials, services, components, systems and parts, or manufacture products on competitive terms in a manner consistent with our business objectives; (4) political instability or government controls over certain sectors; (5) political and economic tensions between governments and changes in international trade policies, including restrictions on the repatriation of dividends, especially between China and the U.S.; (6) more detailed inspections, new or higher tariffs, for example, on products imported into or exported from the U.S.; (7) new barriers to entry or domestic preference procurement requirements, including changes to, withdrawals from or impediments to implementing free trade agreements (for example, the North American Free Trade Agreement or its successor), or preferences of foreign nationals for domestically manufactured products; (8) changes in foreign currency exchange rates, particularly in Brazil and Argentina, and interest rates; (9) economic downturns in foreign countries or geographic regions where we have significant operations, or significant changes in conditions in the countries in which we operate; (10) differing local product preferences and product requirements, including government certification requirements related to, among other things, fuel economy, vehicle emissions and safety; (11) impact of compliance with U.S. and other foreign countries' export controls and economic sanctions; (12) liabilities resulting from U.S. and foreign laws and regulations, including, but not limited to, those related to the Foreign Corrupt Practices Act and certain other anti-corruption laws; (13) differing labor regulations, requirements and union relationships; (14) differing dealer and franchise regulations and relationships; and (15) difficulties in obtaining financing in foreign countries for local operations.

Any significant disruption at one of our manufacturing facilities could disrupt our production schedule. We assemble vehicles at various facilities around the world. Our facilities are typically designed to produce particular models for particular geographic markets. No single facility is designed to manufacture our full range of vehicles. In some cases, certain facilities produce products, systems, components and parts that disproportionately contribute a greater degree to our profitability than others. Should these or other facilities become unavailable either temporarily or permanently for any number of reasons, including labor disruptions or catastrophic weather events, the inability to manufacture at the affected facility may result in harm to our reputation, increased costs, lower revenues and the loss of customers. We may not be able to easily shift production to other facilities or to make up for lost production. Any new facility needed to replace an inoperable manufacturing facility would need to comply with the necessary regulatory requirements, need to satisfy our specialized manufacturing requirements and require specialized equipment.

In 2019, our collective bargaining agreement with the United Automobile Workers will expire, and we will negotiate a new agreement. In addition, in late 2018 we announced certain restructuring actions, which included among other things, a reduction in our workforce and the unallocation of products to certain manufacturing facilities in North America. As a result, we may be subject to an increased risk of strikes, work stoppages or other types of conflicts with labor unions and employees.

Any disruption in our suppliers' operations could disrupt our production schedule. Our automotive operations are dependent upon the continued ability of our suppliers to deliver the systems, components, raw materials and parts that we need to manufacture our products. Our use of “just-in-time” manufacturing processes allows us to maintain minimal inventory. As a result, our ability to maintain production is dependent upon our suppliers delivering sufficient quantities of systems, components, raw materials and parts on time to meet our production schedules. In some instances, we purchase systems, components, raw materials and parts that are ultimately derived from a single source and may be at an increased risk for supply disruptions. Any number of factors, including labor disruptions, catastrophic weather events, contractual or other disputes with suppliers, and supplier financial difficulties or solvency problems could disrupt our suppliers' operations and lead to uncertainty in our supply chain or cause supply disruptions for us which could, in turn, disrupt our operations, including the production of certain of our higher margin vehicles. If we experience supply disruptions, we may not be able to develop alternate sourcing quickly. Any disruption of our production schedule caused by an unexpected shortage of systems, components, raw materials or parts even for a relatively short period of time could cause us to alter production schedules or suspend production entirely.

High prices of raw materials or other inputs used by us and our suppliers could negatively impact our profitability. Increases in prices for raw materials or other inputs that we and our suppliers use in manufacturing products, systems, components and parts, such as steel, precious metals, or non-ferrous metals, including aluminum, copper and plastic, may lead to higher production costs for parts, components and vehicles. Changes in trade policies and tariffs, fluctuations in supply and demand, and other economic and political factors may continue to create pricing pressure for raw materials and other inputs. This could, in turn, negatively impact our future profitability because we may not be able to pass all of those costs on to our customers or require our suppliers to absorb such costs.

We operate in a highly competitive industry that has excess manufacturing capacity and attempts by our competitors to sell more vehicles could have a significant negative effect on our vehicle pricing, market share and operating results. The global automotive industry is highly competitive and overall manufacturing capacity in the industry far exceeds demand. Many manufacturers have relatively high fixed labor costs as well as significant limitations on their ability to close facilities and reduce fixed costs. Many of our competitors have responded to these relatively high fixed costs by providing subsidized financing or leasing programs, offering marketing incentives or reducing vehicle prices. As a result, we are not necessarily able to set our prices to offset higher costs of marketing incentives, commodity or other cost increases, or the impact of adverse currency fluctuations. Our competitors may also seek to benefit from economies of scale by consolidating or entering into other strategic agreements such as alliances intended to enhance their competitiveness.

Domestic manufacturers in lower cost countries, such as China and India, have become competitors in key emerging markets and announced their intention to export their products to established markets as a low-cost alternative to established entry-level automobiles. In addition, foreign governments may decide to implement tax and other policies that favor their domestic manufacturers at the expense of international manufacturers, including GM and its joint venture partners. These actions have had, and are expected to continue to have, a significant negative effect on our vehicle pricing, market share and operating results.

Competitors may independently develop products and services similar to ours, and there are no guarantees that GM's intellectual property rights would prevent competitors from independently developing or selling those products and services. There may be instances where, notwithstanding our intellectual property position, competitive products or services may impact the value of our brands and other intangible assets, and our business may be adversely affected. Moreover, although GM takes reasonable steps to maintain the confidentiality of GM proprietary information, there can be no assurance that such efforts will completely deter misappropriation or improper use of our technology. We sometimes face attempts to gain unauthorized access to our information technology networks and systems for the purpose of improperly acquiring our trade secrets or confidential business information. The theft or unauthorized use or publication of our trade secrets and other confidential business information as a result of such an incident could adversely affect our competitive position. In addition, we may be the target of enforcement of patents by third parties, including aggressive and opportunistic enforcement claims by non-practicing entities. Regardless of the merit of such claims, responding to infringement claims can be expensive and time-consuming. Although we have taken steps to mitigate such risks, if we are found to infringe any third-party rights, we could be required to pay substantial damages or we could be enjoined from offering some of our products and services.

Security breaches and other disruptions to information technology systems and networked products, including connected vehicles, owned or maintained by us, GM Financial, or third-party vendors or suppliers on our behalf, could interfere with our operations and could compromise the confidentiality of private customer data or our proprietary information. We rely upon information technology systems and manufacture networked products, some of which are managed by third-parties, to process, transmit and store electronic information, and to manage or support a variety of our business processes, activities and products. Additionally, we and GM Financial collect and store sensitive data, including intellectual property, proprietary business information, proprietary business information of our dealers and suppliers, as well as personally identifiable information of our customers and employees, in data centers and on information technology networks. The secure operation of these systems and products, and the processing and maintenance of the information processed by these systems and products, is critical to our business operations and strategy. Despite security measures and business continuity plans, these systems and products may be vulnerable to damage, disruptions or shutdowns caused by attacks by hackers, computer viruses, or breaches due to errors or malfeasance by employees, contractors and others who have access to these systems and products. The occurrence of any of these events could compromise the operational integrity of these systems and products. Similarly, such an occurrence could result in the compromise or loss of the information processed by these systems and products. Such events could result in, among other things, the loss of proprietary data, interruptions or delays in our business operations and damage to our reputation. In addition, such events could result in legal claims or proceedings, liability or regulatory penalties under laws protecting the privacy of personal information; disrupt operations; or reduce the competitive advantage we hope to derive from our investment in advanced technologies. We have experienced such events in the past and, although past events were immaterial, future events may occur and may be material.

Portions of our information technology systems also may experience interruptions, delays or cessations of service or produce errors due to regular maintenance efforts, such as systems integration or migration work that takes place from time to time. We may not be successful in implementing new systems and transitioning data, which could cause business disruptions and be more expensive, time-consuming, disruptive and resource intensive. Such disruptions could adversely impact our ability to design, manufacture and sell products and services, and interrupt other business processes.

Security breaches and other disruptions of our in-vehicle systems could impact the safety of our customers and reduce confidence in GM and our products. Our vehicles contain complex information technology systems. These systems control various vehicle functions including engine, transmission, safety, steering, navigation, acceleration, braking, window and door lock functions. We have designed, implemented and tested security measures intended to prevent unauthorized access to these systems. However, hackers have reportedly attempted, and may attempt in the future, to gain unauthorized access to modify, alter and use such systems to gain control of, or to change, our vehicles' functionality, user interface and performance characteristics, or to gain access to data stored in or generated by the vehicle. Any unauthorized access to or control of our vehicles or their systems or any loss of data could impact the safety of our customers or result in legal claims or proceedings, liability or regulatory penalties. In addition, regardless of their veracity, reports of unauthorized access to our vehicles, their systems or data could negatively affect our brand and harm our business, prospects, financial condition and operating results.

Our enterprise data practices, including the collection, use, sharing, and security of the Personal Identifiable Information of our customers, employees, or suppliers are subject to increasingly complex, restrictive, and punitive regulations in all key market regions. Under these regulations, the failure to maintain compliant data practices could result in consumer complaints and regulatory inquiry, resulting in civil or criminal penalties, as well as brand impact or other harm to our business. In addition, increased consumer sensitivity to real or perceived failures in maintaining acceptable data practices could damage our reputation and deter current and potential users or customers from using our products and services. Because many of these laws are new, there is little clarity as to their interpretation, as well as a lack of precedent for the scope of enforcement. The cost of compliance with these laws and regulations will be high and is likely to increase in the future. For example, in Europe, the General Data Protection Regulation came into effect on May 25, 2018, and applies to all our ongoing operations in the EU. This regulation significantly increases the potential financial penalties for noncompliance, including possible fines of up to 4% of global annual turnover. Similar regulations are coming into effect in Brazil, China, and California.

Our operations and products are subject to extensive laws, governmental regulations and policies that can significantly increase our costs and affect how we do business. We are significantly affected by governmental regulations that can increase costs related to the production of our vehicles and affect our product portfolio, particularly regulations relating to emissions and fuel economy standards. Meeting or exceeding many of these regulations is costly and often technologically challenging, especially when standards may not be harmonized across jurisdictions. We anticipate that the number and extent of these and other regulations, laws and policies, and the related costs and changes to our product portfolio, may increase significantly in the future, primarily out of concern for the environment (including concerns about global climate change and its impact). These government regulatory requirements could significantly affect our plans for global product development and given the uncertainty surrounding enforcement and regulatory definitions and interpretations, may result in substantial costs, including civil or criminal penalties. In addition, an evolving but un-harmonized regulatory framework may limit or dictate the types of vehicles we sell and where we sell them, which can affect revenue. Refer to the "Environmental and Regulatory Matters" section of Item 1. Business for further information on these requirements. We also expect that manufacturers will continue to be subject to increased scrutiny from regulators globally.

