

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2020

or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from _____ to _____

Commission file number 1-14303

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

38-3161171
(I.R.S. Employer
Identification No.)

One Dauch Drive, Detroit, Michigan
(Address of principal executive offices)

48211-1198
(Zip Code)

313-758-2000
(Registrant's telephone number, including area code)

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

Title of Each Class	Trading Symbol(s)	Name of Each Exchange on Which Registered
Common Stock, Par Value \$0.01 Per Share	AXL	New York Stock Exchange

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

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

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

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

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

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

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

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report

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

The closing price of the Common Stock on June 30, 2020 as reported on the New York Stock Exchange was \$7.60 per share and the aggregate market value of the registrant's Common Stock held by non-affiliates was approximately \$850.4 million. As of February 9, 2021, the number of shares of the registrant's Common Stock, \$0.01 par value, outstanding was 113,295,610 shares.

Documents Incorporated by Reference

Portions of the registrant's Annual Report to Stockholders for the year ended December 31, 2020 and Proxy Statement for use in connection with its Annual Meeting of Stockholders to be held on May 6, 2021, to be filed with the Securities and Exchange Commission pursuant to Regulation 14A not later than 120 days after December 31, 2020, are incorporated by reference in Part I (Items 1, 1A, 1B, 2, 3 and 4), Part II (Items 5, 6, 7, 7A, 8, 9, 9A and 9B), Part III (Items 10, 11, 12, 13 and 14) and Part IV (Item 15) of this Report.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
TABLE OF CONTENTS - ANNUAL REPORT ON FORM 10-K
Year Ended December 31, 2020

			<u>Page Number</u>
Part I	Item 1	Business	2
	Item 1A	Risk Factors	10
	Item 1B	Unresolved Staff Comments	17
	Item 2	Properties	18
	Item 3	Legal Proceedings	18
	Item 4	Mine Safety Disclosures	18
Part II	Item 5	Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	19
	Item 6	Selected Financial Data	20
	Item 7	Management's Discussion and Analysis of Financial Condition and Results of Operations	22
	Item 7A	Quantitative and Qualitative Disclosures About Market Risk	42
	Item 8	Financial Statements and Supplementary Data	43
	Item 9	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	98
	Item 9A	Controls and Procedures	98
	Item 9B	Other Information	98
Part III	Item 10	Directors, Executive Officers and Corporate Governance	99
	Item 11	Executive Compensation	99
	Item 12	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	99
	Item 13	Certain Relationships and Related Transactions, and Director Independence	99
	Item 14	Principal Accounting Fees and Services	99
Part IV	Item 15	Exhibits and Financial Statement Schedules	100

Item 1. Business

As used in this report, except as otherwise indicated in information incorporated by reference, references to “our Company,” “we,” “our,” “us” or “AAM” mean American Axle & Manufacturing Holdings, Inc. (Holdings) and its subsidiaries and predecessors, collectively.

General Development of Business

Holdings, a Delaware corporation, is a successor to American Axle & Manufacturing of Michigan, Inc., a Michigan corporation, pursuant to a migratory merger between these entities in 1999.

In 2017, Alpha SPV I, Inc., a wholly-owned subsidiary of Holdings, merged with and into Metaldyne Performance Group, Inc. (MPG), with MPG as the surviving corporation in the merger. Upon completion of the merger, MPG became a wholly-owned subsidiary of Holdings.

Narrative Description of Business

Company Overview

We are a global Tier 1 supplier to the automotive industry. We design, engineer and manufacture driveline and metal forming products that are making the next generation of vehicles smarter, lighter, safer and more efficient. We employ approximately 20,000 associates, operating at nearly 80 facilities in 17 countries, to support our customers on global and regional platforms with a focus on operational excellence, quality and technology leadership.

Major Customers

We are a primary supplier of driveline components to General Motors Company (GM) for its full-size rear-wheel drive (RWD) light trucks, sport utility vehicles (SUV), and crossover vehicles manufactured in North America, supplying a significant portion of GM's rear axle and four-wheel drive and all-wheel drive (4WD/AWD) axle requirements for these vehicle platforms. We also supply GM with various products from our Metal Forming segment. Sales to GM were approximately 39% of our consolidated net sales in 2020, 37% in 2019, and 41% in 2018.

We also supply driveline system products to FCA US LLC (FCA, now part of Stellantis N.V. effective January 2021) for programs including the heavy-duty Ram full-size pickup trucks and its derivatives, the AWD Chrysler Pacifica and the AWD Jeep Cherokee. In addition, we sell various products to FCA from our Metal Forming segment. Sales to FCA were approximately 19% of our consolidated net sales in 2020, 17% in 2019 and 13% in 2018.

We are also a supplier to Ford Motor Company (Ford) for driveline system products on certain vehicle programs including the Ford Edge, Ford Escape, Lincoln Nautilus, and we sell various products to Ford from our Metal Forming segment. Sales to Ford were approximately 12% of our consolidated net sales in 2020, 9% in 2019 and 8% in 2018.

Business Strategy

We have aligned our business strategy to build value for our key stakeholders. We accomplish our strategic objectives by capitalizing on our competitive strengths and continuing to diversify our customer, product and geographic sales mix, while providing exceptional value to our customers.

Competitive Strengths

We achieve our strategic objectives by emphasizing a commitment to:

Sustaining our operational excellence and focus on cost management.

- AAM received the 2019 GM Supplier of the Year Award, which is awarded to suppliers that consistently exceed GM's expectations, create outstanding value or bring new innovations to GM. This was the fourth consecutive year we received this award.
- AAM was named a 2020 finalist for FCA's North America Supplier of the Year Award for Sustainability, which recognizes companies that have shown an exceptional commitment to FCA by providing innovative and high-quality products and services.
- We continue to deliver operational excellence by leveraging our global standards, policies and best practices across all disciplines through the use of the AAM Operating System. We use this system to focus on customer satisfaction, lean production and efficient cost management, which allows us to improve quality, eliminate waste, and reduce lead time and total costs globally. Additionally, we have continued our emphasis on cost management in order to mitigate the financial impact of the reduction in global automotive production volumes during 2020 as a result of COVID-19.
- We have established a cost competitive, operationally flexible global manufacturing, engineering and sourcing footprint to increase our presence in global growth markets, support global product development initiatives and establish regional cost competitiveness.
- Our business is vertically integrated to reduce cost and mitigate risk. Our Metal Forming segment, in addition to supplying component parts to many external customers, is a key supplier to our Driveline segment, ensuring continuity of supply for certain parts to our largest manufacturing facilities.
- During 2020, we launched 17 programs across our business units, supporting a variety of customers including GM, FCA and Daimler AG. In 2021, we expect to launch approximately 10 new and replacement programs across our business units.

Maintaining our high quality standards, which are the foundation of our product durability and reliability.

- AAM has a robust internal quality assurance system that drives continuous improvement to meet and exceed the growing expectations of our original equipment manufacturer (OEM) customers.
- In 2020, eight of our global facilities received the GM Supplier Quality Excellence Award for outstanding quality performance during the 2019 performance year. For our Changshu Manufacturing Facility in China, it was the sixth consecutive year that they earned this award.
- AAM was recognized in 2020 by Ford for several awards for the 2019 performance year, including the Silver World Excellence Award for quality at our Valencia, Spain facility which recognizes top-performing suppliers for their contributions to Ford's success, the Zero Defects Award at our Barcelona, Spain facility and the Outstanding Support and Supplier Quality Award at our North Vernon, Indiana facility.
- Our Pyeongtaek, South Korea facility was awarded the Hyundai Supplier of the Year Award for safety management, which recognizes facilities that meet or exceed Hyundai's environmental, health and safety standards.

Achieving technology leadership by delivering innovative products which improve the diversification of our product portfolio while increasing our total global served market.

- AAM's significant investment in research and development (R&D) has resulted in the development of advanced technology products designed to assist our customers in meeting the market demands for advanced, sophisticated electronic controls; improved fuel efficiency; lower emissions; enhanced power density; improved safety, ride and handling performance; and enhanced reliability and durability.
- AAM's all-new Electric Drive (eDrive) Technology is designed, engineered and manufactured to provide a diverse and scalable product portfolio of hybrid and electric driveline systems to our customers that range from low-cost value-oriented offerings to high-performance solutions. These hybrid and electric driveline systems leverage AAM's experience in power density, torque transfer, noise-vibration-harshness reduction, heat management and systems integration, and are designed to improve fuel efficiency, reduce CO₂ emissions and provide AWD capability. Further, we recently entered into a technology development agreement with Suzhou Inovance Automotive Ltd., a leading provider of automotive power electronics and powertrain systems in China, to accelerate the development and delivery of scalable, next-generation 3-in-1 electric drive systems, which integrate an inverter, electric motor and gearbox.
- To date, our hybrid and electric driveline systems have been awarded multiple contracts, including the front and rear electric drive units featured on the Jaguar I-PACE AWD crossover vehicle. For our content on the Jaguar I-PACE, AAM was awarded a 2020 Innovation Award and a 2020 Partnership Award by the Automotive News PACE Awards, which recognizes automotive suppliers for superior innovation, technological advancement and business performance. These awards are widely regarded as an industry benchmark for innovation.
- We expect to launch several additional programs for hybrid and electric vehicles, including multiple variants of a high-performance hybrid system with a premium European OEM, as well as an electric commercial vehicle with a new customer, and component parts for an electric pick-up truck.
- AAM's EcoTrac[®] Disconnecting AWD system (EcoTrac[®]) is a fuel-efficient driveline system that provides OEMs the option of an all-wheel-drive system that disconnects when not needed to improve fuel efficiency and reduce CO₂ emissions compared to conventional AWD systems. AAM's EcoTrac[®] is featured on several global crossover platforms, including platforms with GM, FCA and Ford.
- AAM has established a high-efficiency product portfolio that is designed to improve axle efficiency and fuel economy through innovative product design technologies. As our customers focus on reducing weight through the use of aluminum and other lightweighting alternatives, AAM is well positioned to offer innovative, industry leading solutions. Our portfolio includes high-efficiency axles, aluminum axles and AWD applications. AAM's Quantum[™] lightweight axle technology features a revolutionary design, which offers significant mass reduction and increased fuel economy and efficiency that is scalable across multiple applications without the loss of performance or power.
- Our Metal Forming segment provides engine, transmission, driveline and safety-critical components for light, commercial and industrial vehicles. We have developed advanced forging and machining process technologies to manufacture lightweight and power-dense products. Our forged axle tubes deliver significant weight and cost reductions as compared to the traditional welded axle tubes.
- AAM's Advanced Technology Development Center (ATDC) at our Detroit campus, allows us to accelerate technological advancements. This state-of-the-art facility is our center for technology benchmarking, prototype development, advanced technology development, supplier collaboration, customer showcasing and associate training on our future products, processes, and systems. Our Rochester Hills Technical Center (RHTC) works with the ATDC to test and validate new and advanced technologies focused on lightweighting, efficiency and vehicle performance using enhanced diagnostic and hardware assessment capabilities.

Diversification of Customer, Product and Geographic Sales Mix

Another element of building value for our key stakeholders is the diversification of our business through the growth of new and existing customer relationships and expansion of our product portfolio.

- In addition to maintaining and building upon our longstanding relationships with GM, FCA and Ford we are focused on generating profitable growth with new and existing global customers. New business launches in 2020 included key customers such as Daimler AG and Ashok Leyland Ltd.
- Electrification is a growing portion of our new and incremental business backlog, as well as our quoted and emerging new business opportunities, and is a significant element of our future growth strategy.
- We continue to evaluate and consider strategic opportunities that will complement our core strengths and supplement our diversification strategies while providing future, profitable growth prospects.

We are focused on increasing our presence in global markets to support our customers' platforms.

- As our customers design their products for global markets, they will continue to require global support from their suppliers. For this reason, it is critical that we maintain a global presence in these markets in order to remain competitive for new contracts. In an effort to expand our global capabilities, we are constructing a new European headquarters and engineering center in Langen, Germany, which is expected to be completed in 2021. This new facility will become AAM's European center for excellence for research and development, product testing and prototype development, and is a critical step in furthering our relationships with European OEM customers.
- We are a partner in a joint venture (JV) with Liuzhou Wuling Automobile Industry Co., Ltd. (Liuzhou AAM), a subsidiary of Guangxi Automotive Group Co., Ltd, which manufactures independent rear axles and driveheads to be used on crossovers, including SUVs, minivans and multi-purpose vehicles. We launched a value-oriented eDrive system serving FWD passenger cars at our Liuzhou AAM JV in 2020. We are also a partner in a JV with Hefei Automobile Axle Co., Ltd. (HAAC), a subsidiary of the JAC Group (Anhui Jianghuai Automotive Group Co., Ltd.), which includes 100% of HAAC's light commercial axle business. HAAC supplies front and rear beam axles to several leading Chinese light truck manufacturers, including JAC and Foton (Beiqi Foton Motor Co., Ltd.). These joint ventures continue to serve as a strong advantage in building relationships with leading Chinese manufacturers.

Competition

We compete with a variety of independent suppliers and distributors, as well as with the in-house operations of certain vertically integrated OEMs. Technology, design, quality and cost are the primary elements of competition in our industry segments. In addition to traditional competitors in the automotive sector, the trend toward electrification and advanced electronic integration has increased the level of new market entrants. Further, some traditional automotive industry participants are developing strategic partnerships with technology companies as each party seeks to leverage the existing customer relationships and technical knowledge of the partner, and expedite the development and commercialization of new technology.

Industry Trends

See Item 7, "Management's Discussion and Analysis - Industry Trends."

Productive Materials

We believe that we have adequate sources of supply of productive materials and components for our manufacturing needs, including steel, other metallic materials, and resources used for vehicle electrification and electronic integration. Most raw materials (such as steel) and semi-processed or finished items are available within the geographical regions of our operating facilities from qualified sources in quantities sufficient for our needs. We currently have contracts with our steel suppliers that ensure continuity of supply to our principal operating facilities. We also have validation and testing capabilities that enable us to strategically qualify steel sources on a global basis. As we continue to expand our global manufacturing footprint, we may need to rely on suppliers in local markets that have not yet proven their ability to meet our requirements.

Patents and Trademarks

We maintain and have pending various United States (U.S.) and foreign patents, trademarks and other rights to intellectual property relating to our business, which we believe are appropriate to protect our interest in existing products, new inventions, manufacturing processes and product developments. We do not believe that any single patent or trademark is material to our business, nor would expiration or invalidity of any patent or trademark have a material adverse effect on our business or our ability to compete.

Cyclical and Seasonality

Our operations are cyclical because they are directly related to worldwide automotive production, which is itself cyclical and dependent on general economic conditions and other factors. Typically, our business is moderately seasonal as our major OEM customers historically have an extended shutdown of operations (typically 1-2 weeks) in conjunction with their model year changeover and an approximate one-week shutdown in December. Our major OEM customers also occasionally have longer shutdowns of operations (up to 6 weeks) for program changeovers. Accordingly, our quarterly results may reflect these trends.

Litigation and Environmental Matters

We are involved in, or potentially subject to, various legal proceedings or claims incidental to our business. These include, but are not limited to, matters arising out of product warranties, tax or contractual matters, and environmental obligations. Although the outcome of these matters cannot be predicted with certainty, we do not believe that any of these matters, individually or in the aggregate, will have a material adverse effect on our financial condition, results of operations or cash flows.

We are subject to various federal, state, local and foreign environmental and occupational safety and health laws, regulations and ordinances, including those regulating air emissions, water discharge, waste management and environmental cleanup. We will continue to closely monitor our environmental conditions to ensure that we are in compliance with all laws, regulations and ordinances. We have made, and anticipate continuing to make, capital and other expenditures (including recurring administrative costs) to comply with environmental requirements at our current and former facilities. Such expenditures were not significant in 2020, 2019 and 2018.

Human Capital Management

Attract, Develop, Engage and Retain Diverse Talent

Empowerment of our associates is essential to continuously improving our quality performance, technology leadership and operational excellence. We are focused on recruiting, developing and retaining high-performing talent globally. We provide our associates with the tools to develop technically and grow professionally, wherever they are in the world, into the leaders that will guide AAM into the future.

We employ approximately 20,000 associates on a global basis (including our joint venture affiliates) of which approximately 6,300 are employed in the U.S. and approximately 13,700 are employed at our foreign locations. Approximately 4,400 are salaried associates and approximately 15,600 are hourly associates. Of the approximately 15,600 hourly associates, approximately 72% are covered under collective bargaining agreements with various labor unions.

At AAM, we believe diversity drives creativity. We believe an equitable and inclusive culture encourages, supports and celebrates the unique voices of our global workforce. AAM is committed to listening, learning, and taking action that will move our company and our communities forward, together. Our cultural values of integrity, teamwork, responsibility, excellence, lean and empowerment guide our global workforce and define how we interact with each other, our communities and the environment.

Associate Health, Wellness, Safety and Development

AAM360 is our comprehensive health, wellness, safety and development program designed to provide a complete associate experience. AAM360 integrates competitive compensation and benefits, ongoing professional development and training, and associate appreciation and wellness programs, as well as community involvement initiatives. Our management utilizes AAM360 to develop and implement standards for recruitment and selection of a knowledgeable and diverse workforce, effective on-boarding, promoting learning and growth, driving effective performance and fostering an environment of open communication with AAM's leadership.

Through our AAM360 program, AAM management monitors workforce demographics and attrition, associate performance data, succession and development plans and feedback from associates to ensure that our associates' experience is meeting these objectives. Our associates also have the opportunity to interact with AAM's leaders in a variety of formats, including townhall-style meetings, and can also raise issues and concerns to the attention of management through the use of associate surveys and our 24/7 ethics hotline.

AAM Response to Novel Coronavirus (COVID-19)

In response to COVID-19, we instituted several operational measures to ensure the health, safety and wellness of our associates, which included the following:

- Assembled a COVID-19 Task Force comprised of AAM's senior leadership working closely with associates across several functions and regions to coordinate decision making and communication related to actions taken by AAM to mitigate the impact of COVID-19, and to ensure that AAM is compliant with all region-specific regulations or requirements associated with COVID-19;
- Temporarily suspended or reduced production at manufacturing facilities and directed associates who could do so to work remotely;
- Initiated thorough cleaning and decontamination procedures at our facilities in preparation for resuming operations; and
- Designed additional safety measures to further protect associates as production was restored and our associates resumed working in certain of our global facilities.

S⁴ (S-to-the-Fourth) Safety System

At AAM, a primary responsibility is the safety of our approximately 20,000 global associates. AAM's S⁴ safety system is focused on developing, engaging, monitoring, and continuously educating our associates on standardized procedures that are the basis of our safety culture and safety policy.

The primary goal of S⁴ is to achieve compliance with all internal and external requirements and regulations while driving behavioral changes to maintain a safe and environmentally friendly workplace. At AAM, we believe safety performance is a journey where each facility strives to achieve S⁴ by moving from a reactive safety environment to an interdependent safety environment.

We are focused on continuous improvement of the S⁴ system and in our total recordable incident rate (TRIR) in every facility. AAM's leaders continuously monitor our facilities progress in the S⁴ Safety System. In 2020, our TRIR was 0.9 – a reduction of approximately 57% in recordable injuries since the S⁴ program began in 2015.

Partnering with our Global Communities

AAM believes that we have a responsibility to give back to the communities in which we live and work. AAM has long-standing relationships with charitable organizations to support local families, youth outreach, education, wellness, and social equality. We support global organizations with both donations and volunteer hours, and AAM associates across the globe regularly participate in charitable and community events that allow our team to contribute to causes important to them.