We expect that to comply with current or even revised fuel economy and emission control requirements we will be required to sell a significant volume of electric vehicles, as well as develop and implement new technologies for conventional internal combustion engines, all at increased cost levels. There are limits on our ability to achieve fuel economy improvements over a given time frame, however. There is no assurance that we will be able to produce and sell vehicles that use such new technologies on a profitable basis or that our customers will purchase such vehicles in the quantities necessary for us to comply with these regulatory programs.

In the current uncertain regulatory framework, environmental liabilities for which we may be responsible and that are not reasonably estimable could be substantial. Alleged violations of safety, fuel economy or emissions standards could result in legal proceedings, the recall of one or more of our products, negotiated remedial actions, fines, restricted product offerings or a combination of any of those items. Any of these actions could have substantial adverse effects on our operations including facility idling, reduced employment, increased costs and loss of revenue.

Many of our advanced technologies, including autonomous vehicles, present novel issues with which domestic and foreign regulators have only limited experience and will be subject to evolving regulatory frameworks. Any current or future regulations in these areas could impact whether and how these technologies are designed and integrated into our products, and may ultimately subject us to increased costs and uncertainty.

We could be materially adversely affected by unusual or significant litigation, governmental investigations or other proceedings. We are subject to legal proceedings involving various issues, including product liability lawsuits, class action litigations alleging product defects, emissions litigation (both in the U.S. and elsewhere), stockholder litigation, labor litigation in various countries (including Korea and Brazil) and proceedings related to the Ignition Switch Recall. In addition, we are subject to governmental proceedings and investigations. A negative outcome in one or more of these legal proceedings could result in the imposition of damages, including punitive damages, substantial fines, significant reputational harm, civil lawsuits and criminal penalties, interruptions of business, modification of business practices, equitable remedies and other sanctions against us or our personnel as well as significant legal and other costs. In addition, we may become obligated to issue additional shares (Adjustment Shares) of up to 30 million shares of our common stock (subject to adjustment to take into account stock dividends, stock splits and other transactions) to the Motors Liquidation Company (MLC) GUC Trust (GUC Trust) under a provision of the Amended and Restated Master Sale and Purchase Agreement between us and General Motors Corporation and certain of its subsidiaries in the event that allowed general unsecured claims against the GUC Trust, as estimated by the United States Bankruptcy Court for the Southern District of New York (Bankruptcy Court), exceed $35.0 billion. The GUC

Trust stated in public filings that allowed general unsecured claims were approximately $31.9 billion as of December 31, 2018. For a further discussion of these matters refer to Note 16 to our consolidated financial statements.

The costs and effect on our reputation of product safety recalls and alleged defects in products and services could materially adversely affect our business. Government safety standards require manufacturers to remedy certain product safety defects through recall campaigns. Under these standards, we could be subject to civil or criminal penalties or may incur various costs, including significant costs for free repairs. At present, the costs we incur in connection with these recalls typically include the cost of the part being replaced and labor to remove and replace the defective part. The costs to complete a recall could be exacerbated to the extent that such action relates to a global platform. Concerns about the safety of our products, including advanced technologies like autonomous, whether raised internally or by regulators or consumer advocates, and whether or not based on scientific evidence or supported by data, can result in product delays, recalls, lost sales, governmental investigations, regulatory action, private claims, lawsuits and settlements, and reputational damage. These circumstances can also result in damage to brand image, brand equity and consumer trust in the Company’s products and ability to lead the disruption occurring in the automotive industry.

We currently source a variety of systems, components, raw materials and parts from third parties. From time to time these items may have performance or quality issues that could harm our reputation and cause us to incur significant costs.

We may incur additional tax expense or become subject to additional tax exposure. We are subject to the tax laws and regulations of the U.S. and numerous other jurisdictions in which we do business. Many judgments are required in determining our worldwide provision for income taxes and other tax liabilities, and we are regularly under audit by the U.S. Internal Revenue Service and other tax authorities, which may not agree with our tax positions. In addition, our tax liabilities are subject to other significant risks and uncertainties, including those arising from potential changes in laws and/or regulations in the countries in which we do business, the possibility of adverse determinations with respect to the application of existing laws, and changes in the valuation of our deferred tax assets and liabilities. Any unfavorable resolution of these and other uncertainties may have a significant adverse impact on our tax rate. For example, the impact of the U.S. Tax Cuts and Jobs Act of 2017 (the Tax Act), which was enacted on December 22, 2017, may differ from the Company's previously recorded amounts, possibly materially, due to potential changes in the Tax Act (including with respect to the regulations promulgated thereunder) or changes to its interpretation. If our tax expense were to increase, or if the ultimate determination of our taxes owed is for an amount in excess of amounts previously accrued, our operating results, cash flows and financial condition could be adversely affected.

We rely on GM Financial to provide financial services to our customers and dealers in North America, South America and Asia/Pacific. GM Financial faces a number of business, economic and financial risks that could impair its access to capital and negatively affect its business and operations, which in turn impede its ability to provide leasing and financing to customers and commercial lending to our dealers. Any reduction in GM Financial's ability to provide such financial services would negatively affect our efforts to support additional sales of our vehicles and expand our market penetration among customers and dealers.

The primary factors that could adversely affect GM Financial's business and operations and reduce its ability to provide financing services at competitive rates include the sufficiency, availability and cost of sources of financing, including credit facilities, securitization programs and secured and unsecured debt issuances; the performance of loans and leases in its portfolio, which could be materially affected by charge-offs, delinquencies and prepayments; wholesale auction values of used vehicles; higher than expected vehicle return rates and the residual value performance on vehicles GM Financial leases to customers; fluctuations in interest rates and currencies; and changes to regulation, supervision, enforcement and licensing across various jurisdictions.

Further, as an entity operating in the financial services sector, GM Financial is required to comply with a wide variety of laws and regulations that may be costly to adhere to and may affect our consolidated operating results. Compliance with these laws and regulations requires that GM Financial maintain forms, processes, procedures, controls and the infrastructure to support these requirements and these laws and regulations often create operational constraints both on GM Financial's ability to implement servicing procedures and on pricing. Laws in the financial services industry are designed primarily for the protection of consumers. The failure to comply with these laws could result in significant statutory civil and criminal penalties, monetary damages, attorneys' fees and costs, possible revocation of licenses and damage to reputation, brand and valued customer relationships.

Our defined benefit pension plans are currently underfunded and our pension funding requirements could increase significantly due to a reduction in funded status as a result of a variety of factors, including weak performance of financial markets, declining interest rates, changes in laws or regulations, changes in assumptions or investments that do not achieve adequate returns. Our employee benefit plans currently hold a significant amount of equity and fixed income securities. A detailed description of the investment funds and strategies and our potential funding requirements are disclosed in Note 15 to our consolidated financial statements, which also describes significant concentrations of risk to the plan investments.

Our future funding requirements for our U.S. defined benefit pension plans depend upon the future performance of assets placed in trusts for these plans, the level of interest rates used to determine funding levels, the level of benefits provided for by the plans and any changes in laws and regulations. Future funding requirements generally increase if the discount rate decreases or if actual asset returns are lower than expected asset returns, assuming other factors are held constant. We estimate future contributions to these plans using assumptions with respect to these and other items. Changes to those assumptions could have a significant effect on future contributions.

There are additional risks due to the complexity and magnitude of our investments. Examples include implementation of significant changes in investment policy, insufficient market liquidity in particular asset classes and the inability to quickly rebalance illiquid and long-term investments.

Factors which affect future funding requirements for our U.S. defined benefit plans generally affect the required funding for non-U.S. plans. Certain plans outside the U.S. do not have assets and therefore the obligation is funded as benefits are paid. If local legal authorities increase the minimum funding requirements for our non-U.S. plans, we could be required to contribute more funds.

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Item 1B. Unresolved Staff Comments

None

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Item 2. Properties

At December 31, 2018 we had over 100 locations in the U.S. (excluding our automotive financing operations and dealerships) which are primarily for manufacturing, assembly, distribution, warehousing, engineering and testing. We, our subsidiaries or associated companies in which we own an equity interest own most of these properties and/or lease a portion of these properties. Leased properties are primarily composed of warehouses and administration, engineering and sales offices.

We have manufacturing, assembly, distribution, office or warehousing operations in 33 countries, including equity interests in associated companies which perform manufacturing, assembly or distribution operations. The major facilities outside the U.S., which are principally vehicle manufacturing and assembly operations, are located in Argentina, Brazil, Canada, China, Colombia, Ecuador, Mexico, South Korea and Thailand.

In November 2018 we announced our plans to realign our manufacturing capacity in response to market-related volume declines in passenger cars.

GM Financial owns or leases facilities for administration and regional credit centers. GM Financial has 39 facilities, of which 26 are located in the U.S. The major facilities outside the U.S. are located in Brazil, Canada, China and Mexico.

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Item 3. Legal Proceedings

Refer to the discussion in the Litigation-Related Liability and Tax Administrative Matters section in Note 16 to our consolidated financial statements for information relating to legal proceedings.

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Item 4. Mine Safety Disclosures

Not applicable

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PART II

Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market Information Shares of our common stock are publicly traded on the New York Stock Exchange under the symbol "GM".

Holders At January 25, 2019 we had 1.4 billion issued and outstanding shares of common stock held by 501 holders of record.

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Purchases of Equity Securities The following table summarizes our purchases of common stock in the three months ended December 31, 2018:

	Total Number of Shares Purchased(a)	Weighted Average Price Paid per Share	Total Number of Shares Purchased Under Announced Programs(b)	Approximate Dollar Value of Shares That May Yet be Purchased Under Announced Programs
October 1, 2018 through October 31, 2018	118,108	$ 33.53	—	$3.4 billion
November 1, 2018 through November 30, 2018	6,552	$ 36.47	—	$3.4 billion
December 1, 2018 through December 31, 2018	2,992,631	$ 33.07	—	$3.4 billion
Total	3,117,291	$ 33.10	—	

(a) Shares purchased includes approximately three million shares purchased and held by GM Cruise Holdings to hedge its exposure to cash settled share-based awards issued to certain of its employees. In addition, shares purchased consist of shares retained by us for the payment of the exercise price upon the exercise of warrants and shares delivered by employees or directors to us for the payment of taxes resulting from issuance of common stock upon the vesting of Restricted Stock Units (RSUs), Performance Stock Units (PSUs) and Restricted Stock Awards (RSAs) relating to compensation plans. In June 2017 our shareholders approved the 2017 Long Term Incentive Plan which authorizes awards of stock options, stock appreciation rights, RSAs, RSUs, PSUs or other stock-based awards to selected employees, consultants, advisors, and non-employee Directors of the Company. Refer to Note 23 to our consolidated financial statements for additional details on employee stock incentive plans and Note 20 to our consolidated financial statements for additional details on warrants outstanding.

(b) In January 2017 we announced that our Board of Directors had authorized the purchase of up to an additional $5.0 billion of our common stock with no expiration date.

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Item 6. Selected Financial Data

	At and for the Years Ended December 31,				
	2018	2017	2016	2015	2014
Income Statement Data:					
Total net sales and revenue	$147,049	$145,588	$149,184	$135,725	$137,958
Income from continuing operations(a)	$8,075	$330	$9,269	$9,590	$4,525
Basic earnings per common share – continuing operations(a)	$5.66	$0.23	$6.12	$6.09	$2.06
Diluted earnings per common share – continuing operations(a)	$5.58	$0.22	$6.00	$5.89	$1.95
Dividends declared per common share	$1.52	$1.52	$1.52	$1.38	$1.20
Balance Sheet Data:					
Total assets(b)	$227,339	$212,482	$221,690	$194,338	$177,311
Automotive notes and loans payable	$13,963	$13,502	$10,560	$8,535	$9,084
GM Financial notes and loans payable	$90,988	$80,717	$64,563	$45,479	$29,304
Total equity	$42,777	$36,200	$44,075	$40,323	$36,024

(a) In the year ended December 31, 2018 we recorded charges of $1.3 billion related to transformation activities including employee separation, accelerated depreciation and other charges, $1.1 billion related to the closure of a facility and other restructuring actions in Korea, charges of $0.4 billion for ignition switch related legal matters, and a non-recurring tax benefit of $1.0 billion related to foreign earnings. In the year ended December 31, 2017 we recorded tax expense of $7.3 billion related to U.S. tax reform legislation, $2.3 billion related to the establishment of a valuation allowance against deferred tax assets that will no longer be realizable as a result of the sale of the Opel/Vauxhall Business, and charges of $0.5 billion related to restructuring actions in India and South Africa. In the year ended December 31, 2015 we recorded the reversal of deferred tax asset valuation allowances of $3.9 billion in Europe and recorded charges related to the Ignition Switch Recall Compensation Program (Compensation Program) and for various legal matters of approximately $1.6 billion. In the year ended December 31, 2014 we recorded charges of approximately $2.8 billion in Automotive and other cost of sales related to recall campaigns and courtesy transportation, a catch-up adjustment of $0.9 billion related to the change in estimate for recall campaigns and a charge of $0.4 billion related to the Compensation Program. In December 2014 we redeemed all of the remaining shares of our Series A Preferred Stock for $3.9 billion, which reduced Income from continuing operations by $0.8 billion.

(b) Total assets included assets held for sale of $20.6 billion, $20.0 billion, and $17.8 billion at December 31, 2016, 2015 and 2014.

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

This Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) should be read in conjunction with the accompanying audited consolidated financial statements and notes. Forward-looking statements in this MD&A are not guarantees of future performance and may involve risks and uncertainties that could cause actual results to differ materially from those projected. Refer to the "Forward-Looking Statements" section of this MD&A and Item 1A. Risk Factors for a discussion of these risks and uncertainties.

Non-GAAP Measures Unless otherwise indicated, our non-GAAP measures discussed in this MD&A are related to our continuing operations and not our discontinued operations. Our non-GAAP measures include: earnings before interest and taxes (EBIT)-adjusted, presented net of noncontrolling interests; Core EBIT-adjusted; earnings per share (EPS)-diluted-adjusted; effective tax rate-adjusted (ETR-adjusted); return on invested capital-adjusted (ROIC-adjusted) and adjusted automotive free cash flow. Our calculation of these non-GAAP measures may not be comparable to similarly titled measures of other companies due to potential differences between companies in the method of calculation. As a result, the use of these non-GAAP measures has limitations and should not be considered superior to, in isolation from, or as a substitute for, related U.S. GAAP measures.

These non-GAAP measures allow management and investors to view operating trends, perform analytical comparisons and benchmark performance between periods and among geographic regions to understand operating performance without regard to items we do not consider a component of our core operating performance. Furthermore, these non-GAAP measures allow investors the opportunity to measure and monitor our performance against our externally communicated targets and evaluate the investment decisions being made by management to improve ROIC-adjusted. Management uses these measures in its financial, investment and operational decision-making processes, for internal reporting and as part of its forecasting and budgeting processes. Further, our Board of Directors uses certain of these and other measures as key metrics to determine management performance under our performance-based compensation plans. For these reasons we believe these non-GAAP measures are useful for our investors.

EBIT-adjusted EBIT-adjusted is presented net of noncontrolling interests and is used by management and can be used by investors to review our consolidated operating results because it excludes automotive interest income, automotive interest expense and income taxes as well as certain additional adjustments that are not considered part of our core operations. Examples of adjustments to EBIT include but are not limited to impairment charges on long-lived assets and other exit costs resulting from strategic shifts in our operations or discrete market and business conditions; costs arising from the ignition switch recall and related legal matters; and certain currency devaluations associated with hyperinflationary economies. For EBIT-adjusted and our other non-GAAP measures, once we have made an adjustment in the current period for an item, we will also adjust the related non-GAAP measure in any future periods in which there is an impact from the item.

Core EBIT-adjusted Core EBIT-adjusted is used by management and can be used by investors to review our core consolidated operating results. Core EBIT-adjusted begins with EBIT-adjusted and excludes the EBIT-adjusted results of GM Cruise. Prior to the three months ended June 30, 2018 Core EBIT-adjusted excluded the EBIT-adjusted results of autonomous vehicle operations, including GM Cruise, Maven and our investment in Lyft, Inc. (Lyft). The measure was changed to align with segment reporting. All periods presented have been recast to reflect the changes.

EPS-diluted-adjusted EPS-diluted-adjusted is used by management and can be used by investors to review our consolidated diluted EPS results on a consistent basis. EPS-diluted-adjusted is calculated as net income attributable to common stockholders-diluted less income (loss) from discontinued operations on an after-tax basis, adjustments noted above for EBIT-adjusted and certain income tax adjustments divided by weighted-average common shares outstanding-diluted. Examples of income tax adjustments include the establishment or reversal of significant deferred tax asset valuation allowances.

ETR-adjusted ETR-adjusted is used by management and can be used by investors to review the consolidated effective tax rate for our core operations on a consistent basis. ETR-adjusted is calculated as Income tax expense less the income tax related to the adjustments noted above for EBIT-adjusted and the income tax adjustments noted above for EPS-diluted-adjusted divided by Income before income taxes less adjustments.

ROIC-adjusted ROIC-adjusted is used by management and can be used by investors to review our investment and capital allocation decisions. We define ROIC-adjusted as EBIT-adjusted for the trailing four quarters divided by ROIC-adjusted average net assets, which is considered to be the average equity balances adjusted for average automotive debt and interest liabilities, exclusive of capital leases; average automotive net pension and other postretirement benefits (OPEB) liabilities; and average

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automotive net income tax assets during the same period. Adjustments to the average equity balances exclude assets and liabilities classified as either assets held for sale or liabilities held for sale.

Adjusted automotive free cash flow Adjusted automotive free cash flow is used by management and can be used by investors to review the liquidity of our automotive operations and to measure and monitor our performance against our capital allocation program and evaluate our automotive liquidity against the substantial cash requirements of our automotive operations. We measure adjusted automotive free cash flow as automotive operating cash flow from continuing operations less capital expenditures adjusted for management actions. Management actions can include voluntary events such as discretionary contributions to employee benefit plans or nonrecurring specific events such as a closure of a facility that are considered special for EBIT-adjusted purposes. Refer to the "Liquidity and Capital Resources" section of this MD&A for additional information.

The following table reconciles Net income (loss) attributable to stockholders under U.S. GAAP to EBIT-adjusted:

	Years Ended December 31,		
	2018	2017	2016
Net income (loss) attributable to stockholders	$8,014	$(3,864)	$9,427
Loss from discontinued operations, net of tax	70	4,212	1
Income tax expense	474	11,533	2,739
Automotive interest expense	655	575	563
Automotive interest income	(335)	(266)	(182)
Adjustments			
Transformation activities(a)	1,327	—	—
GMI restructuring(b)	1,138	540	—
Ignition switch recall and related legal matters(c)	440	114	300
Total adjustments	2,905	654	300
EBIT-adjusted	$11,783	$12,844	$12,848

(a) These adjustments were excluded because of a strategic decision to accelerate our transformation for the future to strengthen our core business, capitalize on the future of personal mobility, and drive significant cost efficiencies. The adjustments primarily consist of employee separation charges and accelerated depreciation.

(b) These adjustments were excluded because of a strategic decision to rationalize our core operations by exiting or significantly reducing our presence in various international markets to focus resources on opportunities expected to deliver higher returns. The adjustments primarily consist of employee separation charges, asset impairments and supplier claims in the year ended December 31, 2018, all in Korea. The adjustment in the year ended December 31, 2017 primarily consists of asset impairments and other restructuring actions in India, South Africa and Venezuela.

(c) These adjustments were excluded because of the unique events associated with the ignition switch recall, which included various investigations, inquiries and complaints from constituents.

The following table reconciles EBIT-adjusted to Core EBIT-adjusted:

	Years Ended December 31,		
	2018	2017	2016
EBIT-adjusted(a)	$11,783	$12,844	$12,848
EBIT loss-adjusted – GM Cruise	728	613	171
Core EBIT-adjusted	$12,511	$13,457	$13,019

(a)

Refer to the reconciliation of Net income (loss) attributable to stockholders under U.S. GAAP to EBIT-adjusted within this section of the MD&A.

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The following table reconciles diluted earnings (loss) per common share under U.S. GAAP to EPS-diluted-adjusted:

	Years Ended December 31,					
	2018		2017		2016	
	Amount	Per Share	Amount	Per Share	Amount	Per Share
Diluted earnings (loss) per common share	$7,916	$5.53	$(3,880)	$(2.60)	$9,427	$6.00
Diluted loss per common share – discontinued operations	70	0.05	4,212	2.82	1	—
Adjustments(a)	2,905	2.03	654	0.44	300	0.19
Tax effect on adjustments(b)	(416)	(0.29)	(208)	(0.14)	(114)	(0.07)
Tax adjustments(c)	(1,111)	(0.78)	9,099	6.10	—	—
EPS-diluted-adjusted	$9,364	$6.54	$9,877	$6.62	$9,614	$6.12

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(a) Refer to the reconciliation of Net income (loss) attributable to stockholders under U.S. GAAP to EBIT-adjusted within this section of the MD&A for adjustment details.

(b) The tax effect of each adjustment is determined based on the tax laws and valuation allowance status of the jurisdiction to which the adjustment relates.