Executive Officers of the Registrant

Name	Age	Position
David C. Dauch	56	Chairman of the Board & Chief Executive Officer
Michael K. Simonte	57	President
David E. Barnes	62	Vice President & General Counsel
Gregory S. Deveson	59	President - Driveline
Terri M. Kemp	55	Vice President - Human Resources
Michael J. Lynch	56	Vice President - Finance & Controller
Christopher J. May	51	Vice President & Chief Financial Officer
Norman Willemse	64	President - Metal Forming

David C. Dauch, age 56, has been AAM's Chief Executive Officer since September 2012. Mr. Dauch has served on AAM's Board of Directors since April 2009 and was appointed Chairman of the Board in August 2013. From September 2012 through August 2015, Mr. Dauch served as AAM's President & CEO. Prior to that, Mr. Dauch served as President & Chief Operating Officer (2008 - 2012) and held several other positions of increasing responsibility from the time he joined AAM in 1995. Presently, he serves on the boards of Business Leaders for Michigan, the Detroit Economic Club, the Detroit Regional Chamber, the Great Lakes Council Boy Scouts of America, the Boys & Girls Club of Southeast Michigan, the National Association of Manufacturers (NAM), the Original Equipment Suppliers Association (OESA), Amerisure Mutual Holdings, Inc. and the Amerisure Companies (since December 2014). Mr. Dauch also serves on the Miami University Business Advisory Council, the General Motors Supplier Council and the FCA NAFTA Supplier Advisory Council.

Michael K. Simonte, age 57, has been President since August 2015. Mr. Simonte previously served as Executive Vice President & Chief Financial Officer (since February 2009); Group Vice President - Finance & Chief Financial Officer (since December 2007); Vice President - Finance & Chief Financial Officer (since January 2006); Vice President & Treasurer (since May 2004); and Treasurer (since September 2002). Mr. Simonte joined AAM in December 1998 as Director, Corporate Finance. Prior to joining AAM, Mr. Simonte served as Senior Manager at the Detroit office of Ernst & Young LLP. Mr. Simonte is a certified public accountant.

David E. Barnes, age 62, has been General Counsel and Corporate Secretary since joining AAM in 2012, and became a Vice President in 2017. In addition to his responsibilities as General Counsel and Corporate Secretary, he also serves as the Chief Compliance Officer of AAM. Prior to joining AAM, Mr. Barnes served as Executive Vice President, General Counsel and Secretary for Atlas Oil Company. He has held various positions during his career at Ford Motor Company, Dykema Gossett and Venture Holdings LLC, after beginning his career at Honigman, Miller, Schwartz and Cohn. Mr. Barnes holds a juris doctor degree.

Gregory S. Deveson, age 59, has been President - Driveline since January 2019. Prior to that, he served as President - Powertrain since joining AAM in April 2017. Prior to joining AAM, Mr. Deveson served as Senior Vice President of the Driveline Systems Group at Magna Powertrain from 2008 to 2016. Over his 25-year automotive and manufacturing career, Mr. Deveson has managed business operations, strategic opportunities, product engineering, purchasing and quality for multiple organizations.

Terri M. Kemp, age 55, has been Vice President - Human Resources since September 2012. Prior to that, she served as Executive Director - Human Resources & Labor Relations (since November 2010), Executive Director - Human Resources (since September 2009), Director - Human Resources Operations (since October 2008), and served in various plant and program management roles since joining AAM in July 1996. Prior to joining AAM, Mrs. Kemp served for nine years at Corning Incorporated, where she progressed through a series of manufacturing positions with increasing responsibility, including Industrial Engineer, Department Head and Operations Manager.

Michael J. Lynch, age 56, has been Vice President - Finance & Controller since February 2017. Prior to that, he served as Vice President - Driveline Business Performance & Cost Management (since May 2015); Vice President - Finance & Controller (since September 2012); Executive Director & Controller (since October 2008); Director - Commercial Analysis (since July 2006); Director - Finance, Driveline Americas (since March 2006); Director - Investment & Commercial Analysis (since November 2005); Director - Finance, Driveline (since October 2005); Director - Finance Operations, U.S. (since April 2005); Manager - Finance (since June 2003); Manager - Finance, Forging Division (since September 2001); Finance Manager - Albion Automotive (since October 1998); Supervisor - Cost Estimating (since February 1998) and Financial Analyst at the Detroit Manufacturing Facility since joining AAM in September 1996. Prior to joining AAM, Mr. Lynch served at Stellar Engineering for nine years in various capacities.

Christopher J. May, age 51, has been Vice President & Chief Financial Officer since August 2015. Prior to that, he served as Treasurer (since December 2011); Assistant Treasurer (since September 2008); Director of Internal Audit (since September 2005); Divisional Finance Manager - Metal Formed Products (since June 2003); Finance Manager - Three Rivers Manufacturing Facility (since August 2000); Manager, Financial Reporting (since November 1998) and Financial Analyst since joining AAM in 1994. Prior to joining AAM, Mr. May served as a Senior Accountant for Ernst & Young. Mr. May is a certified public accountant.

Norman Willemse, age 64, has been President - Metal Forming since August 2015. Prior to that, he served as Vice President - Metal Formed Product Business Unit (since December 2011); Vice President - Global Metal Formed Product Business Unit (since October 2008); Vice President - Global Metal Formed Product Operations (since December 2007); General Manager - Metal Formed Products Division (since July 2006) and Managing Director - Albion Automotive (since joining AAM in August 2001). Prior to joining AAM, Mr. Willemse served at AS Transmissions & Steering (ASTAS) for seven years as Executive Director Engineering Group Manager Projects and Engineering and John Deere for over 17 years in various engineering positions of increasing responsibility. Mr. Willemse is a professional certified mechanical engineer.

Internet Website Access to Reports

The website for American Axle & Manufacturing Holdings, Inc. is www.aam.com. Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to section 13(a) or 15(d) of the Securities Exchange Act of 1934 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). The SEC also maintains a website at www.sec.gov that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. The information contained in the Company's website is not included, or incorporated by reference, in this Annual Report on Form 10-K.

Item 1A. Risk Factors

The following risk factors and other information included in this Annual Report on Form 10-K should be considered as our business, financial condition, operating results and cash flows could be materially adversely affected if any of the following risks occur.

Risks Related to Our Operations

Our business and financial condition have been, and may continue to be, adversely affected by the impact of COVID-19.

Our business and financial condition have been, and may continue to be, adversely affected by the impact of COVID-19. During the year ended December 31, 2020, COVID-19 has disrupted global economic markets and has led to significant reductions in global automotive production volumes. As a result of COVID-19, governmental and public health officials in substantially all of the locations in which we operate had mandated certain precautions to mitigate the spread of the disease, including shelter-in-place orders or similar measures. As such, we temporarily suspended production, or experienced a significant reduction in production volumes, in substantially all of our manufacturing facilities at various times during 2020.

The ultimate extent of the impact of COVID-19 will depend on future developments, such as the duration and extent of the pandemic, the imposition or reimposition of shelter-in-place or similar measures and its impact on: consumers and sales of the vehicles we support, our customers and our and their suppliers, how quickly economic conditions and our and our customers' operations can return to more normalized levels, and sustain such levels, and whether the pandemic leads to recessionary conditions and the duration of any such recession. In addition, government sponsored economic stimulus programs in response to the pandemic may not be available to our customers, our suppliers or us, or be expanded, renewed or otherwise sufficient to achieve their economic goals. Our supply chain also may be disrupted due to supplier closures or bankruptcies. Our operations may also be impacted by interruptions due to the direct impact of, or precautionary measures associated with, COVID-19 at our locations or those of our customers or suppliers.

Further, COVID-19 could exacerbate certain other risk factors below including, but not limited to, dependency on certain customers, dependency on certain global automotive market segments, risks and uncertainties associated with our company's global operations, dependency on certain key manufacturing facilities, cyclicalities in the automotive industry, disruptions in our supply chain and our customers' supply chain, our liquidity and compliance with debt covenants.

Our business is significantly dependent on sales to GM, FCA and Ford.

Sales to GM were approximately 39% of our consolidated net sales in 2020, 37% in 2019, and 41% in 2018. A reduction in our sales to GM, or a reduction by GM of its production of light truck, SUV or crossover vehicle programs that we support, as a result of market share losses of GM or otherwise, could have a material adverse effect on our results of operations and financial condition.

Sales to FCA accounted for approximately 19% of our consolidated net sales in 2020, 17% in 2019 and 13% in 2018, and sales to Ford accounted for approximately 12% of our consolidated net sales in 2020, 9% in 2019 and 8% in 2018. A reduction in our sales to either FCA or Ford or a reduction by FCA or Ford of their production of the programs we support, as a result of market share losses or otherwise, could have a material adverse effect on our results of operations and financial condition.

Our business may also be adversely affected by reduced demand for the product programs we currently support, or anticipate supporting in the future, or if we do not obtain sales orders for successor programs that replace our current product programs.

Our business is dependent on our Guanajuato Manufacturing Complex.

A high concentration of our global business is supported by our Guanajuato Manufacturing Complex (GMC) in Mexico. GMC represents a significant portion of our net sales, profitability and cash flow from operations and we expect GMC to continue to represent a substantial portion of these metrics for the foreseeable future. A significant disruption to our GMC operations, as a result of changes in trade agreements between Mexico and the U.S., tariffs, tax law changes, labor disputes, natural disasters, availability of natural resources or utilities, or otherwise, could have a material adverse impact on our results of operations and financial condition.

A failure of our information technology (IT) networks and systems, or the impact of a cyber attack, could adversely impact our business and operations.

We rely upon information technology networks and systems to process, transmit and store electronic information, and to manage or support a variety of critical business processes or activities. Additionally, we and certain of our third-party vendors collect and store personal or confidential information in connection with human resources operations and other aspects of our business. The secure operation of these information technology networks and systems and the proper processing and maintenance of this information are critical to our business operations. We cannot be certain that the security measures we have in place to protect these systems and data will be successful or sufficient to protect our IT systems from current and emerging technology threats and damage from computer viruses, unauthorized access, cyber attack and other similar disruptions. The occurrence of any of these events could compromise our networks, and the information stored there could be accessed, publicly disclosed or lost. Any such access, disclosure or other loss of information could result in legal claims or proceedings, liability or regulatory penalties under laws protecting the privacy of personal information, the disruption of our operations or damage to our reputation. We may be required to incur significant costs to protect against damage caused by these disruptions or security breaches in the future.

Our business could be adversely affected by disruptions in our supply chain and our customers' supply chain.

We depend on a limited number of suppliers for certain key components and materials needed for our products. We rely upon, and expect to continue to rely upon, certain suppliers for critical components and materials that are not readily available in sufficient volume from other sources. As we continue to expand our global manufacturing footprint, we may need to rely on suppliers in local markets that have not yet proven their ability to meet our requirements. These supply chain characteristics make us susceptible to supply shortages and price increases. If production volumes increase rapidly, there can be no assurance that the suppliers of critical components and materials will be able or willing to meet our future needs on a timely basis.

Our supply chain, as well as our customers' supply chain, is also at risk of unanticipated events such as pandemic or epidemic illness, natural disasters, industrial incidents, changes in governmental regulations and trade agreements, or financial or operational instability of suppliers that could cause a disruption in the supply of critical components to us and our customers. For example, the automotive industry is experiencing a shortage of semiconductor supply that has impacted, and could continue to impact, production volumes for certain customers, which could adversely impact our production volumes. A significant disruption in the supply of components or materials could have a material adverse effect on our results of operations and financial condition.

We may incur material losses and costs as a result of product recall or field action, product liability and warranty claims, litigation and other disputes and claims.

We are exposed to warranty, product recall or field action and product liability claims in the event that our products fail to perform as expected, and we may be required to participate in a recall of such products. We are not responsible for certain warranty claims that may be incurred by our customers, which include returned components for which no defect was found upon inspection, discretionary acts of dealer goodwill, defects related to certain directed buy components, and build-to-print design issues. We review warranty claim activity in detail, and we may have disagreements with our customers as to responsibility for these types of costs incurred by our customers. In addition, as we continue to diversify our customer base, we expect our obligation to share in the cost of providing warranties as part of our agreements with new customers will increase. Costs and expenses associated with warranties, field actions, product recalls and product liability claims could have a material adverse impact on our results of operations and financial condition and may differ materially from the estimated liabilities that we have recorded in our consolidated financial statements.

In addition to warranty claims relating directly to products we produce, potential product recalls for our customers and their other suppliers, and the potential reputational harm that may result from such product recalls, could have a material adverse impact on our results of operations and financial condition.

We are also involved in various legal proceedings incidental to our business. Although we believe that none of these matters are likely to have a material adverse effect on our results of operations or financial condition, there can be no assurance as to the ultimate outcome of any such legal proceeding or any future legal proceedings.

Our business could be adversely affected if we, our customers, or our suppliers fail to maintain satisfactory labor relations.

A significant portion of our hourly associates worldwide, as well as the workforces of our customers and suppliers, are members of industrial trade unions employed under the terms of collective bargaining agreements. There can be no assurance that future negotiations with labor unions will be resolved favorably or that we, our customers or suppliers will not experience a work stoppage or disruption that could have a material adverse impact on our results of operations and financial condition. In addition, there can be no assurance that such future negotiations will not result in labor cost increases or other terms and conditions that could adversely affect our results of operations and financial condition or our ability to compete for future business.

Our goodwill, other intangible assets, and long-lived assets are at risk of impairment if our business or market conditions indicate that the carrying value of those assets exceeds their fair value.

Accounting principles generally accepted in the United States of America (GAAP) require that companies evaluate the carrying value of goodwill, other intangible assets, and long-lived assets routinely in order to assess whether any indication of asset impairment exists. Goodwill is required to be evaluated on an annual basis, while finite-lived intangible assets and long-lived assets should be evaluated only when events and circumstances exist that indicate an asset or group of assets may be impaired.

We conduct our annual goodwill impairment test in the fourth quarter using a third-party valuation specialist to assist management in determining the fair value of our reporting units. Fair value of each reporting unit is estimated based on a combination of discounted cash flows and the use of pricing multiples derived from an analysis of comparable public companies multiplied against historical and/or anticipated financial metrics of each reporting unit. These calculations contain uncertainties as they require management to make assumptions including, but not limited to, market comparables, future cash flows of the reporting units, and appropriate discount and long-term growth rates. A decline in the actual cash flows of our reporting units in future periods, as compared to the projected cash flows used in our valuations, could result in the carrying value of the reporting units exceeding their respective fair values. Further, a change in market comparables, discount rate or long-term growth rate, as a result of a change in economic conditions or otherwise, could result in the carrying values of the reporting units exceeding their respective fair values.

Our company or our customers may not be able to successfully and efficiently manage the timing and costs of new product program launches.

Certain of our customers are preparing to launch new product programs for which we will supply newly developed products and related components. There can be no assurance that we will successfully complete the transition of our manufacturing facilities and resources to support these new product programs or other future product programs on a timely and cost efficient basis. Accordingly, the launch of new product programs may adversely affect production rates or other operational efficiency and profitability measures at our facilities. We may also experience difficulties with the performance of our supply chain on program launches, which could result in our inability to meet our contractual obligations to key customers. Production shortfalls or production delays, if any, could result in our failure to effectively manage our manufacturing costs relating to these program launches. In addition, our customers may delay the launch or fail to successfully execute the launch of these new product programs, or any additional future product program for which we will supply products. Our revenues, operating results and financial condition could be adversely impacted if our customers fail to timely launch such programs or if we are unable to manage the timing requirements and costs of new product program launches.

Our company may not realize all of the revenue expected from our new and incremental business backlog.

The realization of incremental revenues from awarded business is inherently subject to a number of risks and uncertainties, including the accuracy of customer estimates relating to the number of vehicles to be produced in new and existing product programs and the timing of such production, as well as the fluctuation in exchange rates for programs sourced in currencies other than our reporting currency. It is also possible that our customers may delay or cancel a product program that has been awarded to us. Our revenues, operating results and financial condition could be adversely affected relative to our current financial plans if we do not realize substantially all the revenue from our new and incremental business backlog.

Our business could be adversely affected by volatility in the price or availability of raw materials, utilities and natural resources.

We may experience volatility in the cost or availability of raw materials used in production, including steel and other metallic materials, and resources used in electronic components, or in the cost or availability of utilities and natural resources used in our operations, such as electricity, water and natural gas. If we are unable to pass such cost increases on to our customers, or are otherwise unable to mitigate these cost increases, or if we are unable to obtain adequate supply of raw materials, utilities and natural resources, this could have a material adverse effect on our results of operations and financial condition.

We use important intellectual property in our business. If we are unable to protect our intellectual property, or if a third party makes assertions against us or our customers relating to intellectual property rights, our business could be adversely affected.

We own important intellectual property, including patents, trademarks, copyrights and trade secrets. Our intellectual property plays an important role in maintaining our competitive position in a number of the markets that we serve. Our competitors may develop technologies that are similar to our proprietary technologies or design around the patents we own or license. Further, as we expand our operations in jurisdictions where the protection of intellectual property rights is less robust, the risk of others duplicating our proprietary technologies increases, despite efforts we undertake to protect them. Developments or assertions by or against us relating to intellectual property rights, and any inability to protect these rights, could materially adversely affect our business and our competitive position.

Our company's ability to operate effectively could be impaired if we lose key personnel.

Our success depends, in part, on the efforts of our executive officers and other key associates, such as engineers and global operational leadership. In addition, our future success will depend on, among other factors, our ability to continue to attract and retain qualified personnel, particularly engineers and other associates with critical expertise and skills that support key customers and products. The loss of the services of our executive officers or other key associates, unexpected turnover, or the failure to attract or retain associates, could have a material adverse effect on our results of operations and financial condition.

Risks Related to Our Industry

We are under continuing pressure from our customers to reduce our prices.

Annual price reductions are a common practice in the automotive industry. Many of our contracts require us to reduce our prices in subsequent years and most of our contracts allow us to adjust prices for engineering changes requested by our customers. If we accommodate a customer's demand for higher annual price reductions and are unable to offset the impact of any such price reductions through continued technology improvements, cost reductions or other productivity initiatives, our results of operations and financial condition could be adversely affected.

Our business faces substantial competition.

The markets in which we compete are highly competitive. Our competitors include manufacturing facilities controlled by OEMs, as well as many other domestic and foreign companies possessing the capability to produce some or all of the products we supply. In addition to traditional competitors in the automotive sector, the trend towards advanced electronic integration and electrification has increased the level of new market entrants, including technology companies. Some of our competitors are affiliated with OEMs and others could have economic advantages as compared to our business, such as patents, existing underutilized capacity and lower wage and benefit costs. Technology, design, quality, delivery and cost are the primary elements of competition in our markets. As a result of these competitive pressures and other industry trends, OEMs and suppliers are developing strategies to reduce costs. These strategies include supply base consolidation, OEM in-sourcing and global sourcing. Further, some traditional automotive industry participants are developing strategic partnerships with technology companies as each party seeks to leverage the existing customer relationships and technical knowledge of the partner, and expedite the development and commercialization of new technology. Our business may be adversely affected by increased competition from suppliers benefiting from OEM affiliate relationships or financial and other resources that we do not possess. Our business may also be adversely affected if we do not sustain our ability to meet customer requirements relative to technology, design, quality, delivery and cost.

If we are unable to respond timely to changes in technology and market innovation, we risk not being able to develop our intellectual property into commercially viable products.

Our results of operations and financial condition are impacted, in part, by our competitive advantage in developing, engineering, and manufacturing innovative products. Our ability to anticipate changes in technology, successfully develop, engineer, and bring to market new and innovative proprietary products, or successfully respond to evolving business models, including electric vehicle advances, may have a significant impact on our market competitiveness. If we are unable to maintain our competitive advantage through innovation, or if we do not sustain our ability to meet customer requirements relative to technology, there could be a material adverse effect on our results of operations and financial condition.