(c) In the year ended December 31, 2018 the adjustment consists of: (1) a non-recurring tax benefit related to foreign earnings; and (2) tax effects related to U.S. tax reform legislation. In the year ended December 31, 2017 the adjustment consisted of the tax expense of $7.3 billion related to U.S. tax reform legislation and the establishment of a valuation allowance against deferred tax assets of $2.3 billion that are no longer realizable as a result of the sale of the Opel/Vauxhall Business, partially offset by tax benefits related to tax settlements. These adjustments were excluded because impacts of tax legislation and valuation allowances are not considered part of our core operations.

The following table reconciles our effective tax rate under U.S. GAAP to ETR-adjusted:

	Years Ended December 31,								
	2018			2017			2016		
	Income before income taxes	Income tax expense	Effective tax rate	Income before income taxes	Income tax expense	Effective tax rate	Income before income taxes	Income tax expense	Effective tax rate
Effective tax rate	$8,549	$ 474	5.5 %	$11,863	$11,533	97.2 %	$12,008	$ 2,739	22.8 %
Adjustments(a)	2,946	416		654	208		300	114	
Tax adjustments(b)		1,111			(9,099)			—	
ETR-adjusted	$11,495	$ 2,001	17.4 %	$12,517	$2,642	21.1 %	$12,308	$ 2,853	23.2 %

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(a) Refer to the reconciliation of Net income (loss) attributable to stockholders under U.S. GAAP to EBIT-adjusted within this section of the MD&A for adjustment details. Net income attributable to noncontrolling interests for these adjustments is included in the year ended December 31, 2018.

(b) Refer to the reconciliation of diluted earnings (loss) per common share under U.S. GAAP to EPS-diluted-adjusted within this section of the MD&A for adjustment details.

We define return on equity (ROE) as Net income (loss) attributable to stockholders for the trailing four quarters divided by average equity for the same period. Management uses average equity to provide comparable amounts in the calculation of ROE. The following table summarizes the calculation of ROE (dollars in billions):

Years Ended December 31,

	2018	2017	2016
Net income (loss) attributable to stockholders	$8.0	$(3.9)	$9.4
Average equity(a)	$37.4	$42.2	$43.6
ROE	21.4 %	(9.2)%	21.6 %

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(a) Includes equity of noncontrolling interests where the corresponding earnings (loss) are included in Net income (loss) attributable to stockholders.

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The following table summarizes the calculation of ROIC-adjusted (dollars in billions):

	Years Ended December 31,		
	2018	2017	2016
EBIT-adjusted(a)	$11.8	$12.8	$12.8
Average equity(b)	$37.4	$42.2	$43.6
Add: Average automotive debt and interest liabilities (excluding capital leases)	14.4	11.6	9.9
Add: Average automotive net pension & OPEB liability	18.3	21.0	22.0
Less: Average automotive net income tax asset	(22.7)	(29.3)	(32.8)
ROIC-adjusted average net assets	$47.4	$45.5	$42.7
ROIC-adjusted	24.9 %	28.2 %	30.1 %

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(a) Refer to the reconciliation of Net income (loss) attributable to stockholders under U.S. GAAP to EBIT-adjusted within this section of the MD&A.
(b) Includes equity of noncontrolling interests where the corresponding earnings (loss) are included in EBIT-adjusted.

Overview Our management team has adopted a strategic plan to transform GM into the world's most valued automotive company. Our plan includes several major initiatives that we anticipate will redefine the future of personal mobility through our zero crashes, zero emissions, zero congestion vision while also strengthening the core of our business: earning customers for life by delivering winning vehicles, leading the industry in quality and safety and improving the customer ownership experience; leading in technology and innovation, including electrification, autonomous, data connectivity; growing our brands; making tough, strategic decisions about which markets and products in which we will invest and compete; building profitable adjacent businesses and targeting 10% core margins on an EBIT-adjusted basis.

In addition to our EBIT-adjusted margin improvement goal, through 2018 we fully realized our financial targets of $6.5 billion in total annual operational and functional cost savings compared to 2014 costs.

For the year ending December 31, 2019 we expect EPS-diluted of between $5.17 and $6.00 and EPS-diluted-adjusted of between $6.50 and $7.00. The following table reconciles expected EPS-diluted under U.S. GAAP to expected EPS-diluted-adjusted and includes the future impact of the expected adjustment related to transformation activities:

	Year Ending December 31, 2019
Diluted earnings per common share	$ 5.17-6.00
Adjustment – transformation activities	1.17-1.59
Tax effect on adjustment(a)	(0.17-0.26)
EPS-diluted-adjusted	$ 6.50-7.00

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(a) The tax effect of the adjustment is determined based on the tax laws and valuation allowance status of the jurisdiction to which the adjustment relates.

We face continuing market, operating and regulatory challenges in a number of countries across the globe due to, among other factors, weak economic conditions, competitive pressures, our product portfolio offerings, heightened emissions standards, foreign exchange volatility, rising materials prices, trade policy and political uncertainty. As a result of these conditions, we continue to strategically assess our performance and ability to achieve acceptable returns on our invested capital, as well as our cost structure in order to maintain a low breakeven point. Refer to Item 1A. Risk Factors for a discussion of these challenges. We expect transformation activities to drive approximately $6.0 billion of annual cash savings by the end of 2020, resulting from reductions in Automotive and other cost of sales in our consolidated financial statements, as well as reduced capital expenditures. This target includes approximately $4.5 billion of cost savings, to be achieved through staffing, manufacturing and product initiatives. As we continue to assess our performance and the needs of our evolving business, additional restructuring and rationalization actions could be required. These additional actions could give rise to future asset impairments or other charges which may have a material impact on our results of operations.

GMNA Industry sales in North America were 21.5 million units in the year ended December 31, 2018 representing a decrease of 0.1% compared to the corresponding period in 2017. U.S. industry sales were 17.7 million units in the year ended December 31, 2018.

Our total vehicle sales in the U.S., our largest market in North America, totaled 3.0 million units for market share of 16.7% in the year ended December 31, 2018 representing a decrease of 0.4 percentage points compared to the corresponding period in 2017. We continue to lead the U.S. industry in market share.

In November 2018 we announced plans to accelerate steps to improve our overall business performance including the reorganization of global product development staffs, the realignment of manufacturing capacity in response to market-related volume declines in passenger cars and a reduction of our salaried workforce. We recorded charges of $1.2 billion in the year ended December 31, 2018 and expect to record additional charges of $1.5 billion to $2.0 billion in 2019. These charges are primarily considered special for EBIT-adjusted, EPS diluted-adjusted, and adjusted automotive free cash flow purposes.

We estimate GMNA's breakeven point at the U.S. industry level to be in the range of 10.0 to 11.0 million units. We expect to sustain a strong EBIT-adjusted margin in 2019 on continued strength of the U.S. industry light vehicle sales, favorable vehicle mix and continued focus on overall cost savings partially offset by higher costs associated with commodities and tariffs, as well as pricing pressures.

The UAW contract ratified in November 2015 expires in September 2019. For discussion of the risks related to a significant labor disruption at one of our facilities, refer to Item 1A. Risk Factors.

GMI Industry sales in China were 26.5 million units in the year ended December 31, 2018 representing a decrease of 6.3% compared to the corresponding period in 2017. Our total vehicle sales in China were 3.6 million units for a market share of 13.8% in the year ended December 31, 2018, representing a decrease of 0.5 percentage points compared to the corresponding period in 2017. We continue to see strength in sales of our Cadillac vehicles, and Chevrolet outperformed the passenger vehicle industry. Baojun and Wuling sales were impacted by the market slowdown in less developed cities and market shift away from mini commercial vehicles. Our Automotive China JVs generated equity income of $2.0 billion in the year ended December 31, 2018. In 2019 we expect industry sales to remain relatively flat with a continuation of pricing pressures, a more challenging regulatory environment related to emissions, fuel consumption and new energy vehicles as well as a weaker Chinese Yuan against the U.S. Dollar, which will continue to put pressure on our operations in China. While we expect China equity income to be moderately down, we expect to sustain strong China equity income by focusing on improvements in vehicle mix, cost efficiencies, and downstream performance optimization.

Outside of China, many markets across the segment continue to improve, resulting in industry sales of 26.7 million units, representing an increase of 5.0% in the year ended December 31, 2018 compared to the corresponding period in 2017. This increase was due primarily to increases in India and Brazil. Our total vehicle sales were 1.2 million units for a market share of 4.7% in the year ended December 31, 2018, representing a decrease of 0.4 percentage points compared to the corresponding period in 2017.

In February 2018 we announced the closure of a facility and other restructuring actions in Korea. We recorded charges of $1.1 billion consisting of $0.6 billion in non-cash asset impairments and other charges and $0.5 billion in employee separation charges in the year ended December 31, 2018. We incurred $0.8 billion in cash outflows resulting from these Korea restructuring actions for employee separations and statutory pension payments in the year ended December 31, 2018. The charges are considered special for EBIT-adjusted, EPS-diluted-adjusted and adjusted automotive free cash flow reporting purposes. Refer to Note 18 to our consolidated financial statements for information related to these restructuring actions.

In connection with these restructuring actions, the Korea Development Bank (KDB) purchased approximately $0.7 billion of GM Korea Company's (GM Korea) Class B Preferred Shares from GM Korea (GM Korea Preferred Shares) in 2018. In conjunction with the GM Korea Preferred Share issuance we agreed to provide GM Korea future funding, if needed, not to exceed $2.8 billion through December 31, 2027, inclusive of $2.0 billion of planned capital expenditures through 2027. The actions being taken to address GM Korea's financial and operational performance have and may continue to result in litigation, negative publicity, business disruption, and labor unrest. Refer to Note 20 to our consolidated financial statements for additional information.

GM Cruise In June 2018 GM Cruise Holdings issued $0.9 billion of convertible preferred shares (GM Cruise Preferred Shares) to SoftBank Investments Holdings (UK) Limited (SoftBank). Immediately prior to the issuance of the GM Cruise Preferred Shares, we invested $1.1 billion in GM Cruise Holdings. When GM Cruise's autonomous vehicles are ready for commercial deployment, SoftBank is obligated to purchase additional GM Cruise Preferred Shares for $1.35 billion, subject to regulatory approval. All proceeds are designated exclusively for working capital and general corporate purposes of GM Cruise. Refer to Note 20 to our consolidated financial statements for additional information.

In October 2018 GM Cruise Holdings issued $0.75 billion of GM Cruise Holdings Class E Common Shares to Honda, representing 5.7% of the fully diluted equity of GM Cruise Holdings at closing. In addition, Honda agreed to contribute approximately $2.0 billion primarily in the form of a long-term annual fee to GM Cruise Holdings for certain rights to use GM Cruise Holdings' trade names and trademarks and the exclusive right to partner with GM Cruise Holdings to develop, deploy and maintain a foreign market. The remaining contribution or funding will come in the form of shared development costs for a SAV that Honda, General Motors Holdings LLC and GM Cruise Holdings will jointly develop for deployment onto GM Cruise's autonomous vehicle network. All proceeds are designated exclusively for working capital and general corporate purposes of GM Cruise. Refer to Note 20 to our consolidated financial statements for additional information.

Corporate Beginning in 2012 through January 25, 2019, we purchased an aggregate of 510 million shares of our outstanding common stock for $16.4 billion.

The ignition switch recall has led to various inquiries, investigations, subpoenas, requests for information and complaints from agencies or other representatives of U.S., federal, state and Canadian governments. In addition these and other recalls have resulted in a number of claims and lawsuits. Such lawsuits and investigations could in the future result in the imposition of material damages, fines, civil consent orders, civil and criminal penalties or other remedies. Refer to Note 16 to our consolidated financial statements for additional information.

Takata Matters In May 2016 NHTSA issued an amended consent order requiring Takata to file defect information reports (DIRs) for previously unrecalled front airbag inflators that contain phased-stabilized ammonium nitrate-based propellant without a moisture absorbing desiccant on a multi-year, risk-based schedule through 2019 impacting tens of millions of vehicles produced by numerous automotive manufacturers. NHTSA concluded that the likely root cause of the rupturing of the airbag inflators is a function of time, temperature cycling and environmental moisture.

Although we do not believe there is a safety defect at this time in any unrecalled GM vehicles within scope of the Takata DIRs, in cooperation with NHTSA we have filed Preliminary DIRs covering certain of our GMT900 vehicles, which are full-size pickup trucks and SUVs. We have also filed petitions for inconsequentiality with respect to the vehicles subject to those Preliminary DIRs. NHTSA has consolidated our petitions and will rule on them at the same time.

While these petitions have been pending, we have provided NHTSA with the results of our long-term studies and the studies performed by third-party experts, all of which form the basis for our determination that the inflators in these vehicles do not present an unreasonable risk to safety and that no repair should ultimately be required.

We believe these vehicles are currently performing as designed and our inflator aging studies and field data support the belief that the vehicles' unique design and integration mitigates against inflator propellant degradation and rupture risk. For example, the airbag inflators used in the vehicles are a variant engineered specifically for our vehicles, and include features such as greater venting, unique propellant wafer configurations, and machined steel end caps. The inflators are packaged in the instrument panel in such a way as to minimize exposure to moisture from the climate control system. Also, these vehicles have features that minimize the maximum temperature to which the inflator will be exposed, such as larger interior volumes and standard solar absorbing windshields and side glass.

Accordingly, no warranty provision has been made for any repair associated with our vehicles subject to the Preliminary DIRs and amended consent order. However, in the event we are ultimately obligated to repair the vehicles subject to current or future Takata DIRs under the amended consent order in the U.S., we estimate a reasonably possible impact to GM of approximately $1.2 billion.

GM has recalled certain vehicles sold outside of the U.S. to replace Takata inflators in those vehicles. There are significant differences in vehicle and inflator design between the relevant vehicles sold internationally and those sold in the U.S. We continue to gather and analyze evidence about these inflators and to share our findings with regulators. Additional recalls, if any, could be material to our results of operations and cash flows. We continue to monitor the international situation.

Contingently Issuable Shares Under the Amended and Restated Master Sale and Purchase Agreement between us and MLC, GM may be obligated to issue Adjustment Shares of our common stock if allowed general unsecured claims against the GUC

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Trust, as estimated by the Bankruptcy Court, exceed $35.0 billion. Refer to Note 16 to our consolidated financial statements for a description of the contingently issuable Adjustment Shares.

Automotive Financing - GM Financial Summary and Outlook We believe that offering a comprehensive suite of financing products will generate incremental sales of our vehicles, drive incremental GM Financial earnings and help support our sales throughout various economic cycles. The expansion of GM Financial's leasing program results in increased exposure to residual values, which are heavily dependent on used vehicle prices. Used vehicle prices in 2018 held at similar levels as compared to 2017. We expect a decrease of 4% to 5% in 2019 compared to 2018, due primarily to continued increases in the industry supply of used vehicles. The following table summarizes the residual value as well as the number of units included in GM Financial equipment on operating leases, net by vehicle type (units in thousands):

	December 31, 2018				December 31, 2017			
	Residual Value	Units	Percentage		Residual Value	Units	Percentage	
Cars	$4,884	379	22.3	%	$5,701	450	27.2	%
Trucks	7,299	296	17.4	%	7,173	285	17.3	%
Crossovers	15,057	917	53.8	%	13,723	818	49.5	%
SUVs	4,160	111	6.5	%	3,809	99	6.0	%
Total	$31,400	1,703	100.0	%	$30,406	1,652	100.0	%

During 2018 GM Financial continued to expand its prime lending programs in North America. Accordingly, GM Financial's retail penetration in North America increased to approximately 47% in the year ended December 31, 2018 from approximately 37% in 2017, due primarily to further alignment with GM and greater dealer engagement. GM Financial's prime loan originations as a percentage of total loan originations in North America increased to 72% in 2018 from 61% in 2017. In the year ended December 31, 2018 GM Financial's revenue consisted of leased vehicle income of 71%, retail finance charge income of 22%, and commercial finance charge income of 4%.

Consolidated Results We review changes in our results of operations under five categories: volume, mix, price, cost and other. Volume measures the impact of changes in wholesale vehicle volumes driven by industry volume, market share and changes in dealer stock levels. Mix measures the impact of changes to the regional portfolio due to product, model, trim, country and option penetration in current year wholesale vehicle volumes. Price measures the impact of changes related to Manufacturer’s Suggested Retail Price and various sales allowances. Cost includes primarily: (1) material and freight; (2) manufacturing, engineering, advertising, administrative and selling and warranty expense; and (3) non-vehicle related activity. Other includes primarily foreign exchange and non-vehicle related automotive revenues as well as equity income or loss from our nonconsolidated affiliates. Refer to the regional sections of this MD&A for additional information. We adopted Accounting Standards Update (ASU) 2014-09, "Revenue from Contracts with Customers," as amended (ASU 2014-09) on a modified retrospective basis effective January 1, 2018. The impacts of the new standard are reflected in this MD&A. Refer to Note 2 of our consolidated financial statements or additional information.

Total Net Sales and Revenue

	Years Ended December 31,		Favorable/ (Unfavorable)		%		Variance Due To			
	2018	2017					Volume	Mix	Price	Other
							(Dollars in billions)			
GMNA	$113,792	$111,345	$ 2,447		2.2	%	$1.4	$(0.7)	$1.4	$0.3
GMI	19,148	21,920	(2,772	)	(12.6)	%	$(1.7)	$(0.2)	$0.4	$(1.2)

Corporate	203	342	(139)	(40.6)%				$(0.1)
Automotive	133,143	133,607	(464)	(0.3)%	$(0.3)	$(0.9)	$1.8	$(1.0)
GM Financial	14,016	12,151	1,865	15.3 %				$1.9
Eliminations	(110)	(170)	60	35.3 %		$(0.1)		$0.1
Total net sales and revenue	$147,049	$145,588	$ 1,461	1.0 %	$(0.3)	$(0.9)	$1.8	$1.0

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	Years Ended December 31, 2017	2016	Favorable/ (Unfavorable)	%	Variance Due To Volume	Mix	Price	Other
					(Dollars in billions)			
GMNA	$111,345	$119,113	$ (7,768)	(6.5)%	$(12.2)	$3.5	$0.6	$0.3
GMI	21,920	20,943	977	4.7 %	$0.2	$0.2	$0.6	$—
Corporate	342	149	193	n.m.				$0.2
Automotive	133,607	140,205	(6,598)	(4.7)%	$(12.0)	$3.7	$1.3	$0.5
GM Financial	12,151	8,983	3,168	35.3 %				$3.2
Eliminations	(170)	(4)	(166)	n.m.				$(0.2)
Total net sales and revenue	$145,588	$149,184	$ (3,596)	(2.4)%	$(12.0)	$3.7	$1.3	$3.5

n.m. = not meaningful

Automotive and Other Cost of Sales

	Years Ended December 31, 2018	2017	Favorable/ (Unfavorable)	%	Variance Due To Volume	Mix	Cost	Other
					(Dollars in billions)			
GMNA	$99,445	$94,193	$ (5,252)	(5.6)%	$(1.0)	$(0.9)	$(3.5)	$0.1
GMI	20,418	21,478	1,060	4.9 %	$1.4	$0.3	$(1.2)	$0.5
Corporate	178	129	(49)	(38.0)%		$—	$0.2	$(0.2)
GM Cruise	715	592	(123)	(20.8)%			$(0.1)	
Eliminations	(100)	(163)	(63)	(38.7)%		$0.1	$(0.1)	
Total automotive and other cost of sales	$120,656	$116,229	$ (4,427)	(3.8)%	$0.5	$(0.5)	$(4.8)	$0.4

	Years Ended December 31, 2017	2016	Favorable/ (Unfavorable)	%	Variance Due To Volume	Mix	Cost	Other
					(Dollars in billions)			
GMNA	$94,193	$101,073	$ 6,880	6.8 %	$8.7	$(2.7)	$1.1	$(0.3)
GMI	21,478	20,459	(1,019)	(5.0)%	$(0.1)	$(0.5)	$(0.1)	$(0.3)
Corporate	129	85	(44)	(51.8)%		$—	$(0.2)	$0.2
GM Cruise	592	171	(421)	n.m.			$(0.4)	
Eliminations	(163)	(4)	159	n.m.			$0.2	$—
Total automotive and other cost of sales	$116,229	$121,784	$ 5,555	4.6 %	$8.6	$(3.1)	$0.5	$(0.4)

n.m. = not meaningful

The most significant element of our Automotive and other cost of sales is material cost which makes up approximately two-thirds of the total amount. The remaining portion includes labor costs, depreciation and amortization, engineering, freight and product warranty and recall campaigns.

Factors which most significantly influence a region's profitability are industry volume, market share, and the relative mix of vehicles (trucks, crossovers, cars) sold. Variable profit is a key indicator of product profitability. Variable profit is defined as revenue less material cost, freight, the variable component of manufacturing expense and warranty and recall-related costs. Vehicles with higher selling prices generally have higher variable profit. Refer to the regional sections of this MD&A for additional information on volume and mix.

In the year ended December 31, 2018 unfavorable Cost was due primarily to: (1) increased raw material and freight costs related to carryover vehicles of $1.3 billion; (2) charges of $1.3 billion primarily related to employee separation charges and accelerated depreciation resulting from the transformation activities; (3) increased other costs of $1.2 billion primarily related to manufacturing, engineering and warranty; (4) increased material and freight costs of $1.2 billion related to vehicles launched within the last twelve

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months incorporating significant exterior and/or interior changes (Majors); and (5) a net increase in charges of $0.7 billion primarily related to asset impairments and employee separation charges in Korea in 2018, partially offset by restructuring actions in India and South Africa in 2017; partially offset by (6) favorable material performance of $1.1 billion related to carryover vehicles. In the year ended December 31, 2018 favorable Other was due to the foreign currency effect resulting from the weakening of the Brazilian Real and other currencies, partially offset by the strengthening of various currencies against the U.S. Dollar.