Our business is dependent on certain global automotive market segments.

A substantial portion of our revenue is derived from products supporting RWD light truck and SUV platforms and AWD crossover vehicle platforms in North America, Europe and Asia. Sales and production levels of these vehicle platforms can be affected by many factors, including changes in consumer demand; product mix shifts favoring other types of light vehicles, such as front-wheel drive based crossover vehicles and passenger cars; fuel prices; vehicle electrification; and government regulations. Reduced demand in the market segments we currently supply could have a material adverse impact on our results of operations and financial condition.

Our business could be adversely affected by the cyclical nature of the automotive industry.

Our operations are cyclical because they are directly related to worldwide automotive production, which is itself cyclical and dependent on general economic conditions and other factors, such as credit availability, interest rates, fuel prices, consumer preference and confidence. Our business may be adversely affected by an economic decline or fiscal crisis that results in a reduction of automotive production and sales by our customers.

Risks Related to Our Liquidity and Indebtedness

We have incurred substantial indebtedness and our financial condition and operations may be adversely affected by a violation of financial and other covenants.

We have incurred substantial indebtedness and related debt service obligations, which could have important consequences, including:

- reduced flexibility in planning for, or reacting to, changes in our business, the competitive environment and the markets in which we operate, and to technological and other changes;
- reduced access to capital and increasing borrowing costs generally or for any additional indebtedness to finance future operating and capital expenditures and for general corporate purposes;
- lowered credit ratings;
- reduced funds available for operations, capital expenditures and other activities; and
- competitive disadvantages relative to other companies with lower debt levels.

Our Senior Secured Credit Facilities, comprised of our Revolving Credit Facility, as well as our Term Loan A Facility due 2024 and Term Loan B Facility due 2024, and our senior unsecured notes, contain customary affirmative and negative covenants. Some, or with respect to certain covenants, all of these agreements include financial covenants based on leverage and cash interest expense coverage ratios and limitations on Holdings, AAM Inc., and their restricted subsidiaries to make certain investments, declare or pay dividends or distributions on capital stock, redeem or repurchase capital stock and certain debt obligations, incur liens, incur indebtedness, or merge, make certain acquisitions or sales of assets.

The Senior Secured Credit Facilities and the indentures governing our senior unsecured notes also include customary events of default. Obligations under the Senior Secured Credit Facilities and our senior unsecured notes are required to be guaranteed by most of our U.S. subsidiaries that hold domestic assets. In addition, the Senior Secured Credit Facilities are secured on a first priority basis by all or substantially all of the assets of AAM Inc., the assets of Holdings and each guarantor's assets, including a pledge of capital stock of our U.S. subsidiaries that hold domestic assets, including each guarantor, and a portion of the capital stock of the first tier foreign subsidiaries of AAM Inc. and MPG.

A violation of any of these covenants or agreements could result in a default under these contracts, which could permit the lenders or note holders, as applicable, to accelerate repayment of any borrowings or notes outstanding at that time and levy on the collateral granted in connection with the Senior Secured Credit Facilities. A default or acceleration under the Senior Secured Credit Facilities or the indentures governing the senior unsecured notes may result in defaults under our other debt agreements and may adversely affect our ability to operate our business, our subsidiaries' and guarantors' ability to operate their respective businesses and our results of operations and financial condition.

The available capacity under our Revolving Credit Facility could be limited by our covenant ratios under certain conditions. An increase in the applicable leverage ratio, as a result of decreased earnings or otherwise, could result in reduced access to capital under our Revolving Credit Facility, which is a significant component of our total available liquidity.

The interest rates included in the agreements that govern our Senior Secured Credit Facilities and certain of our derivative financial instruments are based primarily on the London Interbank Offered Rate (LIBOR). In the future, use of LIBOR is expected to be discontinued and we cannot be certain how long LIBOR will continue to be a viable benchmark interest rate. Use of alternative interest rates could result in increased borrowing costs and volatility in the markets and interest rates.

Our company faces substantial pension and other postretirement benefit obligations.

We have significant pension and other postretirement benefit obligations to certain of our associates and retirees. Our ability to satisfy the funding requirements associated with these obligations will depend on our cash flow from operations and our ability to access credit and the capital markets. The funding requirements of these benefit plans, and the related expense reflected in our financial statements, are affected by several factors that are subject to an inherent degree of uncertainty and volatility, including governmental regulation. Key assumptions used to value these benefit obligations and the cost of providing such benefits, funding requirements and expense recognition include the discount rate, the expected long-term rate of return on pension assets, mortality rates and the health care cost trend rate. If the actual trends in these factors are less favorable than our assumptions, this could have an adverse effect on our results of operations and financial condition.

Risks Related to Our International Operations

Our company's global operations are subject to risks and uncertainties, including tariffs and trade relations.

As U.S. companies continue to expand globally, increased complexity exists due to recent changes to corporate tax codes, potential revisions to international tax law treaties, renegotiated trade agreements, including the United States-Mexico-Canada trade agreement, and the United Kingdom's exit from the European Union. These uncertainties, as well as the potential impacts of these agreements, could have a material adverse effect on our business and our results of operations and financial condition. As we continue to expand our business globally, our success will depend, in part, on our ability to anticipate and effectively manage these and other risks.

We have business and technical offices and manufacturing facilities in multiple countries outside the United States. International operations are subject to certain risks inherent in conducting business outside the U.S., such as changes in currency exchange rates, tax laws, price and currency exchange controls, tariffs or import restrictions, nationalization, immigration policies, expropriation and other governmental action. Our global operations also may be adversely affected by political events, domestic or international terrorist events and hostilities, natural disasters and significant weather events, disruptions in the global financial markets, or public health crises, such as pandemic or epidemic illness.

Exchange rate fluctuations could adversely affect our company's global results of operations and financial condition.

As a result of our international operations, we are exposed to foreign currency risks that arise from our normal business operations, including risks associated with transactions that are denominated in currencies other than our local functional currencies. Gains and losses resulting from the remeasurement of assets and liabilities in a currency other than the functional currency of our foreign subsidiaries are reported in current period income. In the future, unfavorable changes in exchange rate relationships between the functional currencies of our subsidiaries and their non-functional currency denominated assets and liabilities could have an adverse impact on our results of operations and financial condition. While we use, from time to time, foreign currency derivative contracts to help mitigate certain of these risks and reduce the effects of fluctuations in exchange rates, our efforts to manage these risks may not be successful.

We are also subject to currency translation risk as we are required to translate the financial statements of our foreign subsidiaries to U.S. dollars. We report the effect of translation for our foreign subsidiaries with a functional currency other than the U.S. dollar as a separate component of stockholders' equity. Unfavorable changes in the exchange rate relationship between the U.S. dollar and the functional currencies of our foreign subsidiaries could have an adverse impact on our results of operations and financial condition.

Risks Related to Regulations and Taxes

Negative or unexpected tax consequences, as well as possible changes in foreign and domestic tax laws could adversely affect our results of operations and financial condition.

There have been recent global proposals brought forward by the Organisation for Economic Co-operation and Development (OECD) alongside the Group of Twenty (G-20), for tax jurisdictions to evaluate the potential reform of longstanding corporate tax law principles and treaties that could adversely affect multi-national companies. Although the OECD does not enact tax law, proposals like this or others that lead to substantial changes in enacted tax laws and treaties, such as the 2020 Mexican Tax Reform and the Tax Cuts and Jobs Act signed into law in the United States in 2017, could have a material adverse impact on our results of operations and financial condition.

We file income tax returns in the U.S. federal jurisdiction, as well as various states and foreign jurisdictions. We are also subject to examinations of these income tax returns by the relevant tax authorities. Based on the status of these audits and the protocol of finalizing audits by the relevant tax authorities, it is not possible to estimate the impact of changes, if any, to previously recorded uncertain tax positions. Any negative or unexpected outcomes of these examinations and audits could have a material adverse impact on our results of operations and financial condition.

Our business is subject to costs associated with environmental, health and safety regulations.

Our operations are subject to various federal, state, local and foreign laws and regulations governing, among other things, emissions to air, discharge to waters and the generation, handling, storage, transportation, treatment and disposal of waste and other materials. We believe that our current and former operations and facilities have been, and are being, operated in compliance, in all material respects, with such laws and regulations, many of which provide for substantial fines and criminal sanctions for violations. The operation of our manufacturing facilities entails risks in these areas, however, and there can be no assurance that we will not incur material costs or liabilities. In addition, potentially significant expenditures could be required in order to comply with evolving environmental, health and safety laws, regulations or other pertinent requirements that may be adopted or imposed in the future by governmental authorities.

Risks Related to Our Strategy

Our restructuring initiatives may not achieve their intended outcomes.

We have initiated restructuring actions in recent years to reduce cost and realign certain areas of our business and could initiate further restructuring actions in future periods. There can be no assurance that such restructuring initiatives will successfully achieve the intended outcomes, or that the charges related to such initiatives will not have a material adverse effect on our results of operations and financial condition.

As part of our strategic initiatives, we are actively assessing our product portfolio. As a result, we have divested certain operations and may pursue additional plans to divest certain operations in future periods. Our results of operations or financial condition could be adversely affected if we initiate a divestiture and it is not completed in accordance with our expected timeline, or at all, or if we do not realize the expected benefits of the divestiture.

We may be unable to consummate and successfully integrate acquisitions and joint ventures.

Engaging in acquisitions and joint ventures involves potential risks, including financial risks, risks related to integrating enterprise resource planning systems, and failure to successfully integrate and fully realize the expected benefits of such acquisitions and joint ventures. Integrating acquired operations is a significant challenge and there is no assurance that we will be able to manage integrations successfully. As we continue to expand globally and accelerate our diversification efforts, we may pursue strategic growth initiatives, including through acquisitions and joint ventures. An inability to successfully achieve the levels of organic and inorganic growth from our strategic initiatives could adversely impact our results of operations and financial condition.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

The table below summarizes our global manufacturing locations and administrative, engineering or technical locations:

North America		Europe		Asia	South America
United States		Czech Republic	Luxembourg	China	Brazil
Subiaco, AR (b)	Oxford, MI (b)	Oslavany (b)	Steinfort (c)	Changshu (a)	Araucária (a)
Bolingbrook, IL (b)	Rochester Hills, MI (c)	Zbysov (b)	Poland	Hefei (JV) (a)	Indaiatuba (b)
Chicago, IL (b)	Royal Oak, MI (b)	England	Świdnica (a)	Huzhou (JV) (b)	
Bluffton, IN (a)	Sterling Heights, MI (JV) (b)	Halifax (a)	Scotland	Liuzhou (JV) (a)	
Columbus, IN (b)	Southfield, MI (b), (c)	France	Glasgow (a)	Shanghai (c)	
Fort Wayne, IN (b)	Three Rivers, MI (a)	Decines (a)	Spain	Suzhou (a), (b)	
Fremont, IN (a)	Troy, MI (b)	Lyon (a)	Barcelona (a)	India	
North Vernon, IN (b)	Warren, MI (b)	Germany	Valencia (b)	Chakan (a)	
Rochester, IN (a)	Malvern, OH (b)	Bad Homburg (c)		Chennai (a)	
Auburn Hills, MI (b)	Minerva, OH (b)	Eisenach (a)		Pune (a), (c)	
Detroit, MI (a), (c)	Twinsburg, OH (b)	Langen (c)		Japan	
Fraser, MI (b)	Ridgway, PA (b)	Nurnberg (b)		Tokyo (c)	
Litchfield, MI (a)	St. Mary's, PA (b)	Zell (b)		South Korea	
				Pyeongtaek (a)	
				Thailand	
				Rayong (a)	
Mexico					
El Carmen (a)	Silao (a), (b)				
Ramos Arizpe (a), (b)					

(a) Location supports the Driveline segment. (b) Location supports the Metal Forming segment. (c) Administrative, engineering or technical location.

We believe that our property and equipment is properly maintained and in good operating condition. We will continue to evaluate capacity requirements in light of current and projected market conditions. We also intend to continue redeploying assets in order to increase our capacity utilization and reduce future capital expenditures to support program launches.

Item 3. Legal Proceedings

See Note 11 - Commitments and Contingencies in Item 8, "Financial Statements and Supplementary Data" for discussion of legal proceedings and the effect on AAM.

Item 4. Mine Safety Disclosures

Not applicable.

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

Market Information

Our common stock, par value \$0.01 per share, is listed for trading on the New York Stock Exchange (NYSE) under the symbol "AXL." We had approximately 174 stockholders of record as of February 9, 2021.

Dividends

We did not declare or pay any cash dividends on our common stock in 2020. Our Credit Agreement associated with our Senior Secured Credit Facilities limits our ability to declare or pay dividends or distributions on capital stock.

Securities Authorized for Issuance under Equity Compensation Plans

The information regarding our securities authorized for issuance under equity compensation plans is incorporated by reference from our Proxy Statement.

Item 6. Selected Financial Data

FIVE YEAR CONSOLIDATED FINANCIAL SUMMARY
Year Ended December 31,

	2020	2019	2018	2017	2016
<i>(in millions, except per share data)</i>					
Statement of operations data					
Net sales	\$ 4,710.8	\$ 6,530.9	\$ 7,270.4	\$ 6,266.0	\$ 3,948.0
Gross profit	582.7	902.6	1,140.4	1,119.1	726.1
Selling, general and administrative expenses	313.9	364.7	385.7	390.1	314.2
Amortization of intangible assets	86.6	95.4	99.4	75.3	5.0
Impairment charges	510.0 ^(a)	665.0 ^{(a)(b)}	485.5 ^(a)	—	—
Restructuring and acquisition-related costs	67.2	57.8	78.9	110.7	26.2
Gain (loss) on sale of business	(1.0) ^(b)	(21.3) ^(b)	15.5 ^(g)	—	—
Operating income (loss)	(396.0)	(301.6)	106.4	543.0	380.7
Net interest expense	200.7	211.5	214.3	192.7	90.5
Gain on bargain purchase of business	—	10.8 ^(e)	—	—	—
Gain on settlement of capital lease	—	—	15.6 ^(h)	—	—
Net income (loss)	(561.1) ^{(c)(d)}	(484.1) ^{(c)(d)(f)}	(56.8) ^{(c)(d)}	337.5 ^{(c)(d)}	240.7 ^(c)
Net income (loss) attributable to AAM	(561.3) ^{(c)(d)}	(484.5) ^{(c)(d)(f)}	(57.5) ^{(c)(d)}	337.1 ^{(c)(d)}	240.7 ^(c)
Diluted earnings (loss) per share	\$ (4.96)	\$ (4.31)	\$ (0.51)	\$ 3.21	\$ 3.06
Balance sheet data					
Cash and cash equivalents	\$ 557.0	\$ 532.0	\$ 476.4	\$ 376.8	\$ 481.2
Total assets	5,916.3	6,644.6	7,510.7	7,882.8	3,422.3 ^(j)
Total long-term debt, net	3,441.3	3,612.3	3,686.8	3,969.3	1,400.9
Total AAM stockholders' equity	370.5	977.6	1,483.9	1,536.0	504.2 ^(j)
Dividends declared per share	—	—	—	—	—
Statement of cash flows data					
Cash provided by operating activities	\$ 454.7	\$ 559.6	\$ 771.5	\$ 647.0	\$ 407.6
Cash used in investing activities	(218.4)	(306.6)	(478.2)	(1,378.1)	(227.7)
Cash provided by (used in) financing activities	(214.5)	(200.0)	(184.5)	615.6	18.4
Other data					
Depreciation and amortization	\$ 521.9	\$ 536.9	\$ 528.8	\$ 428.5	\$ 201.8
Capital expenditures	215.6	433.3	524.7	477.7	223.0
Proceeds from sale of business, net	—	141.2 ^(b)	47.1 ^(g)	5.9	—
Acquisition of business, net of cash acquired	—	9.4	1.3	895.5 ^(j)	5.6
Purchase buyouts of leased equipment	0.1	0.9	0.5	13.3	4.6

- (a) In 2020, we recorded a goodwill impairment charge for both our Driveline and Metal Forming reporting units totaling \$510 million due to the significant reduction in global automotive production volumes as a result of the impact of COVID-19. In 2019, we recorded a goodwill impairment charge of \$440 million associated with the annual goodwill impairment test for our Metal Forming reporting unit. In 2018, we recorded a goodwill impairment charge associated with the annual goodwill impairment test for our former Casting and Powertrain reporting units totaling \$485.5 million. See Note 3 - Goodwill and Other Intangible Assets in Item 8. Financial Statements and Supplementary Data for further detail on our goodwill impairment charges.
- (b) In 2019, we completed the sale of our U.S. Casting operations for \$245 million, consisting of \$185 million in cash, of which we received net proceeds of \$141.2 million subsequent to certain customary closing adjustments, and a \$60 million deferred payment obligation. In 2019, we recorded a charge of \$225 million to reduce the carrying value of our U.S. Casting operations to fair value less cost to sell upon reclassification of the assets and liabilities to held-for-sale, and a loss of \$21.3 million upon deconsolidation at closing. In 2020, we finalized certain customary post-closing adjustments associated with this sale and recorded an additional loss of \$1.0 million.
- (c) For 2020, these amounts include goodwill impairment charges of \$510.0 million for which there was no corresponding tax benefit, and approximately \$53.1 million of restructuring and acquisition-related costs, net of tax. For 2019, these amounts include impairment charges of \$617.8 million, net of tax, and approximately \$45.6 million of restructuring and acquisition-related costs, net of tax. For 2018, these amounts include goodwill impairment charges of \$400.3 million, net of tax, and approximately \$62.4 million of restructuring and acquisition-related costs, net of tax. For 2017, these amounts include approximately \$67.3 million of restructuring and acquisition-related costs, net of tax. For 2016, these amounts include approximately \$18.4 million for restructuring and acquisition-related costs, net of tax.
- (d) Includes charges of \$6.2 million, net of tax, in 2020, \$6.6 million, net of tax, in 2019, \$15.3 million, net of tax, in 2018, and \$2.3 million, net of tax, in 2017 related to debt refinancing and redemption costs.
- (e) In 2019, we recognized a gain on bargain purchase of \$10.8 million associated with the acquisition of certain operations of Mitec Automotive AG.
- (f) In 2019, we offered a voluntary one-time lump sum payment option to certain eligible terminated vested participants in our U.S. pension plans that, if accepted, would settle our pension obligations to them. As a result of this settlement, we remeasured the assets and liabilities of our U.S. pension plans, which resulted in a non-cash charge of approximately \$7.7 million, net of tax, related to the accelerated recognition of certain deferred losses.
- (g) In 2018, we completed the sale of the aftermarket business associated with our former Powertrain segment for approximately \$50 million, of which we received net proceeds of \$47.1 million. As a result of the sale, we recorded a \$15.5 million gain.
- (h) In 2018, we reached a settlement agreement related to a capital lease obligation that we had recognized as a result of the acquisition of Metaldyne Performance Group, Inc. (MPG). This settlement resulted in a gain of \$15.6 million, including accrued interest.
- (i) In 2017, we completed the acquisitions of MPG and USM Mexico and paid cash of \$895.5 million for these acquisitions, net of cash acquired. These acquisitions significantly impacted many of our financial statement line items in 2017 as compared to 2016.
- (j) These amounts have been adjusted by \$25.8 million, net of tax, related to the retrospective application of our change in accounting principle for indirect inventory, in which we changed our method of accounting from capitalizing indirect inventory and recording as expense when the inventory was consumed, to expensing indirect inventory at the time of purchase. This change in accounting principle was effective in the second quarter of 2017.