In the year ended December 31, 2017 favorable Cost was due primarily to: (1) decreased warranty costs of $1.4 billion; (2) decreased employee related costs of $0.8 billion; (3) decreased material and freight costs of $0.7 billion related to carryover vehicles; and (4) decreased restructuring costs related to UAW cash severance incentive program of $0.2 billion in 2016 that did not recur in 2017; partially offset by (5) increased material and freight costs of $1.4 billion related to Majors; (6) increased engineering costs of $0.7 billion; and (7) charges of $0.4 billion related to restructuring actions in India and South Africa. In the year ended December 31, 2017 unfavorable Other was due primarily to the foreign currency effect of $0.4 billion due to the strengthening of the Brazilian Real and other currencies against the U.S. Dollar.

Automotive and Other Selling, General and Administrative Expense

	Years Ended December 31,			Year Ended 2018 vs. 2017 Change		Year Ended 2017 vs. 2016 Change	
	2018	2017	2016	Favorable/ (Unfavorable)	%	Favorable/ (Unfavorable)	%
Automotive and other selling, general and administrative expense	$9,650	$9,570	$10,345	$(80)	(0.8)%	$775	7.5 %

In the year ended December 31, 2018 Automotive and other selling, general and administrative expense increased due primarily to an increase in charges of $0.3 billion for ignition switch related legal matters; partially offset by decreased advertising costs of $0.3 billion.

In the year ended December 31, 2017 Automotive and other selling, general and administrative expense decreased due primarily to decreased advertising costs of $0.4 billion and a decrease in net charges of $0.2 billion for ignition switch related legal matters.

Interest Income and Other Non-operating Income, net

	Years Ended December 31,			Year Ended 2018 vs. 2017 Change		Year Ended 2017 vs. 2016 Change	
	2018	2017	2016	Favorable/ (Unfavorable)	%	Favorable/ (Unfavorable)	%
Interest income and other non-operating income, net	$2,596	$1,645	$1,603	$951	57.8 %	$42	2.6 %

In the year ended December 31, 2018 Interest income and other non-operating income, net increased due primarily to: (1) increased non-service pension and OPEB income of $0.3 billion; (2) favorable revaluation of investments of $0.3 billion; and (3) $0.2 billion from licensing agreements.

Income Tax Expense

	Years Ended December 31,			Year Ended 2018 vs. 2017 Change		Year Ended 2017 vs. 2016 Change	
	2018	2017	2016	Favorable/ (Unfavorable)	%	Favorable/ (Unfavorable)	%
Income tax expense	$474	$11,533	$2,739	$11,059	n.m.	$(8,794)	n.m.

n.m. = not meaningful

In the year ended December 31, 2018 Income tax expense decreased due primarily to the absence of certain expense items which occurred in 2017, including $7.3 billion of tax expense related to U.S. tax reform and $2.3 billion of tax expense related to the recording of a valuation allowance on the sale of the Opel/Vauxhall Business, combined with the impact of a lower U.S. statutory tax rate and pre-tax income in 2018.

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In the year ended December 31, 2017 Income tax expense increased due primarily to the $7.3 billion tax expense related to U.S. tax reform legislation and the establishment of a $2.3 billion valuation allowance related to the sale of Opel/Vauxhall Business, partially offset by tax benefits related to tax settlements and foreign earnings.

For the year ended December 31, 2018 our ETR-adjusted was 17.4%, and we expect an effective tax rate of between 16% and 18% for the year ending December 31, 2019.

Refer to Note 17 to our consolidated financial statements for additional information related to Income tax expense.

GM North America

	Years Ended December 31,		Favorable/ (Unfavorable)	%	Variance Due To				
	2018	2017			Volume	Mix	Price	Cost	Other
					(Dollars in billions)				
Total net sales and revenue	$113,792	$111,345	$ 2,447	2.2 %	$1.4	$(0.7)	$1.4		$0.3
EBIT-adjusted	$10,769	$11,889	$ (1,120)	(9.4)%	$0.4	$(1.5)	$1.4	$(1.7)	$0.2
EBIT-adjusted margin	9.5 %	10.7 %	(1.2)%						
	(Vehicles in thousands)								
Wholesale vehicle sales	3,555	3,511	44	1.3 %					

	Years Ended December 31,		Favorable/ (Unfavorable)	%	Variance Due To				
	2017	2016			Volume	Mix	Price	Cost	Other
					(Dollars in billions)				
Total net sales and revenue	$111,345	$119,113	$ (7,768)	(6.5)%	$(12.2)	$3.5	$0.6		$0.3
EBIT-adjusted	$11,889	$12,388	$ (499)	(4.0)%	$(3.5)	$0.9	$0.6	$1.8	$(0.3)
EBIT-adjusted margin	10.7 %	10.4 %	0.3 %						
	(Vehicles in thousands)								
Wholesale vehicle sales	3,511	3,958	(447)	(11.3)%					

GMNA Total Net Sales and Revenue In the year ended December 31, 2018 Total net sales and revenue increased due primarily to: (1) favorable pricing for Majors of $1.9 billion, partially offset by unfavorable pricing for carryover vehicles of $0.5 billion, inclusive of new revenue standard impacts; (2) increased net wholesale volumes due to an increase in sales of crossover and fleet vehicles, partially offset by a decrease in sales of passenger cars, planned downtime for full-size trucks and a decrease in sales of mid-size trucks; and (3) favorable Other due to increased sales of parts and accessories; partially offset by (4) unfavorable mix due to fleet customer, trim and other mix.

In the year ended December 31, 2017 Total net sales and revenue decreased due primarily to: (1) decreased net wholesale volumes associated with a decrease in Chevrolet passenger car sales and a decrease in off-lease rental car sales; partially offset by (2) favorable mix associated with a decrease in sales of Chevrolet passenger cars and decreased volumes of off-lease rental car sales; (3) favorable pricing for Majors of $1.4 billion, partially offset by unfavorable pricing for carryover vehicles of $0.8 billion; and (4) favorable Other due primarily to the foreign currency effect resulting from the strengthening of the Canadian Dollar against the U.S. Dollar.

GMNA EBIT-Adjusted The most significant factors which influence profitability are industry volume and market share. While not as significant as industry volume and market share, another factor affecting profitability is the relative mix of vehicles sold. Trucks, crossovers and cars sold currently have a variable profit of approximately 180%, 50% and 20% of our GMNA portfolio on a weighted-average basis.

In the year ended December 31, 2018 EBIT-adjusted decreased due primarily to: (1) unfavorable Cost due to increased vehicle content for Majors of $1.3 billion and increased raw material and freight costs of $1.1 billion, partially offset by favorable materials performance of $1.0 billion related to carryover vehicles; and (2) unfavorable mix due to an increase in sales of crossover vehicles, fleet customer mix, trim and other mix, partially offset by decreased sales of passenger cars; partially offset by (3) favorable pricing; and (4) increased net wholesale volumes.

In the year ended December 31, 2017 EBIT-adjusted decreased due primarily to: (1) decreased net wholesale volumes; and (2) unfavorable Other due primarily to the foreign currency effect resulting from the weakening of the Mexican Peso against the U.S.

Dollar; partially offset by (3) favorable Cost including decreased warranty costs of $1.4 billion, decreased material and freight costs related to carryover vehicles of $0.7 billion, decreased other employee related costs of $0.7 billion, decreased advertising costs of $0.3 billion and decreased restructuring charges of $0.2 billion related to the 2016 UAW cash severance incentive program, partially offset by increased material costs for Majors of $1.3 billion and increased engineering costs of $0.3 billion; (4) favorable mix; and (5) favorable pricing.

GM International

	Years Ended December 31,		Favorable/ (Unfavorable)	%	Variance Due To				
	2018	2017			Volume	Mix	Price	Cost	Other
					(Dollars in billions)				
Total net sales and revenue	$19,148	$21,920	$ (2,772)	(12.6)%	$(1.7)	$(0.2)	$0.4		$(1.2)
EBIT-adjusted	$423	$1,300	$ (877)	(67.5)%	$(0.3)	$0.1	$0.4	$(0.1)	$(0.9)
EBIT-adjusted margin	2.2 %	5.9 %	(3.7)%						
Equity income — Automotive China	$1,981	$1,976	$ 5	0.3 %					
EBIT (loss)-adjusted — excluding Equity income	$(1,558)	$(676)	$ (882)	n.m.					
	(Vehicles in thousands)								
Wholesale vehicle sales	1,152	1,267	(115)	(9.1)%					

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n.m. = not meaningful

	Years Ended December 31,		Favorable/ (Unfavorable)	%	Variance Due To				
	2017	2016			Volume	Mix	Price	Cost	Other
					(Dollars in billions)				
Total net sales and revenue	$21,920	$20,943	$ 977	4.7 %	$0.2	$0.2	$0.6		$—
EBIT-adjusted	$1,300	$767	$ 533	69.5%	$—	$(0.3)	$0.6	$0.3	$(0.2)
EBIT-adjusted margin	5.9 %	3.7 %	2.2 %						
Equity income — Automotive China	$1,976	$1,973	$ 3	0.2 %					
EBIT (loss)-adjusted —excluding Equity income	$(676)	$(1,206)	$ 530	43.9%					
	(Vehicles in thousands)								
Wholesale vehicle sales	1,267	1,255	12	1.0 %					

The vehicle sales of our Automotive China JVs are not recorded in Total net sales and revenue. The results of our joint ventures are recorded in Equity income, which is included in EBIT-adjusted above.

GMI Total Net Sales and Revenue In the year ended December 31, 2018 Total net sales and revenue decreased due primarily to: (1) decreased wholesale volumes in Korea due to the closure of a facility, in Argentina primarily driven by lower industry volumes, and in Asia/Pacific due to the withdrawal from the Indian and South African markets in 2017, partially offset by an increase in Brazil primarily due to an increase in sales of the Chevrolet Onix, Tracker and Equinox; (2) unfavorable Other due primarily to the foreign currency effect resulting from the weakening of the Brazilian Real and Argentine Peso against the U.S. Dollar; partially offset by (3) favorable pricing related to carryover vehicles in Argentina and Brazil.

In the year ended December 31, 2017 Total net sales and revenue increased due primarily to: (1) favorable pricing related to carryover vehicles in Argentina and Brazil and in Egypt to mitigate the impact of the weakening Egyptian Pound against the U.S. Dollar; (2) favorable mix driven by the increased sales of Chevrolet Cruze in Brazil and Argentina; and (3) increased wholesale volumes associated with the Chevrolet Onix in Brazil and Argentina, partially offset by decreased wholesale volumes across multiple product lines in Asia/Pacific, the Middle East and Africa; (4) flat Other due primarily to the foreign currency effect resulting from the strengthening of the Brazilian Real and Korean Won against the U.S. Dollar, offset by the depreciation of the Argentine Peso and Egyptian Pound against the U.S. Dollar and decreased parts and accessories sales in the Middle East.