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

COMPANY OVERVIEW

We are a global Tier 1 supplier to the automotive industry. We design, engineer and manufacture driveline and metal forming products that are making the next generation of vehicles smarter, lighter, safer and more efficient. We employ approximately 20,000 associates, operating at nearly 80 facilities in 17 countries, to support our customers on global and regional platforms with a focus on operational excellence, quality and technology leadership.

We are a primary supplier of driveline components to General Motors Company (GM) for its full-size rear-wheel drive (RWD) light trucks, sport utility vehicles (SUV), and crossover vehicles manufactured in North America, supplying a significant portion of GM's rear axle and four-wheel drive and all-wheel drive (4WD/AWD) axle requirements for these vehicle platforms. We also supply GM with various products from our Metal Forming segment. Sales to GM were approximately 39% of our consolidated net sales in 2020, 37% in 2019, and 41% in 2018.

We also supply driveline system products to FCA US LLC (FCA, now part of Stellantis N.V. effective January 2021) for programs including the heavy-duty Ram full-size pickup trucks and its derivatives, the AWD Chrysler Pacifica and the AWD Jeep Cherokee. In addition, we sell various products to FCA from our Metal Forming segment. Sales to FCA were approximately 19% of our consolidated net sales in 2020, 17% in 2019 and 13% in 2018.

We are also a supplier to Ford Motor Company (Ford) for driveline system products on certain vehicle programs including the Ford Edge, Ford Escape, Lincoln Nautilus, and we sell various products to Ford from our Metal Forming segment. Sales to Ford were approximately 12% of our consolidated net sales in 2020, 9% in 2019 and 8% in 2018.

IMPACT OF NOVEL CORONAVIRUS (COVID-19)

COVID-19 OPERATIONAL IMPACT AND AAM ACTIONS

In March of 2020, COVID-19 was designated by the World Health Organization as a pandemic illness and began to significantly disrupt global automotive production. In an effort to mitigate the spread of COVID-19, many governmental and public health agencies in locations in which we operate implemented shelter-in-place orders or similar measures. The majority of our customers temporarily ceased or significantly reduced production near the end of March, which continued into the second half of the second quarter. As a result, substantially all of our manufacturing facilities either temporarily suspended production or experienced significant reductions in volumes during this period.

At AAM, safety is our top responsibility and that includes the health and wellness of our associates globally. In response to COVID-19, we instituted several operational measures to ensure the safety of our associates, which included the following:

- Assembled a COVID-19 Task Force comprised of AAM's senior leadership working closely with associates across several functions and regions to coordinate decision making and communication related to actions taken by AAM to mitigate the impact of COVID-19, and to ensure that AAM is compliant with all region-specific regulations or requirements associated with COVID-19;
- Temporarily suspended or reduced production at manufacturing facilities and directed associates who could do so to work remotely;
- Maintained communication with customers, including planning for business resumption and monitoring announcements regarding new program deferrals or other changes;
- Initiated thorough cleaning and decontamination procedures at our facilities in preparation for resuming operations; and
- Designed additional safety measures to further protect associates as production was restored and our associates resumed working in certain of our global facilities.

By the end of the first quarter of 2020, our manufacturing locations in Asia, which were impacted by COVID-19 earlier than other global regions, began to stabilize and return to more normalized levels of production. We restarted operations in North America and Europe in May 2020, and we have continued to ramp up production, along with our customers and supply base, through the fourth quarter of 2020. Continuing to maintain more normalized levels of production will depend on future developments, including the potential extension of shelter-in-place orders and increased levels of production by our customers, which are outside of our control. We continue to monitor the impact of COVID-19 on our suppliers, as well as on our customers and their suppliers.

FINANCIAL IMPACT OF COVID-19

We estimate that the impact of COVID-19 on net sales was approximately \$1,243 million for the year ended December 31, 2020 and the impact to gross profit of this reduction in net sales was approximately \$368 million for the year ended December 31, 2020. Due to the significant uncertainty associated with the extent of the impact of COVID-19, including the possibility of resurgences of COVID-19 cases and our ability to sustain more normalized levels of production, we cannot estimate any potential future impact of COVID-19 on our results of operations and financial condition.

In order to mitigate the financial impact of COVID-19, we have continued our emphasis on cost management, and have implemented additional measures to adjust to our customers' revised production schedules, including the following:

- Continuing to flex our variable cost structure;
- Continuing to manage our controllable expenses, net of costs to ensure the health and safety of our associates;
- Reduced the annual cash retainer for each non-employee director by 40% through September 30, 2020;
- Reduced salaries for executive officers by 30% and for certain other associates by various percentages depending on level through September 30, 2020;
- Reduced our capital expenditures for the year;
- Amended our Credit Agreement to, among other things, revise our financial maintenance covenants to provide additional financial flexibility; and
- Utilizing options to defer and reduce tax payments and to claim tax refunds and employment credits through the Coronavirus Aid, Relief, and Economic Security Act (the CARES Act) and similar global initiatives.

The measures we are taking to address the impact of COVID-19 are expected to remain in place until further clarity can be achieved regarding the recovery and stabilization of the global economy, as well as the resulting impact of COVID-19 on the global automotive industry. We expect to adjust our use of these measures, to the extent possible, based on production volumes and customer demand.

MANUFACTURING FACILITY FIRE

On September 22, 2020, a significant industrial fire occurred at our Malvern Manufacturing Facility in Ohio (Malvern Fire). All associates were evacuated safely and without injury. We continue to focus on managing this disruption and protecting continuity of supply to our customers, including utilizing production capacity and resources at other AAM facilities. See Note 15 - Manufacturing Facility Fire and Insurance Recovery for additional detail regarding the Malvern Fire.

INDUSTRY TRENDS

There are a number of significant trends affecting the markets in which we compete. Intense competition, volatility in the price of raw materials, including steel, other metallic materials, and resources used in vehicle electrification and electronic components, and significant pricing pressures remain. At the same time, there is a focus on investing in future products that will incorporate the latest technology and meet changing customer demands as certain original equipment manufacturers (OEMs) place increased emphasis on the development of battery and hybrid electric vehicles. The continued advancement of technology and product innovation, as well as the capability to source programs on a global basis, are critical to attracting and retaining business in our global markets.

INCREASE IN DEMAND FOR ELECTRIFICATION AND ELECTRONIC INTEGRATION The electrification of vehicles continues to expand, driven by a shift in focus by certain OEMs toward battery and hybrid electric vehicles, government regulations related to emissions, such as the Corporate Average Fuel Economy standards, and consumer demand for greater vehicle performance, enhanced functionality, increased electronic content and vehicle connectivity, and affordable convenience options. We are responding, in part, through the development of our hybrid and electric driveline systems, and related subsystems and components, which allow us to meet our customers' needs for high performance vehicles with improved fuel economy and reduced emissions. We recently entered into a technology development agreement with Suzhou Inovance Automotive Ltd., a leading provider of automotive power electronics and powertrain systems in China, to accelerate the development and delivery of scalable, next-generation 3-in-1 electric drive systems, which integrate an inverter, electric motor and gearbox. To date, our hybrid and electric driveline systems have been awarded multiple contracts and received multiple awards.

As vehicle electrification and electronic components become an increasingly larger focus for OEMs and suppliers, the industry will likely continue to see the addition of new market entrants from non-traditional automotive companies, including increased competition from technology companies. Further, some traditional automotive industry participants are developing strategic partnerships with technology companies as each party seeks to leverage the existing customer relationships and technical knowledge of the partner, and expedite the development and commercialization of this new technology. An area of focus will be the product development cycle and bridging the gap between the shorter development cycles of information technology (IT) software and controls and the longer development cycles of traditional powertrain components. Our hybrid and electric driveline systems, EcoTrac® Disconnecting AWD system, VecTrac™ Torque Vectoring Technology and TracRite® Differential Technology, are examples of AAM's enhanced capabilities in supporting vehicle electrification and electronic integration.

INCREASED DEMAND FOR FUEL EFFICIENCY AND EMISSIONS REDUCTIONS There has been an increased demand for technologies designed to help reduce emissions, increase fuel economy and minimize the environmental impact of vehicles. As a result, OEMs and suppliers are competing to develop and market new and alternative technologies, such as electric vehicles, hybrid vehicles, fuel cells, higher speed transmissions, and downsized, fuel-efficient engines. At the same time, OEMs and suppliers are improving products to increase fuel economy and reduce emissions through lightweighting and efficiency initiatives.

We are responding with ongoing research and development (R&D) activities that focus on fuel economy, emissions reductions and environmental improvements by integrating electronics and technology. Through the development of our EcoTrac® Disconnecting AWD system, hybrid and electric driveline systems, Quantum™ lightweight axle technology, high-efficiency axles, PowerLite® axles and PowerDense® gears, high strength connecting rod technology, refined vibration control systems, and forged axle tubes, we have significantly advanced our efforts to improve fuel efficiency, safety, and ride and handling performance while reducing emissions and mass. These efforts have led to new business awards and further position us to compete in the global marketplace.

In addition to AAM's organic growth in technology and processes, our acquisitions of Metaldyne Performance Group, Inc. (MPG) and certain operations of Mitec Automotive AG (Mitec), as well as our investment in our Liuzhou AAM joint venture, have provided us with complementary technologies, expanded our product portfolio, significantly diversified our global customer base, and strengthened our long-term financial profile through greater scale. The synergies achieved through our strategic initiatives have enhanced AAM's ability to compete in today's technological and regulatory environment, while remaining cost competitive through increased scale and integration.

SHIFT IN CONSUMER PREFERENCE AND OEM PRODUCTION TO LIGHT TRUCK, CROSS-OVER VEHICLES (CUVs) AND SPORT-UTILITY VEHICLES (SUVs) There has been a trend toward increased demand for light trucks, CUVs and SUVs in certain markets, while demand for passenger cars has decreased. This increase in demand for light trucks, CUVs and SUVs has been driven by changes in consumer preference as technology advancements have made these vehicles lighter and more efficient, while the stabilizing cost of fuel has made owning these vehicles more affordable.

Certain OEMs are responding to this change in consumer preference by shifting their focus to developing and manufacturing these types of vehicles, resulting in a significant reduction of passenger car vehicle programs, especially in North America. We have benefited from this trend as a significant portion of our business supports light truck, CUV and SUV programs in North America.

GLOBAL AUTOMOTIVE PRODUCTION AND INDUSTRY CONSOLIDATION As countries around the world continue to increase in importance to the automotive industry, our customers continue to design their products to meet demand in global markets and therefore require global support from their suppliers. For this reason, it is critical that suppliers maintain a global presence in these markets in order to compete for new contracts. We have business and engineering offices around the world to support our global locations and provide technical solutions to our customers on a regional basis, including in China and Europe where consumer acceptance of electric vehicles has been strong.

The cyclical nature of the automotive industry, volatile commodity prices, the shifting demands of consumer preference, regulatory requirements and trade agreements require OEMs and suppliers to remain agile with regard to product development and global capability. A critical objective for OEMs and suppliers is the ability to meet these global demands while effectively managing costs. Some OEMs and suppliers may be preparing for these challenges through merger and acquisition (M&A) activity, including potential increased M&A activity as a result of the recent economic impact of COVID-19, development of strategic partnerships and reduction of vehicle platform complexity. In order to effectively drive technology development, recognize cost synergies, and increase global footprint, the industry may continue to see consolidation in the supply base as companies recognize and respond to the need for scalability.

EVOLUTION OF THE AUTOMOTIVE INDUSTRY AS DEMAND FOR CAR-SHARING, RIDE-SHARING AND AUTONOMOUS VEHICLES INCREASES In addition to selling vehicles, OEMs are increasingly focused on offering their own car-sharing rental businesses and ride-sharing services. Car-sharing typically allows consumers to rent a car for a short period of time, while ride-sharing matches people to available carpools or other services that provide on-demand mobility. With population growth, increased government regulations to ease congestion and generational shifts in preferences, it is expected that the markets for these services will continue to grow, which could cause a change in the type of vehicles utilized. However, the growth in this area may also be temporarily curtailed by the impact of COVID-19, as social distancing recommendations have led to reduced utilization of ride-sharing services by consumers.

Another trend developing is the expectation that autonomous, self-driving cars will become more common with continued advancements in technology. Autonomous vehicles present many possible benefits, such as a reduction in traffic collisions caused by human error and reduced traffic congestion, but there are also foreseeable challenges such as liability for damage and software safety and reliability. The increased integration of electronics and vehicle connectivity that will likely be required in autonomous vehicle developments will provide an opportunity for suppliers, such as AAM, with advanced capabilities in this area to be competitive in this expanding market.

The discussion of our Results of Operations, Reportable Segments, and Liquidity and Capital Resources for 2019, as compared to 2018, can be found within "Part II - Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" in our [2019 Annual Report on Form 10-K](#) filed with the Securities and Exchange Commission (SEC) on February 14, 2020, which discussion is incorporated herein by reference.

In the fourth quarter of 2019, we completed the sale of the United States (U.S.) operations of our Casting segment (the Casting Sale). The Casting Sale did not include the entities that conduct AAM's casting operations in El Carmen, Mexico, which are now included in our Driveline segment. The Casting Sale did not qualify for classification as discontinued operations, as it did not represent a strategic shift in our business that has had, or will have, a major effect on our operations and financial results.

RESULTS OF OPERATIONS

NET SALES Net sales were \$4,710.8 million in 2020 as compared to \$6,530.9 million in 2019. Our change in sales in 2020, as compared to 2019, primarily reflects an estimated reduction of approximately \$1,243 million associated with the decline in global automotive production as a result of COVID-19, and a reduction of \$628 million as a result of the Casting Sale. Net sales for 2020, as compared to 2019, also decreased by approximately \$81 million associated with the effect of metal market pass-throughs to our customers and the impact of foreign exchange related to translation adjustments. These reductions in sales were partially offset as 2019 sales reflect an estimated \$243 million reduction associated with the GM work stoppage that occurred in the second half of 2019. There was no such impact in 2020.

COST OF GOODS SOLD Cost of goods sold was \$4,128.1 million in 2020 as compared to \$5,628.3 million in 2019. The change in cost of goods sold in 2020, as compared to 2019, principally reflects an estimated reduction of approximately \$875 million associated with the decline in global automotive production as a result of COVID-19, and a reduction of \$607 million as a result of the Casting Sale. Cost of goods sold was also impacted by a decrease of approximately \$81 million related to metal market pass-through costs and the impact of foreign exchange, as well as the impact of improved operating performance and lower launch costs and our emphasis on cost management, including the additional measures that we implemented in response to the impact of COVID-19. These reductions in cost of goods sold were partially offset as 2019 cost of goods sold reflects an estimated \$159 million reduction associated with the GM work stoppage and there was no such impact in 2020.

As a result of the Malvern Fire, we recorded \$63.5 million of expenses and recorded an estimated insurance recovery receivable of \$54.2 million, which resulted in a net impact to Cost of goods sold of \$9.3 million for the twelve months ended December 31, 2020, which includes our applicable deductible. See Note 15 - Manufacturing Facility Fire and Insurance Recovery for additional detail regarding the Malvern Fire.

Materials costs as a percentage of total cost of goods sold were approximately 55% in 2020 and 56% in 2019.

GROSS PROFIT Gross profit was \$582.7 million in 2020 as compared to \$902.6 million in 2019. Gross margin was 12.4% in 2020 as compared to 13.8% in 2019. Gross profit and gross margin were impacted by the factors discussed in Net Sales and Cost of Goods Sold above. While we were able to significantly reduce our variable costs during 2020, the sharp decline in sales that began during the first quarter and extended into the second quarter as a result of the impact of COVID-19, as well as the magnitude of the decline in sales, resulted in a reduction of both gross profit and gross margin.

SELLING, GENERAL AND ADMINISTRATIVE EXPENSES (SG&A) SG&A (including R&D) was \$313.9 million in 2020 as compared to \$364.7 million in 2019. SG&A as a percentage of net sales was 6.7% in 2020 and 5.6% in 2019. R&D spending was \$117.4 million in 2020 as compared to \$144.7 million in 2019. The change in SG&A in 2020, as compared to 2019, was primarily attributable to lower net R&D expense, which includes a customer engineering, design and development (ED&D) recovery of approximately \$15 million. The decrease in SG&A also reflects lower compensation-related expense due, in part, to our restructuring initiatives and the impact of our emphasis on cost management, including the additional measures that we implemented in response to the impact of COVID-19.

The increase in SG&A as a percentage of sales during 2020, as compared to 2019, was primarily attributable to the decline in sales as a result of COVID-19.

AMORTIZATION OF INTANGIBLE ASSETS Amortization expense for the year ended December 31, 2020 was \$86.6 million as compared to \$95.4 million for the year ended December 31, 2019. The reduction in amortization expense related to intangible assets reflects the Casting Sale and the disposal of the intangible assets associated with this business.

IMPAIRMENT CHARGES In the first quarter of 2020, the reduction in global automotive production volumes caused by the impact of COVID-19 represented an indicator to test our goodwill for impairment. As a result of this goodwill impairment test, we determined that the carrying values of our Driveline and Metal Forming reporting units were greater than their respective fair values. As such, we recorded a total goodwill impairment charge of \$510.0 million in the first quarter of 2020. See Note 3 - Goodwill and Other Intangible Assets for further detail.

As a result of our annual goodwill impairment test in the fourth quarter of 2019, we determined that the carrying value of our Metal Forming segment was greater than its fair value. As such, we recorded a goodwill impairment charge of \$440.0 million in 2019 associated with this segment.

In conjunction with the Casting Sale, the assets and liabilities associated with this business met the criteria to be classified as held-for-sale. Upon reclassification to held-for-sale in the third quarter of 2019, we recorded a pre-tax impairment charge of \$225.0 million to reduce the carrying value of this business to fair value less cost to sell.

RESTRUCTURING AND ACQUISITION-RELATED COSTS Restructuring and acquisition-related costs were \$67.2 million in 2020 and \$57.8 million in 2019. As part of our restructuring actions, we incurred severance charges of approximately \$22.3 million, as well as implementation costs, consisting primarily of professional fees and plant exit costs, of approximately \$36.1 million during 2020. In 2019, we incurred severance charges of approximately \$19.4 million, as well as implementation costs, consisting primarily of professional fees and plant exit costs, of approximately \$20.4 million. We expect to incur approximately \$50 million to \$65 million of total restructuring costs in 2021.

Integration charges of \$8.8 million were incurred in 2020 as we furthered the integration of global enterprise planning (ERP) systems at legacy MPG locations. This compares to acquisition-related costs and integration charges of \$18.0 million in 2019. We expect to incur additional integration charges of approximately \$5 million in 2021 as we finalize the integration of ERP systems at legacy MPG locations. See Note 2 - Restructuring and Acquisition-Related Costs for further detail.

LOSS (GAIN) ON SALE OF BUSINESS In December 2019, we completed the Casting Sale and recorded a loss on sale of business of \$21.3 million. During 2020, we finalized certain customary post-closing calculations associated with the Casting Sale, resulting in an additional loss on sale of \$1.0 million. These losses are presented in the Loss (gain) on sale of business line item of our Consolidated Statements of Operations for the years ended December 31, 2020 and 2019. See Note 16 - Acquisitions and Dispositions for further detail.

OPERATING INCOME (LOSS) Operating loss was \$396.0 million in 2020 as compared to operating loss of \$301.6 million in 2019. Operating margin was (8.4)% in 2020 as compared to (4.6)% in 2019. The changes in operating income (loss) and operating margin in 2020, as compared to 2019, were due to the factors discussed in Net Sales, Cost of Goods Sold, Gross Profit, SG&A, Amortization of Intangible Assets, Impairment Charges, Restructuring and Acquisition-Related Costs and Loss (Gain) on Sale of Business above.

INTEREST EXPENSE Interest expense was \$212.3 million in 2020 and \$217.3 million in 2019. The weighted-average interest rate of our total debt outstanding was 5.6% in 2020 and 5.8% in 2019. We expect our interest expense in 2021 to be approximately \$200 million to \$210 million.

INTEREST INCOME Interest income was \$11.6 million in 2020 and \$5.8 million in 2019. Interest income primarily includes interest earned on cash and cash equivalents, realized and unrealized gains and losses on our short-term investments during the period, and the impact of the interest rate differential on our fixed-to-fixed cross-currency swap.

OTHER INCOME (EXPENSE) Following are the components of Other Income (Expense) for 2020 and 2019:

Debt refinancing and redemption costs In December 2020, we made a voluntary prepayment of \$100 million on our Term Loan B Facility and paid approximately \$15 million on our Term Loan A Facility due 2024, which included approximately \$13 million for the prepayment of all required payments under the Term Loan A Facility due 2024 for 2021. As a result, we expensed approximately \$1.2 million for the write-off of the unamortized debt issuance costs that we had been amortizing over the life of these borrowings.

Also in 2020, we voluntarily redeemed our 6.625% Notes due 2022, which resulted in total principal payments of \$450 million and the payment of \$7.7 million in accrued interest. As a result, we expensed approximately \$1.7 million for the write-off of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately \$5.0 million for the payment of early redemption premiums.

In December 2019, we used a portion of the cash proceeds from the Casting Sale to make a payment on our Term Loan B Facility, which included a principal payment of \$59.8 million and \$0.4 million in accrued interest. We expensed approximately \$1.0 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing.

In July 2019, Holdings, AAM, Inc., and certain subsidiaries of Holdings entered into the First Amendment to the Credit Agreement (First Amendment). The First Amendment, among other things, established \$340 million in incremental term loan A commitments under the Amended Credit Agreement with a maturity date of July 29, 2024 (Term Loan A Facility due 2024), reduced the availability under the Revolving Credit Facility from \$932 million to \$925 million and extended the maturity date of the Revolving Credit Facility from April 6, 2022 to July 29, 2024, and modified the applicable margin with respect to interest rates under the Term Loan A Facility due 2024 and interest rates and commitment fees under the Revolving Credit Facility. The applicable margin and the maturity date for the Term Loan B Facility remained unchanged. The proceeds of \$340 million were used to repay all of the outstanding loans under the existing Term Loan A Facility and a portion of the outstanding Term Loan B Facility, resulting in no additional indebtedness. We expensed \$5.1 million for the write-off of the unamortized debt issuance costs related to the existing Term Loan A Facility and a portion of the unamortized debt issuance costs related to our Term Loan B Facility that we had been amortizing over the expected life of the borrowings.

In May 2019, we voluntarily redeemed the remaining balance outstanding under our 7.75% Notes due 2019. This resulted in a principal payment of \$100 million and \$0.3 million in accrued interest. We also expensed approximately \$0.1 million for the write-off of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately \$2.2 million for an early redemption premium.

Gain on bargain purchase of a business In the fourth quarter of 2019, we completed the acquisition of certain operations of Mitec, under which we acquired \$20.2 million of net assets for a purchase price of \$9.4 million, which was funded entirely with available cash. We recognized a gain on bargain purchase of \$10.8 million associated with this acquisition.

Pension settlement charges In 2020, our restructuring activities resulted in the accelerated recognition of certain deferred losses under our pension plans totaling \$0.5 million. In 2019, we offered a voluntary one-time lump sum payment option to certain eligible terminated vested participants in our U.S. pension plans that, if accepted, settled our pension obligations to them. This resulted in a non-cash settlement charge of \$9.8 million in the fourth quarter of 2019 related to the accelerated recognition of certain deferred losses.

Other, net Other, net, which includes the net effect of foreign exchange gains and losses, our proportionate share of earnings from equity in unconsolidated subsidiaries, and all components of net periodic pension and postretirement benefit costs other than service costs and certain settlement charges, was expense of \$5.2 million in 2020, compared to expense of \$12.5 million in 2019. The decreased expense in other, net in 2020, as compared to 2019, was primarily the result of approximately \$6 million of lower net foreign currency remeasurement losses.

INCOME TAX BENEFIT Income tax was a benefit of \$49.2 million in 2020, as compared to a benefit of \$48.9 million in 2019. Our effective income tax rate was 8.1% in 2020 as compared to 9.2% in 2019.

In 2020, our effective income tax rate varied from the U.S. federal statutory rate primarily as a result of the goodwill impairment charge, which resulted in no income tax benefit, as well as favorable foreign tax rates, the impact of tax credits, and the finalization of an advance pricing agreement in a foreign jurisdiction, which resulted in a tax benefit of approximately \$6.8 million. We also recognized a tax benefit of approximately \$14.4 million related to our ability to carry back prior year losses, as well as projected current year losses, under the CARES Act to years with the previous 35% tax rate. These income tax benefits were partially offset by our inability to realize an income tax benefit for losses incurred in certain foreign and state jurisdictions, as well as a partial valuation allowance of approximately \$5.3 million on certain U.S. federal income tax attributes.

In 2019, our income tax rate varied from the U.S. federal statutory rate primarily as a result of the goodwill impairment charge, which resulted in no income tax benefit, as well as the incremental tax expense associated with the global intangible low-taxed income inclusion under the Tax Cuts and Jobs Act of 2017 (the 2017 Act), and our inability to realize an income tax benefit for losses incurred in certain foreign and state jurisdictions. These items were partially offset by the impact of favorable foreign tax rates and income tax credits. In addition, as part of the 2017 Act, a one-time transition tax (Transition Tax) was imposed on certain foreign earnings for which U.S. income tax was previously deferred. The Department of Treasury and Internal Revenue Service issued final regulations on February 5, 2019 regarding the Transition Tax, which changed the manner in which we are required to compute the Transition Tax when it is recognized over a two-year period. The application of the final regulations resulted in a \$9.3 million income tax benefit, which was recorded in 2019, the period in which the final regulations were issued.

Due to the uncertainty associated with the extent and ultimate impact of COVID-19 on global automotive production volumes, we may experience lower than projected earnings in certain jurisdictions in future periods, and it is reasonably possible that changes in valuation allowances could be recognized in the next twelve months as a result.

NET LOSS ATTRIBUTABLE TO AAM AND EARNINGS (LOSS) PER SHARE (EPS) Net loss attributable to AAM was \$561.3 million in 2020 as compared to \$484.5 million in 2019. Diluted loss per share was \$4.96 in 2020 as compared to a diluted loss of \$4.31 per share in 2019. Net Loss and EPS were primarily impacted by the factors discussed above.

SEGMENT REPORTING

Our business is organized into Driveline and Metal Forming segments, with each representing a reportable segment under Accounting Standards Codification (ASC) 280 - *Segment Reporting*. In the fourth quarter of 2019, we completed the Casting Sale. The Casting Sale did not qualify for classification as discontinued operations, as it did not represent a strategic shift in our business that has had, or will have, a major effect on our operations and financial results. As such, we continue to present Casting as a segment in the tables below, which is comprised entirely of the U.S. casting operations that were included in the sale.

The results of each segment are regularly reviewed by the chief operating decision maker to assess the performance of the segment and make decisions regarding the allocation of resources.

Our product offerings by segment are as follows:

- Driveline products consist primarily of front and rear axles, driveshafts, differential assemblies, clutch modules, balance shaft systems, disconnecting driveline technology, and electric and hybrid driveline products and systems for light trucks, SUVs, CUVs, passenger cars and commercial vehicles; and
- Metal Forming products consist primarily of axle and transmission shafts, ring and pinion gears, differential gears and assemblies, connecting rods and variable valve timing products for OEMs and Tier 1 automotive suppliers.

The following tables outline our sales and Segment Adjusted EBITDA for each of our reportable segments for the years ended December 31, 2020, and 2019 (*in millions*):

	Year Ended December 31, 2020			
	Driveline	Metal Forming	Casting	Total
Sales	\$ 3,635.6	\$ 1,439.2	\$ —	\$ 5,074.8
Less: Intersegment sales	30.1	333.9	—	364.0
Net external sales	\$ 3,605.5	\$ 1,105.3	\$ —	\$ 4,710.8
Segment adjusted EBITDA	\$ 501.7	\$ 218.1	\$ —	\$ 719.8

	Year Ended December 31, 2019			
	Driveline	Metal Forming	Casting	Total
Sales	\$ 4,550.2	\$ 1,845.2	\$ 669.2	\$ 7,064.6
Less: Intersegment sales	100.5	391.7	41.5	533.7
Net external sales	\$ 4,449.7	\$ 1,453.5	\$ 627.7	\$ 6,530.9
Segment adjusted EBITDA	\$ 610.8	\$ 316.5	\$ 43.0	\$ 970.3

The change in Driveline sales for the year ended December 31, 2020, as compared to the year ended December 31, 2019, primarily reflects an estimated reduction of approximately \$1,037 million associated with the impact of the decline in global automotive production as a result of COVID-19. This estimated reduction includes approximately \$974 million related to external customers. The change in Driveline sales also reflects a reduction of approximately \$41 million, associated with the effect of metal market pass-throughs to our customers and the impact of foreign exchange related to translation adjustments. These reductions in sales were partially offset as 2019 sales reflect a reduction associated with the GM work stoppage that occurred in the second half of 2019. There was no such impact in 2020.

The change in net sales in our Metal Forming segment for the year ended December 31, 2020, as compared to the year ended December 31, 2019, primarily reflects an estimated reduction of approximately \$380 million associated with the impact of the decline in global automotive production as a result of COVID-19. This estimated reduction includes approximately \$269 million related to external customers. Also for the year ended December 31, 2020, as compared to the year ended December 31, 2019, Metal Forming sales were impacted by a reduction of approximately \$40 million associated with the effect of metal market pass-throughs to our customers and the impact of foreign exchange related to translation adjustments.

The change in net sales in our Casting segment for the year ended December 31, 2020, as compared to the year ended December 31, 2019, is the result of the Casting Sale that was completed in the fourth quarter of 2019 as AAM no longer operates in this business.

We use Segment Adjusted EBITDA as the measure of earnings to assess the performance of each segment and determine the resources to be allocated to the segments. We define EBITDA to be earnings before interest expense, income taxes, depreciation and amortization. Segment Adjusted EBITDA is defined as EBITDA for our reportable segments excluding the impact of restructuring and acquisition-related costs, debt refinancing and redemption costs, gain (loss) on the sale of a business, impairment charges, pension settlements, and non-recurring items.

For the year ended December 31, 2020, as compared to the year ended December 31, 2019, the change in Segment Adjusted EBITDA for the Driveline segment was primarily attributable to lower net global automotive production volumes as a result of the impact of COVID-19. This was partially offset by improved operating performance and lower launch costs, as well as the impact of a customer ED&D recovery of approximately \$15 million. The change in Driveline Segment Adjusted EBITDA also reflects the impact of our continued emphasis on cost management, and the additional measures that we implemented in response to the impact of COVID-19.

For the year ended December 31, 2020, as compared to the year ended December 31, 2019, the change in Metal Forming Segment Adjusted EBITDA was primarily attributable to the impact of the decline in global automotive production as a result of the impact of COVID-19. This was partially offset by improved operating performance, as well as the impact of our continued emphasis on cost management, and the additional measures that we implemented in response to the impact of COVID-19.

For the year ended December 31, 2020, as compared to the year ended December 31, 2019, the change in Segment Adjusted EBITDA for our Casting segment was the result of the Casting Sale that was completed in the fourth quarter of 2019 as AAM no longer operates in this business.

Reconciliation of Non-GAAP and GAAP Information

In addition to results reported in accordance with accounting principles generally accepted in the United States of America (GAAP) in this MD&A, we have provided certain non-GAAP financial measures such as EBITDA and Total Segment Adjusted EBITDA. Such information is reconciled to its closest GAAP measure in accordance with Securities and Exchange Commission rules below.

We define EBITDA to be earnings before interest expense, income taxes, depreciation and amortization. Total Segment Adjusted EBITDA is defined as EBITDA excluding the impact of restructuring and acquisition-related costs, debt refinancing and redemption costs, gain (loss) on the sale of a business, impairment charges, pension settlements, and non-recurring items. We believe that EBITDA and Total Segment Adjusted EBITDA are meaningful measures of performance as they are commonly utilized by management and investors to analyze operating performance and entity valuation. Our management, the investment community and the banking institutions routinely use EBITDA and Total Segment Adjusted EBITDA, together with other measures, to measure our operating performance relative to other Tier 1 automotive suppliers and to assess the relative mix of Adjusted EBITDA by segment. We also believe that Total Segment Adjusted EBITDA is a meaningful measure as it is used for operational planning and decision-making purposes. These non-GAAP financial measures are not and should not be considered a substitute for any GAAP measure. Additionally, non-GAAP financial measures as presented by AAM may not be comparable to similarly titled measures reported by other companies.

	Year Ended December 31,	
	2020	2019
Net loss	\$ (561.1)	\$ (484.1)
Interest expense	212.3	217.3
Income tax benefit	(49.2)	(48.9)
Depreciation and amortization	521.9	536.9
EBITDA	\$ 123.9	\$ 221.2
Restructuring and acquisition-related costs	67.2	57.8
Debt refinancing and redemption costs	7.9	8.4
Loss on sale of business	1.0	21.3
Impairment charges	510.0	665.0
Pension settlements	0.5	9.8
Non-recurring items:		
Malvern Fire charges, net of recoveries	9.3	—
Gain on bargain purchase of business	—	(10.8)
Other non-recurring items	—	(2.4)
Total Segment Adjusted EBITDA	\$ 719.8	\$ 970.3

LIQUIDITY AND CAPITAL RESOURCES

Our primary liquidity needs are to fund debt service obligations, capital expenditures and working capital requirements, in addition to advancing our strategic initiatives. We believe that operating cash flow, available cash and cash equivalent balances and available committed borrowing capacity under our Senior Secured Credit Facilities will be sufficient to meet these needs.

COVID-19 Considerations Related to Liquidity and Capital Resources

In order to mitigate the financial impact of COVID-19, we have implemented measures to conserve cash and protect our liquidity position, including the following:

- Continuing to flex our variable cost structure;
- Continuing to manage our controllable expenses, net of costs to ensure the health and safety of our associates;
- Reduced the annual cash retainer for each non-employee director by 40% through September 30, 2020;
- Reduced salaries for executive officers by 30% and for certain other associates by various percentages depending on level through September 30, 2020;
- Reduced our capital expenditures for the year;
- Amended our Credit Agreement to, among other things, revise our financial maintenance covenants to provide additional financial flexibility; and
- Utilizing options to defer and reduce tax payments and to claim tax refunds and employment credits through the CARES Act and similar global initiatives.

At December 31, 2020 we had approximately \$1.5 billion of liquidity consisting of \$557 million of cash and cash equivalents, approximately \$891 million of available borrowings under our Revolving Credit Facility and approximately \$73 million of available borrowings under foreign credit facilities. We have no significant debt maturities before 2024. Based on our cash and cash equivalents, together with available borrowings under credit facilities, and the measures we are taking to conserve cash, we believe that our current liquidity position and projected operating cash flows will be sufficient to meet our primary cash needs for the next 12 months.

OPERATING ACTIVITIES Net cash provided by operating activities was \$454.7 million in 2020 as compared to \$559.6 million in 2019. The following factors impacted cash provided by operating activities:

Impact of COVID-19 We experienced lower earnings and cash flows from operating activities as a result of the significant reduction in production volumes during the year ended December 31, 2020 due to the impact of COVID-19.

Accounts receivable We experienced a decrease in cash flow from operating activities of approximately \$35 million related to the change in our accounts receivable balance from December 31, 2019 to December 31, 2020, as compared to the change in accounts receivable from December 31, 2018 to December 31, 2019. This change was primarily attributable to the timing of payments from customers, partially offset by a slight increase in sales in the fourth quarter of 2020 as compared to the fourth quarter of 2019.

Accounts payable and accrued expenses We experienced an increase in cash flow from operating activities of approximately \$61 million related to the change in our accounts payable and accrued expenses balance from December 31, 2019 to December 31, 2020, as compared to the change in balance from December 31, 2018 to December 31, 2019. This change was attributable primarily to the favorable impact of working capital initiatives, partially offset by a reduction in accounts payable as a result of the timing of payments to suppliers.

Income taxes Income taxes paid, net was \$2.1 million in 2020, as compared to \$57.1 million in 2019. During 2020, we received an income tax refund of approximately \$31 million related to the utilization of net operating losses under the provisions of the CARES Act and an income tax refund of approximately \$11 million related to prior alternative minimum tax credits. See Note 1 - Organization and Summary of Significant Accounting Policies for additional detail regarding the CARES Act.

Also in 2020, we finalized an advance pricing agreement in a foreign jurisdiction, which resulted in a cash payment to the tax authorities of \$18.5 million, and a reduction of our liability for unrecognized tax benefits and related interest and penalties of \$25.3 million. As of December 31, 2020 and December 31, 2019, we have recorded a liability for unrecognized income tax benefits and related interest and penalties of \$22.2 million and \$52.6 million, respectively.

Restructuring and acquisition-related costs We incurred \$67.2 million and \$57.8 million of charges related to restructuring and acquisition-related costs in 2020 and 2019, respectively, and a significant portion of these charges were cash charges. In 2021, we expect restructuring and acquisition-related payments to be between \$50 million and \$65 million for the full year.

Pension and other postretirement benefits (OPEB) Our cash payments for OPEB, net of GM cost sharing, were \$12.5 million in 2020 and \$15.5 million in 2019. This compares to our annual postretirement cost of \$10.1 million in 2020 and \$11.7 million in 2019. We expect our cash payments for OPEB obligations in 2021, net of GM cost sharing, to be approximately \$17 million.

Due to the availability of our pre-funded pension balances (previous contributions in excess of prior required pension contributions), we expect our regulatory pension funding requirements in 2021 to be less than \$1.0 million.

Interest paid Interest paid in 2020 was \$192.4 million as compared to \$205.4 million in 2019.

Malvern Fire In 2020, we received \$11.1 million of cash as an advance under our insurance policies associated with expenses incurred as a result of the Malvern Fire. At December 31, 2020, we have an insurance recovery receivable of \$43.1 million, which is included in Prepaid expenses and other in our Consolidated Balance Sheet.

INVESTING ACTIVITIES For the year ended December 31, 2020, net cash used in investing activities was \$218.4 million as compared to \$306.6 million for the year ended December 31, 2019. Capital expenditures were \$215.6 million in 2020 and \$433.3 million in 2019. We expect our capital spending in 2021 to be approximately 4.5% of sales, which includes support for our global program launches in 2021 and 2022 within our new and incremental business backlog, as well as program capacity increases and future launches of replacement programs.

As a result of the Casting Sale completed in the fourth quarter of 2019, we received net cash proceeds of \$141.2 million. Also in 2019, we completed the acquisition of Mitec for approximately \$9 million, and made payments totaling approximately \$9 million as part of our investment in the Liuzhou AAM joint venture.

FINANCING ACTIVITIES Net cash used in financing activities was \$214.5 million in 2020, compared to net cash used in financing activities of \$200.0 million in 2019. Total debt outstanding, net of debt issuance costs, was \$3,455.0 million at year-end 2020 and \$3,641.0 million at year-end 2019. The change in total debt outstanding, net of issuance costs, at year-end 2020, as compared to year-end 2019, was primarily due to the factors noted below.