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GMI EBIT-Adjusted In the year ended December 31, 2018 EBIT-adjusted decreased due primarily to: (1) decreased wholesale volumes; and (2) unfavorable Other due primarily to the foreign currency effect resulting from the weakening of the Argentine Peso and Brazilian Real against the U.S. Dollar; partially offset by (3) favorable pricing.

In the year ended December 31, 2017 EBIT-adjusted increased due primarily to: (1) favorable pricing; and (2) favorable Cost due to decreased employee related costs and selling, general and administrative expenses across the region; partially offset by (3) unfavorable mix driven by decreased high-margin sales in the Middle East.

We view the Chinese market as important to our global growth strategy and are employing a multi-brand strategy led by our Buick, Chevrolet and Cadillac brands. In the coming years we plan to leverage our global architectures to increase the number of product offerings under the Buick, Chevrolet and Cadillac brands in China and continue to grow our business under the local Baojun and Wuling brands, with Baojun focusing its expansion in less developed cities and markets. We operate in the Chinese market through a number of joint ventures and maintaining strong relationships with our joint venture partners is an important part of our China growth strategy.

The following table summarizes certain key operational and financial data for the Automotive China JVs (vehicles in thousands):

	Years Ended December 31,		
	2018	2017	2016
Wholesale vehicles including vehicles exported to markets outside of China	4,030	4,140	4,013
Total net sales and revenue	$50,316	$50,065	$47,150
Net income	$3,992	$3,984	$4,117

	December 31, 2018	December 31, 2017
Cash and cash equivalents	$ 8,609	$ 9,202
Debt	$ 496	$ 381

GM Cruise

	Years Ended December 31,			2018 vs. 2017 Change		2017 vs. 2016 Change	
	2018	2017	2016	Favorable/ (Unfavorable)	%	Favorable/ (Unfavorable)	%
EBIT (loss)-adjusted	$(728)	$(613)	$(171)	$(115)	(18.8)%	$(442)	n.m.

n.m. = not meaningful

GM Cruise EBIT (Loss)-Adjusted In the years ended December 31, 2018 and 2017 EBIT (loss)-adjusted increased due primarily to increased engineering costs as we progress towards the commercialization of autonomous vehicles.

GM Financial

	Years Ended December 31,			2018 vs. 2017 Change		2017 vs. 2016 Change	
	2018	2017	2016	Amount	%	Amount	%
Total revenue	$14,016	$12,151	$8,983	$1,865	15.3 %	$3,168	35.3%
Provision for loan losses	$642	$757	$644	$(115)	(15.2)%	$113	17.5%
Earnings before income taxes-adjusted	$1,893	$1,196	$763	$697	58.3 %	$433	56.7%

Average debt outstanding (dollars in billions)	$85.1	$74.9	$54.8	$10.2	13.5 %	$20.1	36.7%
Effective rate of interest paid	3.8 %	3.4 %	3.6 %	0.4 %		(0.2)%	

GM Financial Revenue In the year ended December 31, 2018 Total revenue increased due primarily to increased leased vehicle income of $1.4 billion due to a larger lease portfolio and increased finance charge income of $0.4 billion due to growth in the retail and commercial finance receivables portfolios.

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In the year ended December 31, 2017 Total revenue increased due primarily to increased leased vehicle income of $2.7 billion due to a larger lease portfolio and increased finance charge income of $0.4 billion due to growth in the retail and commercial finance receivables portfolios.

GM Financial Earnings Before Income Taxes-Adjusted In the year ended December 31, 2018 Earnings before income taxes-adjusted increased due primarily to: (1) increased gains on sales of terminated leased vehicles of $0.5 billion due to stronger than expected used vehicle prices; (2) increased net leased vehicle income of $0.4 billion due to an increase in average balance of the lease portfolio; and (3) increased finance charge income of $0.4 billion due to an increase in the average balance of the retail and commercial finance receivables portfolios; partially offset by (4) increased interest expense of $0.7 billion due to an increase in average debt outstanding resulting from growth in the loan and lease portfolios as well as rising benchmark interest rates.

In the year ended December 31, 2017 Earnings before income taxes-adjusted increased due primarily to: (1) increased net leased vehicle income of $0.8 billion due primarily to a larger lease portfolio; and (2) increased finance charge income; partially offset by (3) increased interest expense of $0.6 billion due to an increase in average debt outstanding.

Liquidity and Capital Resources We believe that our current level of cash and cash equivalents, marketable securities and availability under our revolving credit facilities will be sufficient to meet our liquidity needs. We expect to have substantial cash requirements going forward which we plan to fund through total available liquidity and cash flows generated from operations and future debt issuances. We also maintain access to the capital markets and may issue debt or equity securities from time to time, which may provide an additional source of liquidity. Our future uses of cash, which may vary from time to time based on market conditions and other factors, are focused on three objectives: (1) reinvest in our business; (2) maintain a strong investment-grade balance sheet; and (3) return available cash to shareholders. Our known future material uses of cash include, among other possible demands: (1) capital expenditures of $8.0 billion to $9.0 billion in 2019 as well as payments for engineering and product development activities; (2) payments associated with previously announced vehicle recalls, the settlements of the multi-district litigation and any other recall-related contingencies; (3) payments to service debt and other long-term obligations, including discretionary and mandatory contributions to our pension plans; (4) dividend payments on our common stock that are declared by our Board of Directors; and (5) payments to purchase shares of our common stock authorized by our Board of Directors.

Our liquidity plans are subject to a number of risks and uncertainties, including those described in the "Forward-Looking Statements" section of this MD&A and Item 1A. Risk Factors, some of which are outside of our control.

We continue to monitor and evaluate opportunities to strengthen our competitive position over the long-term while maintaining a strong investment-grade balance sheet. These actions may include opportunistic payments to reduce our long-term obligations such as our pension plans, as well as the possibility of acquisitions, dispositions, investments with joint venture partners and strategic alliances that we believe would generate significant advantages and substantially strengthen our business. In September 2018, we used a portion of the net proceeds from the issuance of senior unsecured notes to pre-fund $0.6 billion in certain mandatory contributions to our U.K. and Canada pension plans due in 2019 through 2021.

Our senior management evaluates our capital allocation program on an ongoing basis and recommends any modifications to the program to our Board of Directors, not less than once annually. Management reaffirmed and our Board of Directors approved the capital allocation program, which includes reinvesting in our business at an average target ROIC-adjusted rate of 20% or greater, maintaining a strong investment-grade balance sheet, including an average automotive target cash balance of $18 billion, and returning available cash to shareholders.

As part of our capital allocation program, our Board of Directors authorized programs to purchase $9.0 billion in aggregate of our common stock which were completed in the three months ended September 30, 2016 and 2017. We announced in January 2017 that our Board of Directors had authorized the purchase of up to an additional $5.0 billion of our common stock with no expiration date, subsequent to completing the remaining portion of the previously announced programs. We completed $1.6 billion of the $5.0 billion program through December 31, 2018, which included $0.1 billion purchased in the three months ended March 31, 2018 in conjunction with the sale of GM common stock by the UAW Retiree Medical Benefits Trust (New VEBA). From inception of the program in 2015 through January 25, 2019 we had purchased an aggregate of 302 million shares of our outstanding common stock under our common stock repurchase program for $10.6 billion.

Automotive Liquidity Total available liquidity includes cash, cash equivalents, marketable securities and funds available under credit facilities. The amount of available liquidity is subject to intra-month and seasonal fluctuations and includes balances held by various business units and subsidiaries worldwide that are needed to fund their operations.

We manage our liquidity primarily at our treasury centers as well as at certain of our significant consolidated overseas subsidiaries. Approximately 90% of our cash and marketable securities were managed within North America and at our regional treasury centers at December 31, 2018. We have used and will continue to use other methods including intercompany loans to utilize these funds across our global operations as needed.

Our cash equivalents and marketable securities balances are primarily denominated in U.S. Dollars and include investments in U.S. government and agency obligations, foreign government securities, time deposits, corporate debt securities and mortgage and asset-backed securities. Our investment guidelines, which we may change from time to time, prescribe certain minimum credit worthiness thresholds and limit our exposures to any particular sector, asset class, issuance or security type. The majority of our current investments in debt securities are with A/A2 or better rated issuers.

We use credit facilities as a mechanism to provide additional flexibility in managing our global liquidity. At December 31, 2017 the total size of our credit facilities was $14.5 billion, which consisted principally of our two primary revolving credit facilities. In April 2018 we amended and restated our two existing revolving credit facilities and entered into a third facility, increasing our aggregate borrowing capacity from $14.5 billion to $16.5 billion. These facilities consist of a 364-day, $2.0 billion facility, a three-year, $4.0 billion facility and a five-year, $10.5 billion facility. The facilities are available to us as well as certain wholly-owned subsidiaries, including GM Financial. The three-year, $4.0 billion facility allows for borrowings in U.S. Dollars and other currencies and includes a letter of credit sub-facility of $1.1 billion. The five-year, $10.5 billion facility allows for borrowings in U.S. Dollars and other currencies. The 364-day, $2.0 billion facility allows for borrowing in U.S. Dollars only. We have allocated the 364-day, $2.0 billion facility for exclusive use by GM Financial. Total automotive available credit under the facility remained unchanged at $14.5 billion at December 31, 2018. In January 2019 we entered into a new three-year unsecured revolving credit facility with an initial borrowing capacity of $3.0 billion, reducing to $2.0 billion in July 2020. The facility will be used to fund costs related to the transformation activities announced in November 2018 and to provide additional financial flexibility.

We did not have any borrowings against our primary facilities, but had letters of credit outstanding under our sub-facility of $0.3 billion and $0.4 billion at December 31, 2018 and 2017. GM Financial did not have any borrowings against our credit facility designated for their exclusive use at December 31, 2018 or the remainder of our revolving credit facilities at December 31, 2018 and 2017. Refer to Note 13 to our consolidated financial statements for additional information on credit facilities. We had intercompany loans from GM Financial of $0.6 billion and $0.4 billion at December 31, 2018 and 2017, which consisted primarily of commercial loans to dealers we consolidate, and we had no intercompany loans to GM Financial. Refer to Note 5 of our consolidated financial statements for additional information.

In May 2018 we entered into an agreement with KDB to fund capital expenditure requirements of GM Korea. In the year ended December 31, 2018 KDB purchased $0.7 billion of GM Korea Preferred Shares. Additionally we agreed to provide future funding to GM Korea if needed, not to exceed $2.8 billion through December 31, 2027, inclusive of $2.0 billion of planned capital expenditures through 2027. Refer to Note 20 to our consolidated financial statements for further details.