Senior Secured Credit Facilities In 2019, Holdings, AAM, Inc., and certain subsidiaries of Holdings entered into the First Amendment to the Credit Agreement. The First Amendment, among other things, established \$340 million in incremental term loan A commitments with a maturity date of July 29, 2024 (Term Loan A Facility due 2024), reduced the availability under the Revolving Credit Facility from \$932 million to \$925 million and extended the maturity date of the Revolving Credit Facility from April 6, 2022 to July 29, 2024, and modified the applicable margin with respect to interest rates under the Term Loan A Facility due 2024 and interest rates and commitment fees under the Revolving Credit Facility. The applicable margin and the maturity date for the Term Loan B Facility remained unchanged. The proceeds of \$340 million were used to repay all of the outstanding loans under the prior Term Loan A Facility and a portion of the outstanding Term Loan B Facility, resulting in no additional indebtedness. This also satisfies all payment requirements under the Term Loan B Facility until maturity in 2024.

In April 2020, Holdings, AAM, Inc., and certain subsidiaries of Holdings entered into the Second Amendment to the Credit Agreement (Second Amendment). For the period from April 1, 2020 through March 31, 2022 (the Amendment Period), the Second Amendment, among other things, replaced the total net leverage ratio covenant with a new senior secured net leverage ratio covenant, reduced the minimum levels of the cash interest expense coverage ratio covenant, and modified certain covenants restricting the ability of Holdings, AAM and certain subsidiaries of Holdings to create, incur, assume or permit to exist certain additional indebtedness and liens and to make certain restricted payments, voluntary payments and distributions. The Second Amendment also increased the maximum levels of the total net leverage ratio covenant after the Amendment Period, modified the applicable

margin with respect to interest rates under the Term Loan A Facility due 2024 and interest rates and commitment fees under the Revolving Credit Facility, and increased the minimum adjusted London Interbank Offered Rate for Eurodollar-based loans under the Term Loan A Facility due 2024 and Revolving Credit Facility. The applicable margin for the Term Loan B Facility remains unchanged. We paid debt issuance costs of \$4.6 million in 2020 related to the Second Amendment.

In December 2020, we made a voluntary prepayment of \$100 million on our Term Loan B Facility and paid approximately \$15 million on our Term Loan A Facility due 2024, which included approximately \$13 million for the prepayment of all required payments under the Term Loan A Facility due 2024 for 2021.

In December 2019, we used a portion of the cash proceeds from the Casting Sale to make a payment on our Term Loan B Facility, which included a principal payment of \$59.8 million and \$0.4 million in accrued interest.

At December 31, 2020, \$891.2 million was available under the Revolving Credit Facility. This availability reflects a reduction of \$33.8 million for standby letters of credit issued against the facility. The proceeds of the Revolving Credit Facility are used for general corporate purposes.

The Senior Secured Credit Facilities provide back-up liquidity for our foreign credit facilities. We intend to use the availability of long-term financing under the Senior Secured Credit Facilities to refinance any current maturities related to such debt agreements that are not otherwise refinanced on a long-term basis in their local markets, except where otherwise reclassified to Current portion of long-term debt on our Consolidated Balance Sheet.

6.875% Notes due 2028 In June 2020, we issued \$400 million in aggregate principal amount of 6.875% senior notes due 2028 (the 6.875% Notes). Proceeds from the 6.875% Notes were used primarily to fund the redemption of the remaining \$350 million of 6.625% senior notes due 2022 described below and for general corporate purposes. We paid debt issuance costs of \$6.4 million in 2020 related to the 6.875% Notes.

Redemption of 6.625% Notes Due 2022 In 2020, we voluntarily redeemed our 6.625% Notes due 2022, which resulted in total principal payments of \$450 million, as well as the payment of \$7.7 million in accrued interest and approximately \$5.0 million for early redemption premiums.

Redemption of 7.75% Notes Due 2019 In May 2019, we voluntarily redeemed the remaining balance outstanding under our 7.75% Notes due 2019. This resulted in a principal payment of \$100.0 million, as well as \$0.3 million in accrued interest and approximately \$2.2 million for an early redemption premium.

Foreign Credit Facilities We utilize local currency credit facilities to finance the operations of certain foreign subsidiaries. At December 31, 2020, \$88.8 million was outstanding under our foreign credit facilities and an additional \$72.8 million was available, as compared to December 31, 2019, when \$106.0 million was outstanding under our foreign credit facilities and an additional \$89.1 million was available.

Treasury stock Treasury stock increased by \$2.7 million in 2020 to \$212.0 million as compared to \$209.3 million at year-end 2019, due to the withholding and repurchase of shares of AAM stock to satisfy employee tax withholding obligations due upon the vesting of performance shares and restricted stock units.

Credit ratings To access public debt capital markets, the Company relies on credit rating agencies to assign short-term and long-term credit ratings to our securities as an indicator of credit quality for fixed income investors. A credit rating agency may change or withdraw its ratings based on its assessment of our current and future ability to meet interest and principal repayment obligations. Credit ratings may affect our cost of borrowing and/or our access to debt capital markets. The credit ratings and outlook currently assigned to our securities by the rating agencies are as follows:

	Corporate Family Rating	Senior Unsecured Notes Rating	Senior Secured Notes Rating	Outlook
Standard & Poor's	B+	B-	BB-	Positive
Moody's Investors Services	B1	B2	Ba2	Negative

Dividend program We have not declared or paid any cash dividends on our common stock in 2020 or 2019.

Contractual obligations The following table summarizes payments due on our contractual obligations as of December 31, 2020:

	Payments due by period				
	Total	<1yr	1-3 yrs	3-5 yrs	>5 yrs
	(in millions)				
Current and long-term debt	\$ 3,500.6	\$ 32.2	\$ 107.6	\$ 2,060.8	\$ 1,300.0
Interest obligations	941.9	196.8	375.7	250.0	119.4
Finance lease obligations	21.0	3.0	3.3	1.1	13.6
Operating leases (1)	149.6	27.9	41.1	23.2	57.4
Purchase obligations (2)	90.8	81.7	9.1	—	—
Other long-term liabilities (3)	571.0	59.7	110.3	113.6	287.4
Total	<u>\$ 5,274.9</u>	<u>\$ 401.3</u>	<u>\$ 647.1</u>	<u>\$ 2,448.7</u>	<u>\$ 1,777.8</u>

- (1) *Operating leases include all lease payments through the end of the contractual lease terms, which includes elections for repurchase options which we are reasonably certain to exercise. These commitments include machinery and equipment, commercial office and production facilities, vehicles and other assets.*
- (2) *Purchase obligations represent our obligated purchase commitments for capital expenditures and related project expense.*
- (3) *Other long-term liabilities primarily represent our estimated pension and other postretirement benefit obligations, net of GM cost sharing, that were actuarially determined through 2030.*

Subsidiary Guarantees of Registered Debt Securities Our 6.875% Notes, 6.50% Notes, 6.25% Notes (due 2026), and 6.25% Notes (due 2025) (collectively, the Notes) are senior unsecured obligations of AAM, Inc. (Issuer); all of which are fully and unconditionally guaranteed, on a joint and several basis, by Holdings and substantially all domestic subsidiaries of AAM, Inc. and MPG Inc (Subsidiary Guarantors). Holdings has no significant assets other than its 100% ownership in AAM, Inc. and MPG Inc., and no direct subsidiaries other than AAM, Inc. and MPG Inc.

Each guarantee by Holdings and/or any of the Subsidiary Guarantors is:

- a senior obligation of the relevant Subsidiary Guarantors;
- the unsecured and unsubordinated obligation of the relevant Subsidiary Guarantors; and
- of equal rank with all other existing and future unsubordinated and unsecured indebtedness of the relevant Subsidiary Guarantors.

Each guarantee by a Subsidiary Guarantor provides by its terms that it will be automatically, fully and unconditionally released and discharged upon:

- Any sale, exchange or transfer (by merger or otherwise) of the capital stock of such Subsidiary Guarantor, or the sale or disposition of all the assets of such Subsidiary Guarantor, which sale, exchange, transfer or disposition is made in compliance with the applicable provisions of the indentures;
- the exercise by the issuer of its legal defeasance option or covenant defeasance option or the discharge of the issuer's obligations under the indentures in accordance with the terms of the indentures; or
- the election of the issuer to affect such a release following the date that such guaranteed Notes have an investment grade rating from both Standard & Poor's Ratings Group, Inc. and Moody's Investors Service, Inc.

The following represents summarized financial information of AAM Holdings, AAM Inc. and the Subsidiary Guarantors (collectively, the Combined Entities). The information has been prepared on a combined basis and excludes any investments of AAM Holdings, AAM Inc., or the Subsidiary Guarantors in non-guarantor subsidiaries. Intercompany transactions and amounts between Combined Entities have been eliminated.

Statement of Operations Information	<i>(in millions)</i>	
	Year Ended December 31, 2020	Year Ended December 31, 2019
Net sales	\$ 3,649.8	\$ 3,043.3
Gross profit	301.2	192.0
Loss from operations	(458.3)	(793.3)
Net loss	(521.3)	(718.0)

Balance Sheet Information	<i>(in millions)</i>	
	December 31, 2020	December 31, 2019
Current assets	\$ 1,155.1	\$ 699.5
Noncurrent assets	2,765.2	3,120.4
Current liabilities	1,075.9	551.9
Noncurrent liabilities	4,233.6	4,281.3
Redeemable preferred stock	—	—
Noncontrolling interest	—	—

At December 31, 2020 and December 31, 2019, amounts owed by the Combined Entities to non-guarantor entities totaled approximately \$660 million and \$125 million, respectively, and amounts owed to the Combined Entities from non-guarantor entities totaled approximately \$750 million and \$630 million, respectively.

CYCLICALITY AND SEASONALITY

Our operations are cyclical because they are directly related to worldwide automotive production, which is itself cyclical and dependent on general economic conditions and other factors. Typically, our business is moderately seasonal as our major OEM customers historically have an extended shutdown of operations (normally 1-2 weeks) in conjunction with their model year changeover and an approximate one-week shutdown in December. Our major OEM customers also occasionally have longer shutdowns of operations (up to 6 weeks) for program changeovers. Accordingly, our quarterly results may reflect these trends.

LEGAL PROCEEDINGS

See Note 11 - Commitments and Contingencies in Item 8, "Financial Statements and Supplementary Data" for discussion of legal proceedings and the effect on AAM.

EFFECT OF NEW ACCOUNTING STANDARDS

See Note 1 - Organization and Summary of Significant Accounting Policies in Item 8, "Financial Statements and Supplementary Data" for discussion of new accounting standards and the effect on AAM.

CRITICAL ACCOUNTING ESTIMATES

In order to prepare consolidated financial statements in conformity with GAAP, we are required to make estimates and assumptions that affect the reported amounts and disclosures in our consolidated financial statements. These estimates are subject to an inherent degree of uncertainty and actual results could differ from our estimates.

Other items in our consolidated financial statements require estimation. In our judgment, they are not as critical as those disclosed below. We have discussed and reviewed our critical accounting estimates disclosure with the Audit Committee of our Board of Directors.

GOODWILL We record goodwill when the purchase price of acquired businesses exceeds the value of their identifiable net tangible and intangible assets acquired. We periodically evaluate goodwill for impairment in accordance with the accounting guidance for goodwill and other indefinite-lived intangibles that are not amortized. We review our goodwill for impairment annually during the fourth quarter. In addition, we review goodwill for impairment whenever adverse events or changes in circumstances indicate a possible impairment.

This review is performed at the reporting unit level, and involves a comparison of the fair value of the reporting unit with its carrying amount, including goodwill. If the fair value of the reporting unit exceeds its carrying amount, goodwill of the reporting unit is not considered impaired. If the carrying amount of the reporting unit exceeds its fair value, an impairment loss is recognized in an amount equal to the excess carrying value over fair value.

In performing goodwill impairment testing, we utilize a third-party valuation specialist to assist management in determining the fair value of our reporting units. Fair value of each reporting unit is estimated based on a combination of discounted cash flows and the use of pricing multiples derived from an analysis of comparable public companies multiplied against historical and/or anticipated financial metrics of each reporting unit. These calculations contain uncertainties as they require management to make assumptions including, but not limited to, market comparables, future cash flows of the reporting units, and appropriate discount and long-term growth rates. A decline in the actual cash flows of our reporting units in future periods, as compared to the projected cash flows used in our valuations, could result in the carrying value of the reporting units exceeding their respective fair values. Further, a change in market comparables, discount rate or long-term growth rate, as a result of a change in economic conditions or otherwise, could result in the carrying values of the reporting units exceeding their respective fair values.

Our business is organized into two segments: Driveline and Metal Forming. Under the goodwill guidance, we determined that each of our segments represented a reporting unit. The determination of our reporting units and impairment indicators also require us to make significant judgments. See Note 3 - Goodwill and Other Intangible Assets for further detail regarding our goodwill impairment analyses for the years 2020, 2019 and 2018.

IMPAIRMENT OF LONG-LIVED ASSETS Long-lived assets, excluding goodwill, to be held and used are reviewed for impairment whenever adverse events or changes in circumstances indicate a possible impairment. Recoverability of each "held for use" asset group affected by impairment indicators is determined by comparing the forecasted undiscounted cash flows of the operations to which the assets relate to their carrying amount. If the carrying amount of an asset group exceeds the undiscounted cash flows and is therefore not recoverable, the assets in this group are written down to their estimated fair value. We estimate fair value based on market prices, when available, or on a discounted cash flow analysis. Long-lived assets held for sale are recorded at the lower of their carrying amount or fair value less cost to sell. Significant judgments and estimates used by management when evaluating long-lived assets for impairment include:

- An assessment as to whether an adverse event or circumstance has triggered the need for an impairment review;
- Determination of asset groups, the primary asset within each group, and the primary asset's average estimated useful life;
- Undiscounted future cash flows generated by the assets; and
- Determination of fair value when an impairment is deemed to exist, which may require assumptions related to future general economic conditions, future expected production volumes, product pricing and cost estimates, working capital and capital investment requirements, discount rates and estimated liquidation values.

See Note 3 - Goodwill and Other Intangible Assets and Note 16 - Acquisitions and Dispositions for further detail regarding our assessment of impairment of long-lived assets.

PENSION AND OTHER POSTRETIREMENT BENEFITS In calculating our assets, liabilities and expenses related to pension and OPEB, key assumptions include the discount rate, expected long-term rates of return on plan assets, mortality projections and rates of increase in health care costs.

The discount rates used in the valuation of our U.S. pension and OPEB obligations were based on an actuarial review of a hypothetical portfolio of long-term, high quality corporate bonds matched against the expected payment stream for each of our plans. In 2020, the weighted-average discount rates determined on that basis were 2.50% for the valuation of our pension benefit obligations and 2.55% for the valuation of our OPEB obligations. The discount rate used in the valuation of our United Kingdom (U.K.) pension obligations were based on hypothetical yield curves developed from corporate bond yield information within each regional market. In 2020, the weighted-average discount rates determined on that basis were 1.55% for our U.K. plans. The expected weighted-average long-term rates of return on our plan assets were 7.25% for our U.S. plans, and 4.00% for our U.K. plans in 2020.

We developed these rates of return assumptions based on future capital market expectations for the asset classes represented within our portfolio and a review of long-term historical returns. The asset allocation for our plans was developed in consideration of the demographics of the plan participants and expected payment stream of the liability. Our investment policy allocates approximately 25% - 40% of the U.S. plans' assets to equity securities, depending on the plan, with the remainder invested in fixed income securities, hedge fund investments and cash. The rates of increase in health care costs are based on current market conditions, inflationary expectations and historical information.

All of our assumptions were developed in consultation with our actuarial service providers. While we believe that we have selected reasonable assumptions for the valuation of our pension and OPEB obligations at year-end 2020, actual trends could result in materially different valuations.

The effect on our pension plans of a 0.5% decrease in both the discount rate and expected return on assets is shown below as of December 31, 2020, our valuation date.

	Discount Rate	Expected Return on Assets
	(in millions)	
Decline in funded status	\$ (56.9)	N/A
Increase in 2020 expense	\$ 0.3	\$ 3.0

No changes in benefit levels or in the amortization of gains or losses have been assumed.

For 2021, we assumed a weighted-average annual increase in the per-capita cost of covered health care benefits of 6.25% for OPEB. The rate is assumed to decrease gradually to 5.0% by 2026 and remain at that level thereafter. A 0.5% decrease in the discount rate for our OPEB would have decreased total expense in 2020 and increased the postretirement obligation, net of GM cost sharing, at December 31, 2020 by \$0.7 million and \$21.6 million, respectively. A 1.0% increase in the assumed health care trend rate would have increased total service and interest cost in 2020 and the postretirement obligation, net of GM cost sharing, at December 31, 2020 by \$1.1 million and \$37.0 million, respectively.

AAM and GM share in the cost of OPEB for eligible retirees proportionally based on the length of service an employee had with AAM and GM. We estimate the future cost sharing payments and present it as an asset on our Consolidated Balance Sheet. As of December 31, 2020, we estimated \$250.0 million in future GM cost sharing. If, in the future, GM were unable to fulfill this financial obligation, our OPEB obligations could be different than our current estimates.

PRODUCT WARRANTY We record a liability and related charge to cost of goods sold for estimated warranty obligations at the dates our products are sold or when specific warranty issues are identified. Product warranties not expected to be paid within one year are recorded as a noncurrent liability on our Consolidated Balance Sheet. Our estimated warranty obligations for products sold are based on significant management estimates, with input from our warranty, sales, engineering, quality and legal departments. For products and customers with actual warranty payment experience, we estimate warranty costs principally based on past claims history. For certain products and customers, actual warranty payment experience does not exist or is not mature. In these cases, we estimate our costs based on the contractual arrangements with our customers, existing customers' warranty program terms and internal and external warranty data, which includes a determination of our responsibility for potential warranty issues or claims and estimates of repair costs. We actively study trends of our warranty claims and take action to improve product quality and minimize warranty claims. We continuously evaluate these estimates and our customers' administration of their warranty programs. We closely monitor actual warranty claim data and adjust the liability, as necessary, on a quarterly basis.

In addition to our ordinary warranty provisions with our customers, we may be responsible for certain costs associated with product recalls and field actions, which are recorded at the time our obligation is probable and can be reasonably estimated.

Our warranty accrual was \$66.7 million as of December 31, 2020 and \$62.0 million as of December 31, 2019. During 2020 and 2019, we made adjustments to our warranty accrual to reflect revised estimates regarding our projected future warranty obligations. Actual experience could differ from the amounts estimated requiring adjustments to these liabilities in future periods. It is possible that changes in our assumptions or future warranty issues could materially affect our financial position and results of operations.

VALUATION OF DEFERRED TAX ASSETS AND OTHER TAX LIABILITIES Because we operate in many different geographic locations, including several foreign, state and local tax jurisdictions, the evaluation of our ability to use all recognized deferred tax assets is complex. In accordance with ASC 740 - *Income Taxes*, we review the likelihood that we will realize the benefit of deferred tax assets and estimate whether recoverability of our deferred tax assets is "more likely than not," based on forecasts of taxable income in the related tax jurisdictions. In determining the requirement for a valuation allowance, the historical results, projected future operating results based upon approved business plans, eligible carry forward periods, and tax planning opportunities are considered, along with other relevant positive and negative evidence. If, based upon available evidence, it is more likely than not the deferred tax assets will not be realized, a valuation allowance is recorded.

As of December 31, 2020, we have a valuation allowance of approximately \$208.0 million related to net deferred tax assets in several foreign jurisdictions and U.S. federal, state and local jurisdictions. As of December 31, 2019 and 2018, our valuation allowance was \$196.0 million and \$183.3 million, respectively.

If, in the future, we generate taxable income on a sustained basis in foreign and U.S. federal, state and local jurisdictions for which we have recorded valuation allowances, our current estimate of the recoverability of our deferred tax assets could change and result in the future reversal of some or all of the valuation allowance. While we believe we have made appropriate valuations of our deferred tax assets, unforeseen changes in tax legislation, regulatory activities, audit results, operating results, financing strategies, organization structure and other related matters may result in material changes in our deferred tax asset valuation allowances or our tax liabilities.

We record uncertain tax positions on the basis of a two-step process whereby: (1) we determine whether it is "more likely than not" that the tax positions will be sustained based on the technical merits of the position; and (2) for those positions that meet the "more likely than not" recognition threshold, we recognize the largest amount of tax benefit that is greater than 50% likely to be realized upon ultimate settlement with the related tax authority. We record interest and penalties on uncertain tax positions in income tax expense (benefit). As of December 31, 2020 and 2019, we had a liability for unrecognized income tax benefits and related interest and penalties of \$22.2 million and \$52.6 million, respectively. Based on the status of ongoing tax audits, and the protocol of finalizing audits by the relevant tax authorities, it is not possible to estimate the impact of changes, if any, to previously recorded uncertain tax positions. We will continue to monitor the progress and conclusions of all ongoing audits and other communications with tax authorities and will adjust our estimated liability as necessary.

Forward-Looking Statements

In this MD&A and elsewhere in this Form 10-K (Annual Report), we make statements concerning our expectations, beliefs, plans, objectives, goals, strategies, and future events or performance. Such statements are "forward-looking" statements within the meaning of the Private Securities Litigation Reform Act of 1995 and relate to trends and events that may affect our future financial position and operating results. The terms such as "will," "may," "could," "would," "plan," "believe," "expect," "anticipate," "intend," "project," "target," and similar words or expressions, as well as statements in future tense, are intended to identify forward-looking statements.

Forward-looking statements should not be read as a guarantee of future performance or results, and will not necessarily be accurate indications of the times at, or by, which such performance or results will be achieved. Forward-looking statements are based on information available at the time those statements are made and/or management's good faith belief as of that time with respect to future events and are subject to risks and may differ materially from those expressed in or suggested by the forward-looking statements. Important factors that could cause such differences include, but are not limited to:

- significant disruptions in production, sales and/or supply as a result of public health crises, including pandemic or epidemic illness such as Novel Coronavirus (COVID-19), or otherwise;
- global economic conditions;
- reduced purchases of our products by General Motors Company (GM), FCA US LLC (FCA), Ford Motor Company (Ford) or other customers;
- our ability to respond to changes in technology, increased competition or pricing pressures;
- our ability to develop and produce new products that reflect market demand;
- lower-than-anticipated market acceptance of new or existing products;
- our ability to attract new customers and programs for new products;
- reduced demand for our customers' products (particularly light trucks and sport utility vehicles (SUVs) produced by GM, FCA and Ford);
- risks inherent in our global operations (including tariffs and the potential consequences thereof to us, our suppliers, and our customers and their suppliers, adverse changes in trade agreements, such as the United States-Mexico-Canada Agreement (USMCA), immigration policies, political stability, taxes and other law changes, potential disruptions of production and supply, and currency rate fluctuations);
- a significant disruption in operations at one or more of our key manufacturing facilities;
- negative or unexpected tax consequences;
- risks related to a failure of our information technology systems and networks, and risks associated with current and emerging technology threats and damage from computer viruses, unauthorized access, cyber attack and other similar disruptions;
- supply shortages or price increases in raw material and/or freight, utilities or other operating supplies for us or our customers as a result of pandemics, natural disasters or otherwise;
- availability of financing for working capital, capital expenditures, research and development (R&D) or other general corporate purposes including acquisitions, as well as our ability to comply with financial covenants;
- our customers' and suppliers' availability of financing for working capital, capital expenditures, R&D or other general corporate purposes;
- an impairment of our goodwill, other intangible assets, or long-lived assets if our business or market conditions indicate that the carrying values of those assets exceed their fair values;
- liabilities arising from warranty claims, product recall or field actions, product liability and legal proceedings to which we are or may become a party, or the impact of product recall or field actions on our customers;
- our ability or our customers' and suppliers' ability to successfully launch new product programs on a timely basis;
- our ability to maintain satisfactory labor relations and avoid work stoppages;
- our suppliers', our customers' and their suppliers' ability to maintain satisfactory labor relations and avoid work stoppages;
- our ability to achieve the level of cost reductions required to sustain global cost competitiveness;
- our ability to realize the expected revenues from our new and incremental business backlog;
- price volatility in, or reduced availability of, fuel;
- our ability to protect our intellectual property and successfully defend against assertions made against us;
- risks of noncompliance with environmental laws and regulations or risks of environmental issues that could result in unforeseen costs at our facilities or reputational damage;
- adverse changes in laws, government regulations or market conditions affecting our products or our customers' products;
- our ability or our customers' and suppliers' ability to comply with regulatory requirements and the potential costs of such compliance;
- changes in liabilities arising from pension and other postretirement benefit obligations;
- our ability to attract and retain key associates; and
- other unanticipated events and conditions that may hinder our ability to compete.

It is not possible to foresee or identify all such factors and any or all of the foregoing factors may be exacerbated by COVID-19. Further, we make no commitment to update any forward-looking statement or to disclose any facts, events or circumstances after the date hereof that may affect the accuracy of any forward-looking statement.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

MARKET RISK

Our business and financial results are affected by fluctuations in global financial markets, including currency exchange rates and interest rates. Our hedging policy has been developed to manage these risks to an acceptable level based on management's judgment of the appropriate trade-off between risk, opportunity and cost. We do not hold financial instruments for trading or speculative purposes.

CURRENCY EXCHANGE RISK From time to time, we use foreign currency forward contracts to reduce the effects of fluctuations in certain foreign currencies. At December 31, 2020 and December 31, 2019, we had currency forward contracts with a notional amount of \$178.2 million and \$180.1 million outstanding, respectively. The potential decrease in fair value of foreign exchange contracts, assuming a 10% adverse change in the foreign currency exchange rates, would be approximately \$16.2 million at December 31, 2020 and was approximately \$16.5 million at December 31, 2019.

In 2019, we entered into a fixed-to-fixed cross-currency swap to reduce the variability of functional currency equivalent cash flows associated with changes in exchange rates on certain Euro-based intercompany loans. In the first quarter of 2020, we discontinued this cross-currency swap, which was in an asset position of \$9.8 million on the date it was discontinued. Also in the first quarter of 2020, we entered into a new fixed-to-fixed cross-currency swap to reduce the variability of functional currency equivalent cash flows associated with changes in exchange rates on certain Euro-based intercompany loans. At December 31, 2020 and December 31, 2019 the notional amount of the fixed-to-fixed cross-currency swap was \$244.2 million and \$224.2 million, respectively. The potential decrease in fair value of the fixed-to-fixed cross-currency swap, assuming a 10% adverse change in foreign currency exchange rates, would be approximately \$24.4 million at December 31, 2020 and was approximately \$22.4 million at December 31, 2019.

Future business operations and opportunities, including the expansion of our business outside North America, may further increase the risk that cash flows resulting from these global operations may be adversely affected by changes in currency exchange rates. If and when appropriate, we intend to manage these risks by creating natural hedges in the structure of our global operations, utilizing local currency funding of these expansions and various types of foreign exchange contracts.

INTEREST RATE RISK We are exposed to variable interest rates on certain credit facilities. From time to time, we have used interest rate hedging to reduce the effects of fluctuations in market interest rates. In 2019, we entered into a variable-to-fixed interest rate swap to reduce the variability of cash flows associated with interest payments on our variable rate debt. As of December 31, 2020, we have the following notional amounts hedged in relation to our variable-to-fixed interest rate swap: \$900.0 million through May 2021, \$750.0 million through May 2022, \$600.0 million through May 2023 and \$500.0 million through May 2024.

The pre-tax earnings and cash flow impact of a one-percentage-point increase in interest rates (approximately 17% of our weighted-average interest rate at December 31, 2020) on our long-term debt outstanding at December 31, 2020 would be approximately \$6.0 million and was approximately \$6.3 million at December 31, 2019, on an annualized basis.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.

Item 8. Financial Statements and Supplementary Data

Consolidated Statements of Operations

Year Ended December 31,

	2020	2019	2018
	<i>(in millions, except per share data)</i>		
Net sales	\$ 4,710.8	\$ 6,530.9	\$ 7,270.4
Cost of goods sold	<u>4,128.1</u>	<u>5,628.3</u>	<u>6,130.0</u>
Gross profit	582.7	902.6	1,140.4
Selling, general and administrative expenses	313.9	364.7	385.7
Amortization of intangible assets	86.6	95.4	99.4
Impairment charges (Note 3 and Note 16)	510.0	665.0	485.5
Restructuring and acquisition-related costs	67.2	57.8	78.9
Loss (gain) on sale of business (Note 16)	<u>1.0</u>	<u>21.3</u>	<u>(15.5)</u>
Operating income (loss)	(396.0)	(301.6)	106.4
Interest expense	(212.3)	(217.3)	(216.3)
Interest income	11.6	5.8	2.0
Other income (expense)			
Debt refinancing and redemption costs	(7.9)	(8.4)	(19.4)
Gain on bargain purchase of business	—	10.8	—
Gain on settlement of capital lease	—	—	15.6
Pension settlement charges	(0.5)	(9.8)	—
Other expense, net	<u>(5.2)</u>	<u>(12.5)</u>	<u>(2.2)</u>
Loss before income taxes	(610.3)	(533.0)	(113.9)
Income tax benefit	<u>(49.2)</u>	<u>(48.9)</u>	<u>(57.1)</u>
Net loss	\$ (561.1)	\$ (484.1)	\$ (56.8)
Net income attributable to noncontrolling interests	<u>(0.2)</u>	<u>(0.4)</u>	<u>(0.7)</u>
Net loss attributable to AAM	<u>\$ (561.3)</u>	<u>\$ (484.5)</u>	<u>\$ (57.5)</u>
Basic loss per share	<u>\$ (4.96)</u>	<u>\$ (4.31)</u>	<u>\$ (0.51)</u>
Diluted loss per share	<u>\$ (4.96)</u>	<u>\$ (4.31)</u>	<u>\$ (0.51)</u>

See accompanying notes to consolidated financial statements

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.

Consolidated Statements of Comprehensive Income (Loss)

Year Ended December 31,

	2020	2019	2018
	<i>(in millions)</i>		
Net loss	\$ (561.1)	\$ (484.1)	\$ (56.8)
Other comprehensive income (loss)			
Defined benefit plans, net of \$12.7 million, \$3.0 million and \$(9.8) million of tax in 2020, 2019 and 2018, respectively	(51.1)	(18.3)	38.1
Foreign currency translation adjustments	(0.2)	(4.6)	(62.5)
Changes in cash flow hedges, net of tax of \$1.3 million, \$6.1 million and \$0.5 million in 2020, 2019 and 2018, respectively	(4.4)	(14.6)	5.5
Other comprehensive loss	<u>(55.7)</u>	<u>(37.5)</u>	<u>(18.9)</u>
Comprehensive loss	<u>\$ (616.8)</u>	<u>\$ (521.6)</u>	<u>\$ (75.7)</u>
Net income attributable to noncontrolling interests	(0.2)	(0.4)	(0.7)
Foreign currency translation adjustments attributable to noncontrolling interests	0.3	—	—
Comprehensive loss attributable to AAM	<u>\$ (616.7)</u>	<u>\$ (522.0)</u>	<u>\$ (76.4)</u>

See accompanying notes to consolidated financial statements

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.

Consolidated Balance Sheets

December 31,

	2020	2019
	<i>(in millions, except per share data)</i>	
Assets		
Current assets		
Cash and cash equivalents	\$ 557.0	\$ 532.0
Accounts receivable, net	793.2	815.4
Inventories, net	323.2	373.6
Prepaid expenses and other	203.6	136.8
Total current assets	<u>1,877.0</u>	<u>1,857.8</u>
Property, plant and equipment, net	2,163.8	2,358.4
Deferred income taxes	107.8	64.1
Goodwill	185.7	699.1
Other intangible assets, net	780.7	864.5
GM postretirement cost sharing asset	237.0	223.3
Operating lease right-of-use assets	116.6	118.5
Other assets and deferred charges	447.7	458.9
Total assets	<u>\$ 5,916.3</u>	<u>\$ 6,644.6</u>
Liabilities and Stockholders' Equity		
Current liabilities		
Current portion of long-term debt	\$ 13.7	\$ 28.7
Accounts payable	578.9	623.5
Accrued compensation and benefits	170.9	154.4
Deferred revenue	23.4	18.9
Current portion of operating lease liabilities	22.6	21.8
Accrued expenses and other	169.8	179.1
Total current liabilities	<u>979.3</u>	<u>1,026.4</u>
Long-term debt, net	3,441.3	3,612.3
Deferred revenue	91.0	83.7
Deferred income taxes	13.2	19.6
Long-term portion of operating lease liabilities	94.4	96.7
Postretirement benefits and other long-term liabilities	923.9	825.5
Total liabilities	<u>5,543.1</u>	<u>5,664.2</u>
Stockholders' equity		
Preferred stock, par value \$0.01 per share; 10.0 million shares authorized; no shares outstanding in 2020 or 2019	—	—
Series common stock, par value \$0.01 per share; 40.0 million shares authorized; no shares outstanding in 2020 or 2019	—	—
Common stock, par value \$0.01 per share; 150.0 million shares authorized; 121.3 million and 120.2 million shares issued as of December 31, 2020 and December 31, 2019, respectively	1.2	1.2
Paid-in capital	1,333.3	1,313.9
Retained earnings (Accumulated deficit)	(319.8)	248.6
Treasury stock at cost, 8.0 million shares in 2020 and 7.6 million shares in 2019	(212.0)	(209.3)
Accumulated other comprehensive loss		
Defined benefit plans, net of tax	(311.0)	(259.9)
Foreign currency translation adjustments	(101.1)	(101.2)
Unrecognized loss on cash flow hedges, net of tax	(20.1)	(15.7)
Total AAM stockholders' equity	<u>370.5</u>	<u>977.6</u>
Noncontrolling interests in subsidiaries	2.7	2.8
Total stockholders' equity	<u>373.2</u>	<u>980.4</u>
Total liabilities and stockholders' equity	<u>\$ 5,916.3</u>	<u>\$ 6,644.6</u>

See accompanying notes to consolidated financial statements

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.

Consolidated Statements of Cash Flows

Year Ended December 31,

	2020	2019	2018
	<i>(in millions)</i>		
Operating activities			
Net loss	\$ (561.1)	\$ (484.1)	\$ (56.8)
Adjustments to reconcile net loss to net cash provided by operating activities			
Depreciation and amortization	521.9	536.9	528.8
Impairment charges	510.0	667.9	515.5
Deferred income taxes	(34.1)	(94.6)	(35.0)
Stock-based compensation	19.4	22.4	27.9
Pensions and other postretirement benefits, net of contributions	(15.7)	(8.8)	(9.9)
Loss (gain) on sale or acquisition of business, net	1.0	10.5	(15.5)
Loss (gain) on disposal of property, plant and equipment, net	20.6	4.1	(3.2)
Debt refinancing and redemption costs	7.9	8.4	4.0
Changes in operating assets and liabilities, net of amounts acquired or disposed			
Accounts receivable	28.9	63.9	56.1
Inventories	53.7	56.1	(83.1)
Accounts payable and accrued expenses	(37.1)	(97.7)	7.5
Deferred revenue	5.5	(17.9)	10.7
Other assets and liabilities	(66.2)	(107.5)	(175.5)
Net cash provided by operating activities	<u>454.7</u>	<u>559.6</u>	<u>771.5</u>
Investing activities			
Purchases of property, plant and equipment	(215.6)	(433.3)	(524.7)
Proceeds from sale of property, plant and equipment	1.7	5.0	4.9
Purchase buyouts of leased equipment	(0.1)	(0.9)	(0.5)
Final settlement on sale of business	(4.4)	—	—
Proceeds from sale of business, net	—	141.2	47.1
Acquisition of business, net of cash acquired	—	(9.4)	(1.3)
Investment in affiliates	—	(9.2)	(3.7)
Net cash used in investing activities	<u>(218.4)</u>	<u>(306.6)</u>	<u>(478.2)</u>
Financing activities			
Proceeds from Revolving Credit Facility	350.0	—	—
Payments of Revolving Credit Facility	(350.0)	—	—
Proceeds from issuance of long-term debt	408.0	356.3	509.6
Payments of long-term debt, finance lease obligations and other	(610.5)	(545.5)	(681.2)
Debt issuance costs	(11.0)	(3.3)	(6.9)
Purchase of treasury stock	(2.7)	(7.5)	(3.7)
Purchase of noncontrolling interest	—	—	(2.3)
Other financing activities	1.7	—	—
Net cash used in financing activities	<u>(214.5)</u>	<u>(200.0)</u>	<u>(184.5)</u>
Effect of exchange rate changes on cash	3.2	0.1	(6.7)
Net increase in cash, cash equivalents and restricted cash	25.0	53.1	102.1
Cash, cash equivalents and restricted cash at beginning of year	532.0	478.9	376.8
Cash, cash equivalents and restricted cash at end of year	<u>\$ 557.0</u>	<u>\$ 532.0</u>	<u>\$ 478.9</u>
Supplemental cash flow information			
Interest paid	\$ 192.4	\$ 205.4	\$ 199.7
Income taxes paid, net	\$ 2.1	\$ 57.1	\$ 46.0
Non-cash investing activities: Debt security received for sale of U.S. Casting	\$ —	\$ 60.0	\$ —

See accompanying notes to consolidated financial statements

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.

Consolidated Statements of Stockholders' Equity

	Common Stock		Paid-in Capital	Retained Earnings	Treasury Stock	Accumulated Other	Noncontrolling Interest in Subsidiaries
	Shares Outstanding	Par Value		(Accumulated Deficit)		Comprehensive Loss	
<i>(in millions)</i>							
Balance at January 1, 2018	111.3	\$ 1.2	\$ 1,264.6	\$ 761.0	\$ (198.1)	\$ (292.7)	4.0
Net income (loss)				(57.5)			0.7
Changes in cash flow hedges						5.5	
Foreign currency translation adjustments						(62.5)	
Defined benefit plans, net						38.1	
Purchase of non-controlling interest							(2.3)
Exercise of stock options and vesting of restricted stock units and performance shares	0.7		0.1				
Stock-based compensation			27.9				
Purchase of treasury stock	(0.3)				(3.7)		
Balance at December 31, 2018	111.7	\$ 1.2	\$ 1,292.6	\$ 703.5	\$ (201.8)	\$ (311.6)	2.4
Net income (loss)				(484.5)			0.4
Changes in cash flow hedges						(14.6)	
Foreign currency translation adjustments						(4.6)	
Defined benefit plans, net						(18.3)	
Vesting of restricted stock units and performance shares	1.3						
Stock-based compensation			21.3				
Modified-retrospective application of ASU 2016-02				1.9			
Adoption of ASU 2018-02				27.7		(27.7)	
Purchase of treasury stock	(0.4)				(7.5)		
Balance at December 31, 2019	112.6	\$ 1.2	\$ 1,313.9	\$ 248.6	\$ (209.3)	\$ (376.8)	2.8
Net income (loss)				(561.3)			0.2
Changes in cash flow hedges						(4.4)	
Foreign currency translation adjustments						0.1	(0.3)
Defined benefit plans, net						(51.1)	
Vesting of restricted stock units and performance shares	1.1						
Stock-based compensation			19.4				
Modified-retrospective application of ASU 2016-13				(7.1)			
Purchase of treasury stock	(0.4)				(2.7)		
Balance at December 31, 2020	113.3	\$ 1.2	\$ 1,333.3	\$ (319.8)	\$ (212.0)	\$ (432.2)	2.7

See accompanying notes to consolidated financial statements

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. ORGANIZATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

ORGANIZATION We are a global Tier 1 supplier to the automotive industry. We design, engineer and manufacture driveline and metal forming products that are making the next generation of vehicles smarter, lighter, safer and more efficient. We employ approximately 20,000 associates, operating at nearly 80 facilities in 17 countries, to support our customers on global and regional platforms with a continued focus on delivering operational excellence, quality and technology leadership.