In September 2018 we issued $2.1 billion in aggregate principal amount of senior unsecured notes with an initial weighted average interest rate of 5.03% and maturity dates ranging from 2021 to 2049. The notes are governed by the same indenture that was used in past issuances, which contains terms and covenants customary of these types of securities including limitations on the amount of certain secured debt we may incur. The net proceeds from the issuance of these senior unsecured notes were used to repay $1.5 billion of debt in October 2018 upon maturity, pre-fund $0.6 billion in certain mandatory contributions for our U.K. and Canada pension plans due in 2019 through 2021, and for other general corporate purposes.

GM Financial's Board of Directors declared and paid a dividend of $0.4 billion on its common stock in October 2018. Future dividends from GM Financial will depend on a number of factors including business and economic conditions, its financial condition, earnings, liquidity requirements and leverage ratio.

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The following table summarizes our available liquidity (dollars in billions):

	December 31, 2018	December 31, 2017
Automotive cash and cash equivalents	$ 13.7	$ 11.2
Marketable securities	6.0	8.3
Automotive cash, cash equivalents and marketable securities(a)(b)	19.6	19.6
GM Cruise cash and cash equivalents(c)	2.3	—
Available liquidity	21.9	19.6
Available under credit facilities	14.2	14.1
Total available liquidity(a)	$ 36.1	$ 33.6

(a) Amounts do not add due to rounding.
(b) Includes $0.6 billion that is designated exclusively to fund capital expenditures in GM Korea at December 31, 2018. Refer to Note 20 to our consolidated financial statements for further details.
(c) Amounts are designated exclusively for the use of GM Cruise and do not include $0.1 billion of GM Cruise's investment in GM stock. Refer to Note 20 to our consolidated financial statements for further details.

The following table summarizes the changes in our Automotive available liquidity (excluding GM Cruise, dollars in billions):

	Year Ended December 31, 2018
Operating cash flow	$ 11.7
Capital expenditures	(8.7)
Dividends paid and payments to purchase common stock	(2.3)
Issuance of senior unsecured notes	2.1
Repayment of senior unsecured notes	(1.5)
GM investment in GM Cruise	(1.1)
Proceeds from KDB investment in GM Korea	0.7
Other non-operating	(0.7)
Total change in automotive available liquidity	$ 0.2

Automotive Cash Flow (Dollars in Billions)

	Years Ended December 31, 2018	2017	2016	2018 vs. 2017 Change	2017 vs. 2016 Change
Operating Activities					
Income (loss) from continuing operations	$7.1	$(0.2)	$8.8	$ 7.3	$ (9.0)
Depreciation, amortization and impairment charges	6.1	5.7	5.1	0.4	0.6
Pension and OPEB activities	(3.4)	(2.6)	(4.2)	(0.8)	1.6
Working capital	0.7	1.8	2.2	(1.1)	(0.4)
Accrued and other liabilities and income taxes	1.9	8.5	3.0	(6.6)	5.5
Other	(0.7)	1.2	(0.3)	(1.9)	1.5
Net automotive cash provided by operating activities	$11.7	$14.4	$14.6	$ (2.7)	$ (0.2)

In the year ended December 31, 2018 the decrease in Net automotive cash provided by operating activities was due primarily to: (1) unfavorable pre-tax earnings from continuing operations of $3.9 billion, net of employee separation and other charges of $1.3 billion resulting from transformation activities; (2) unfavorable Pension and OPEB activities due primarily to pension contributions of $0.6 billion made to our U.K. and Canada pension plans; (3) less favorable Working capital due primarily to accounts receivable and accounts payable; and (4) unfavorable Other due to the increase in units returned from rental car companies of $0.8 billion and several other insignificant items; partially offset by (5) favorable sales incentives and other accruals of $3.6 billion; and (6) favorable re-timing of subvention payments and receivables factoring with GM Financial and other external sources of $0.4 billion.

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In the year ended December 31, 2017 the decrease in Net automotive cash provided by operating activities was due primarily to: (1) unfavorable Income (loss) from continuing operations partially offset by the add back of $7.3 billion as a result of U.S. tax reform legislation and the establishment of a $2.3 billion valuation allowance related to the sale of the Opel/Vauxhall Business; and (2) unfavorable Working capital due to lower production volumes, partially offset by accelerated cash receipts from GM Financial and other external sources totaling $0.5 billion; partially offset by (3) favorable Pension and OPEB activities due primarily to discretionary contributions of $2.0 billion made to our U.S. hourly pension plan in the year ended December 31, 2016; and (4) favorable Other due to a GM Financial dividend of $0.6 billion and several insignificant items, partially offset by unfavorable equipment on operating leases of $1.1 billion due to an increase in units out to daily rental car companies.

	Years Ended December 31,			2018 vs. 2017	2017 vs. 2016
	2018	2017	2016	Change	Change
Investing Activities					
Capital expenditures	$(8.7)	$(8.3)	$(8.3)	$ (0.4)	$ —
Acquisitions and liquidations of marketable securities, net	2.3	3.5	(3.7)	(1.2)	7.2
GM investment in GM Cruise	(1.1)	—	—	(1.1)	—
Investment in Lyft	—	—	(0.5)	—	0.5
Other	(0.2)	(0.4)	(0.2)	0.2	(0.2)
Net automotive cash used in investing activities	$(7.7)	$(5.2)	$(12.7)	$ (2.5)	$ 7.5

	Years Ended December 31,			2018 vs. 2017	2017 vs. 2016
	2018	2017	2016	Change	Change
Financing Activities					
Issuance of senior unsecured notes	$2.1	$3.0	$2.0	$ (0.9)	$ 1.0
Net payments on short-term debt	(1.4)	(0.1)	—	(1.3)	(0.1)
Payments to purchase common stock	(0.1)	(4.5)	(2.5)	4.4	(2.0)
Dividends paid	(2.2)	(2.2)	(2.3)	—	0.1
Proceeds from KDB investment in GM Korea	0.7	—	—	0.7	—
Other	(0.6)	(0.4)	(0.3)	(0.2)	(0.1)
Net automotive cash used in financing activities	$(1.5)	$(4.2)	$(3.1)	$ 2.7	$ (1.1)

Adjusted Automotive Free Cash Flow

We measure adjusted automotive free cash flow as automotive operating cash flow from continuing operations less capital expenditures adjusted for management actions. For the year ended December 31, 2018, net automotive cash provided by operating activities under U.S. GAAP was $11.7 billion, capital expenditures were $8.7 billion and an adjustment for management actions related to restructuring in Korea was $0.8 billion.

For the year ended December 31, 2017, net automotive cash provided by operating activities under U.S. GAAP was $14.4 billion, capital expenditures were $8.3 billion, and adjustments resulting from the sale of the European Business included an adjustment related to a U.K. pension plan contribution of $0.2 billion and a reduction adjustment related to a dividend received from GM Financial of $0.6 billion.

For the year ended December 31, 2016, net automotive cash provided by operating activities under U.S. GAAP was $14.6 billion, capital expenditures were $8.3 billion, and an adjustment for discretionary U.S. pension plan contributions was $2.0 billion.

Status of Credit Ratings We receive ratings from four independent credit rating agencies: DBRS Limited, Fitch Ratings (Fitch), Moody's Investor Service (Moody's) and Standard & Poor's (S&P). All four credit rating agencies currently rate our corporate credit at investment grade. The following table summarizes our credit ratings at January 25, 2019:

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	Corporate	Revolving Credit Facilities	Senior Unsecured	Outlook
DBRS Limited	BBB	BBB	N/A	Positive
Fitch	BBB	BBB	BBB	Stable
Moody's	Investment Grade	Baa2	Baa3	Stable
S&P	BBB	BBB	BBB	Stable

In March 2018 DBRS Limited revised their outlook to Positive from Stable. All other credit ratings remained unchanged from January 1, 2018 through January 25, 2019.

GM Cruise Liquidity

The following table summarizes the changes in our GM Cruise available liquidity (dollars in billions):

	Year Ended December 31, 2018
Operating cash flow	$ (0.6)
Issuance of GM Cruise Preferred Shares to SoftBank	0.9
Issuance of GM Cruise Common Shares to Honda	0.8
GM investment in GM Cruise	1.1
Other non-operating	0.2
Total change in GM Cruise available liquidity	$ 2.4

When GM Cruise's autonomous vehicles are ready for commercial deployment, SoftBank is obligated to purchase additional GM Cruise Preferred Shares for $1.35 billion, subject to regulatory approval. In addition, Honda agreed to contribute approximately $2.0 billion primarily in the form of a long-term annual fee to GM Cruise Holdings for certain rights to use GM Cruise Holdings' trade names and trademarks and the exclusive right to partner with GM Cruise Holdings to develop, deploy, and maintain a foreign market.

GM Cruise Cash Flow (Dollars in Billions)

	Years Ended December 31,			2018 vs. 2017	2017 vs. 2016
	2018	2017	2016	Change	Change
Net cash used in operating activities	$(0.6)	$(0.5)	$(0.1)	$ (0.1)	$ (0.4)
Net cash used in investing activities	$(0.1)	$(0.1)	$(0.3)	$ —	$ 0.2
Net cash provided by financing activities	$3.0	$0.6	$0.4	$ 2.4	$ 0.2

In the year ended December 31, 2017 Net cash used in operating activities increased due primarily to unfavorable income from operations.

In the year ended December 31, 2018 Net cash provided by financing activities increased due primarily to the GM investment in GM Cruise, proceeds from the issuance of GM Cruise Preferred Shares to SoftBank, and proceeds from the issuance of GM Cruise Common Shares to Honda.

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Automotive Financing – GM Financial Liquidity GM Financial's primary sources of cash are finance charge income, leasing income and proceeds from the sale of terminated leased vehicles, net distributions from credit facilities, including securitizations, secured and unsecured borrowings and collections and recoveries on finance receivables. GM Financial's primary uses of cash are purchases of retail finance receivables and leased vehicles, the funding of commercial finance receivables, repayment of secured and unsecured debt, funding credit enhancement requirements in connection with securitizations and secured debt facilities, operating expenses, and interest costs. In September 2018 GM Financial issued $0.5 billion of Fixed-to-Floating Rate Cumulative Perpetual Preferred Stock, Series B, $0.01 par value, with a liquidation preference of $1,000 per share. In September 2017 GM Financial issued $1.0 billion of Fixed-to-Floating Rate Cumulative Perpetual Preferred Stock, Series A, $0.01 par value, with a liquidation preference of $1,000 per share. Refer to Note 20 to our consolidated financial statements for further details. The following table summarizes GM Financial's available liquidity (dollars in billions):

	December 31, 2018	December 31, 2017
Cash and cash equivalents	$ 4.9	$ 4.3
Borrowing capacity on unpledged eligible assets	18.0	12.5