PRINCIPLES OF CONSOLIDATION We include the accounts of American Axle & Manufacturing Holdings, Inc. (Holdings) and its subsidiaries in our consolidated financial statements. We eliminate the effects of all intercompany transactions, balances and profits in our consolidation.

CASH AND CASH EQUIVALENTS Cash and cash equivalents include all cash balances, savings accounts, sweep accounts, and highly liquid investments in money market funds and certificates of deposit with maturities of 90 days or less at the time of purchase.

REVENUE RECOGNITION We are obligated under our contracts with customers to manufacture and supply products for use in our customers' operations. We satisfy these performance obligations at the point in time that the customer obtains control of the products, which is the point in time that the customer is able to direct the use of, and obtain substantially all of the remaining benefits from, the products. This typically occurs upon shipment to the customer in accordance with purchase orders and delivery releases issued by our customers. See Note 13 - Revenue from Contracts with Customers for more detail on our revenue.

ACCOUNTS RECEIVABLE The majority of our accounts receivable are due from original equipment manufacturers (OEMs) in the automotive industry and are considered past due when payment is not received within the terms stated within the contract. Trade accounts receivable for our customers are generally due within approximately 50 days from the date our customers receive our product.

Amounts due from customers are stated net of allowances for credit losses. We determine our allowances by considering our expected credit losses, in addition to factors such as our previous loss history, customers' ability to pay their obligations to us, and the condition of the general economy and industry as a whole. The allowance for credit losses was \$4.5 million and \$8.0 million as of December 31, 2020 and 2019, respectively. We write-off accounts receivable when they become uncollectible.

We have agreements in place with factoring companies to sell customer receivables on a nonrecourse basis from certain of our locations in Europe. The factoring companies collect payment for the sold receivables and AAM has no continuing involvement with such receivables.

We also participate in an early payment program offered by our largest customer, which allows us to sell certain of our North American receivables from this customer to a third party at our discretion. AAM has no continuing involvement with the sold receivables.

CUSTOMER TOOLING AND PRE-PRODUCTION COSTS RELATED TO LONG-TERM SUPPLY AGREEMENTS Engineering, research and development (R&D), and other pre-production design and development costs for products sold on long-term supply arrangements are expensed as incurred unless we have a contractual guarantee for reimbursement from the customer. Reimbursements received for pre-production costs relating to awarded programs are deferred and recognized into revenue over the life of the associated program. Reimbursements received for pre-production costs relating to future programs that have not been awarded, or amounts received for programs that become discontinued prior to production, are recorded as a reduction of expense.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

Costs for tooling used to make products sold on long-term supply arrangements for which we have either title to the assets or the noncancelable right to use the assets during the term of the supply arrangement are capitalized in property, plant and equipment. Reimbursable costs for tooling assets for which our customer has title and we do not have a noncancelable right to use during the term of the supply arrangement, are recorded in accounts receivable in our consolidated balance sheets. The reimbursement for the customer-owned tooling is recorded as a reduction of accounts receivable upon collection. Capitalized items and customer receipts in excess of tooling costs specifically related to a supply arrangement are amortized over the shorter of the term of the arrangement or over the estimated useful lives of the related assets.

INVENTORIES We state our inventories at the lower of cost or net realizable value. The cost of our inventories is determined using the first-in-first-out (FIFO) method. When we determine that our gross inventories exceed usage requirements, or if inventories become obsolete or otherwise not saleable, we record a provision for such loss as a component of our inventory accounts.

Inventories consist of the following:

	December 31,	
	2020	2019
	<i>(in millions)</i>	
Raw materials and work-in-progress	\$ 276.2	\$ 310.4
Finished goods	70.4	83.7
Gross inventories	346.6	394.1
Inventory valuation reserves	(23.4)	(20.5)
Inventories, net	\$ 323.2	\$ 373.6

MAINTENANCE, REPAIR AND OPERATIONS (MRO) MATERIALS We include all spare parts and other durable materials for machinery and equipment that are consumed in the manufacturing process in MRO, which is included in Other assets and deferred charges in our Consolidated Balance Sheets. MRO assets are capitalized at actual cost and amortized on a straight-line basis over a useful life of six years, beginning from their purchase date. Repair costs for MRO assets are expensed in the period incurred. Amortization expense related to MRO was \$62.4 million, \$67.7 million and \$62.4 million for 2020, 2019 and 2018, respectively.

PROPERTY, PLANT AND EQUIPMENT (PP&E) We state property, plant and equipment, including amortizable tooling, at historical cost, as adjusted for impairments. Construction in progress includes costs incurred for the construction of buildings and building improvements, and machinery and equipment in process. Repair and maintenance costs that do not extend the useful life or otherwise improve the utility of the asset beyond its existing useful state are expensed in the period incurred.

We record depreciation and tooling amortization using the straight-line method over the estimated useful lives of the depreciable assets. Depreciation and tooling amortization amounted to \$372.9 million, \$373.8 million and \$367.0 million in 2020, 2019 and 2018, respectively.

Property, plant and equipment consists of the following:

	Estimated Useful Lives <i>(years)</i>	December 31,	
		2020	2019
		<i>(in millions)</i>	
Land	Indefinite	\$ 49.2	\$ 45.1
Land improvements	10-15	26.3	24.4
Buildings and building improvements	15-40	554.3	512.7
Machinery and equipment	3-12	3,703.7	3,645.6
Construction in progress		122.1	219.5
		4,455.6	4,447.3
Accumulated depreciation and amortization		(2,291.8)	(2,088.9)
Property, plant and equipment, net		\$ 2,163.8	\$ 2,358.4

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

As of December 31, 2020, 2019 and 2018, we had unpaid purchases of plant and equipment in our accounts payable of \$20.4 million, \$46.0 million and \$84.1 million, respectively.

IMPAIRMENT OF LONG-LIVED ASSETS When impairment indicators exist, we evaluate the carrying value of long-lived assets for potential impairment. We consider projected future undiscounted cash flows, trends and other circumstances in making such estimates and evaluations. If impairment is deemed to exist, the carrying amount of the asset is adjusted based on its fair value. Recoverability of assets "held for use" is determined by comparing the forecasted undiscounted cash flows of the operations to which the assets relate to their carrying amount. When the carrying value of an asset group exceeds its fair value and is therefore nonrecoverable, those assets are written down to fair value. Fair value is determined based on market prices, when available, or a discounted cash flow analysis is performed using management estimates.

GOODWILL We record goodwill when the purchase price of acquired businesses exceeds the value of their identifiable net tangible and intangible assets acquired. We test our goodwill annually as of October 1, or more frequently if necessary, for impairment in accordance with the accounting guidance for goodwill and other indefinite-lived intangibles. See Note 3 - Goodwill and Other Intangible Assets, for more detail on our goodwill.

OTHER INTANGIBLE ASSETS Intangible assets are valued using primarily the relief from royalty method or the multi-period excess earnings method, both of which utilize significant unobservable inputs. These inputs are defined in the fair value hierarchy as Level 3 inputs, which require management to make estimates and assumptions regarding certain financial measures using forecasted or projected information. See Note 3 - Goodwill and Other Intangible Assets, for more detail on our intangible assets.

LEASING We record a right of use asset and lease liability when an agreement grants us the right to substantially all of the economic benefits associated with an identified asset, and we are able to direct the use of that asset throughout the term of the agreement, if such term exceeds 12 months. Options to extend or terminate the agreements have been included in the relevant lease term to the extent that they are reasonably certain to be exercised. For agreements that contain both lease and non-lease components, we account for these agreements as a single lease component for all classes of underlying assets. See Note 14 - Leasing for more detail on our leases.

DEBT ISSUANCE COSTS The costs related to the issuance or modification of long-term debt are deferred and amortized into interest expense over the expected life of the borrowings. As of December 31, 2020 and December 31, 2019, our unamortized debt issuance costs were \$57.8 million and \$63.3 million, respectively. Debt issuance costs associated with our senior unsecured notes, as well as our Term Loan A Facility due 2024 and Term Loan B Facility (as defined in Note 4 - Long-Term Debt), are recorded as a reduction to the related debt liability. Debt issuance costs of \$12.2 million and \$12.1 million related to our Revolving Credit Facility (also as defined in Note 4 - Long-Term Debt), are classified as Other assets and deferred charges on our Consolidated Balance Sheets as of December 31, 2020 and December 31, 2019, respectively. Unamortized debt issuance costs that exist upon the extinguishment of debt are expensed and classified as Debt refinancing and redemption costs on our Consolidated Statements of Operations.

DERIVATIVES We recognize all derivatives on the balance sheet at fair value and we are not subject to master netting agreements. If a derivative qualifies under the accounting guidance as a hedge, depending on the nature of the hedge, changes in the fair value of the derivative are either offset against the change in fair value of the hedged asset, liability or firm commitment through earnings or recognized in other comprehensive income until the hedged item is recognized in earnings. Changes in the fair value of derivatives that do not qualify as hedges, are immediately recognized in earnings. See Note 5 - Derivatives and Risk Management, for more detail on our derivatives.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

CURRENCY TRANSLATION AND REMEASUREMENT We translate the assets and liabilities of our foreign subsidiaries to United States (U.S.) dollars at end-of-period exchange rates. We translate the income statement elements of our foreign subsidiaries to U.S. dollars at average-period exchange rates. We report the effect of translation for our foreign subsidiaries that use the local currency as their functional currency as a separate component of stockholders' equity. Gains and losses resulting from the remeasurement of assets and liabilities in a currency other than the functional currency of a subsidiary are reported in current period income. We also report any gains and losses arising from transactions denominated in a currency other than the functional currency of a subsidiary in current period income. These foreign currency gains and losses resulted in net losses of \$0.5 million, \$6.5 million and \$0.2 million for the years 2020, 2019 and 2018, respectively, in Other expense, net.

PENSION AND OTHER POSTRETIREMENT DEFINED BENEFIT PLANS Net pension and postretirement benefit expenses and the related liabilities are determined on an actuarial basis. These plan expenses and obligations are dependent on management's assumptions developed in consultation with our actuaries. We review these actuarial assumptions at least annually and make modifications when appropriate. See Note 7 - Employee Benefit Plans, for more detail on our pension and other postretirement defined benefit plans.

STOCK-BASED COMPENSATION AND OTHER INCENTIVE COMPENSATION We award stock-based compensation in the form of restricted stock units (RSUs) and performance shares. For non-performance based awards, the grant date fair value is measured as the stock price at the date of grant. For certain performance based awards, fair value is estimated using valuation techniques that require management to use estimates and assumptions. Certain awards require that management's estimates and assumptions be evaluated at each reporting date to determine if compensation expense related to the award should be adjusted, both on a catch-up and go-forward basis. Compensation expense is recognized over the period during which the requisite service is provided, referred to as the vesting period.

We also award incentive compensation in the form of performance units (PU). We grant PU payable in cash to officers and certain other associates which vest in full over a three-year performance period and are based primarily on AAM's three-year cumulative free cash flow. See Note 8 - Stock-Based Compensation and Other Incentive Compensation, for more detail on our accounting for stock-based compensation and other incentive compensation.

RESEARCH AND DEVELOPMENT COSTS We expense R&D, as incurred, in selling, general and administrative expenses on our Consolidated Statements of Operations. R&D spending was \$117.4 million, \$144.7 million and \$146.2 million in 2020, 2019 and 2018, respectively.

DEFERRED INCOME TAX ASSETS AND LIABILITIES AND VALUATION ALLOWANCES Our deferred income tax assets and liabilities reflect the impact of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the basis of such assets and liabilities for income tax purposes.

In accordance with the accounting guidance for income taxes, we review the likelihood that we will realize the benefit of deferred tax assets and estimate whether recoverability of our deferred tax assets is "more likely than not," based on forecasts of taxable income in the related tax jurisdictions. In determining the requirement for a valuation allowance, the historical results, projected future operating results based upon approved business plans, eligible carry forward periods, and tax planning opportunities are considered, along with other relevant positive and negative evidence. If, based upon available evidence, it is more likely than not the deferred tax assets will not be realized, a valuation allowance is recorded.

We record uncertain tax positions on the basis of a two-step process whereby: (1) we determine whether it is "more likely than not" that the tax positions will be sustained based on the technical merits of the position; and (2) for those positions that meet the "more likely than not" recognition threshold, we recognize the largest amount of tax benefit that is greater than 50% likely to be realized upon ultimate settlement with the related tax authority. We record interest and penalties on uncertain tax positions in income tax expense (benefit).

See Note 9 - Income Taxes, for more detail on our accounting for income taxes.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

EARNINGS (LOSS) PER SHARE (EPS) We present EPS using the two-class method. This method allocates undistributed earnings between common shares and non-vested share based payment awards that entitle the holder to non-forfeitable dividend rights. Our participating securities include non-vested restricted stock units. See Note 10 - Earnings (Loss) Per Share (EPS), for more detail on our accounting for EPS.

PRODUCT WARRANTY We record estimated warranty obligation liabilities at the dates our products are sold, using sales volumes and internal and external warranty data where there is no payment history and historical information about the average cost of warranty claims for customers with prior claims. We estimate our costs based on the contractual arrangements with our customers, existing customer warranty terms and internal and external warranty data, which includes a determination of our warranty claims and actions taken to improve product quality and minimize warranty claims. See Note 11 - Commitments and Contingencies, for detail on our accounting for product warranties.

USE OF ESTIMATES In order to prepare consolidated financial statements in conformity with accounting principles generally accepted in the United States of America (GAAP), we are required to make estimates and assumptions that affect the reported amounts and disclosures in our consolidated financial statements. Actual results could differ from those estimates.

EFFECT OF NEW ACCOUNTING STANDARDS

Standards Recently Adopted

Accounting Standards Update 2018-15

On August 15, 2018, the Financial Accounting Standards Board (FASB) issued Accounting Standard Update (ASU) 2018-15 - *Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement that is a Service Contract (Topic 350-40)*. ASU 2018-15 aligns the requirements for capitalizing implementation costs incurred in a cloud computing or hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. This guidance became effective at the beginning of our 2020 fiscal year and we adopted this guidance prospectively on January 1, 2020. The adoption of this standard did not have a material impact on our consolidated financial statements.

Accounting Standards Update 2016-13

On June 16, 2016, the FASB issued 2016-13 - *Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. ASU 2016-13 replaces the incurred loss model under previous guidance, and requires entities to consider expected credit losses, in addition to past events and current conditions when measuring credit losses. This guidance applies to certain of our financial instruments and is primarily applicable to our trade accounts receivable. We adopted this guidance on January 1, 2020, using a modified-retrospective transition method and the adoption of this standard did not have a material impact on our condensed consolidated financial statements. See the Statement of Stockholders' Equity for the implementation impact of ASU 2016-13.

Standards Not Yet Adopted

Accounting Standard Update 2020-04

On March 12, 2020, the FASB issued ASU 2020-04 - *Reference Rate Reform (Topic 848)*. This guidance provides optional expedients and exceptions that are intended to ease the burden of updating contracts to contain a new reference rate due to the discontinuation of the London Inter-Bank Offered Rate (LIBOR). This guidance is available immediately and may be implemented in any period prior to the guidance expiration on December 31, 2022. We are currently assessing which of our various contracts could require an update for a new reference rate and will determine the timing for our implementation of this guidance at the completion of that analysis. We expect to utilize certain of the optional expedients and exceptions available under ASU 2020-04 and we do not expect the adoption of this guidance to have a material impact on our financial statements.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

Accounting Standards Update 2019-12

On December 18, 2019, the FASB issued ASU 2019-12 - *Income Taxes (Topic 740)*. This guidance is intended to simplify the accounting and disclosure requirements for income taxes by removing various exceptions, and requires that the effect of an enacted change in tax laws or rates be included in the annual effective tax rate computation in the interim period of the enactment. This guidance becomes effective at the beginning of our 2021 fiscal year. We expect to adopt this guidance on January 1, 2021 and we do not expect that this standard will have a material impact on our consolidated financial statements.

Other Regulatory Standards Adopted

Securities and Exchange Commission (SEC) Rule

In the first quarter of 2020, the SEC adopted "Financial Disclosures about Guarantors and Issuers of Guaranteed Securities and Affiliates Whose Securities Collateralize a Registrant's Securities," a rule that amends the financial disclosure requirements for guarantors and issuers of registered guaranteed securities. This rule eliminates the previous requirement to present guarantor financial statement information in the notes to the financial statements and allows for the disclosure of summarized financial information for the most recent year and interim period, as well as expanded non-financial disclosures, in Management's Discussion and Analysis (MD&A). The effective date for this rule is January 4, 2021, however, the SEC permitted voluntary compliance prior to this date and we elected to adopt the new disclosure requirements in the first quarter of 2020. As such, we no longer present guarantor financial statement information in the notes to the consolidated financial statements, but instead present the required information within MD&A.

Coronavirus Aid, Relief, and Economic Security Act

The Coronavirus Aid, Relief, and Economic Security Act (the CARES Act) was enacted on March 27, 2020 in the United States. The key provisions of the CARES Act, as applicable to AAM, included the following:

- The ability to use net operating losses (NOLs) to offset income without the 80% taxable income limitation enacted as part of the Tax Cuts and Jobs Act (TCJA) of 2017, and to carry back NOLs to offset prior year income for five years. These are temporary provisions that apply to NOLs incurred in 2018, 2019 or 2020 tax years. We recognized a tax benefit of \$14.4 million for the year ended December 31, 2020 related to our ability to carry back prior year losses, as well as projected current year losses, under the CARES Act to years with the previous 35% tax rate. We also received an income tax refund of approximately \$31.0 million during 2020 as a result of the provisions of the CARES Act.
- The ability to claim a current deduction for interest expense up to 50% of Adjusted Taxable Income (ATI) for tax years 2019 and 2020. This limitation was previously 30% of ATI pursuant to the TCJA, and will revert to 30% after 2020.
- The ability to defer the payment of the employer portion of social security taxes incurred between March 27, 2020 and December 31, 2020, with 50% of the deferred amount to be paid by December 31, 2021 and the remaining 50% to be paid by December 31, 2022. For the year ended December 31, 2020, we deferred \$15.2 million of social security taxes that will be paid in 2021 and 2022.
- The ability to claim an Employee Retention Credit (ERC), which is a refundable payroll tax credit, for 50% of qualified wages or benefits, subject to certain limitations, that are paid to an employee when they are not providing services due to Novel Coronavirus (COVID-19). The ERC applies to qualified wages paid or incurred during the period March 13, 2020 through December 31, 2020 and is available to eligible employers whose operations were fully or partially suspended due to COVID-19, or whose gross receipts declined by more than 50% when compared to the applicable period in the prior year.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

2. RESTRUCTURING AND ACQUISITION-RELATED COSTS

In 2016, AAM initiated actions under a global restructuring program (the 2016 Program) focused on creating a more streamlined organization in addition to reducing our cost structure and preparing for acquisition and integration activities. From inception of the 2016 Program, we incurred severance charges totaling \$2.8 million and implementation costs totaling \$29.6 million. The 2016 Program has concluded and we do not expect to incur any additional charges under this program. In addition to costs incurred under the 2016 program, we initiated actions in 2018 to exit operations at manufacturing facilities in our Driveline, Metal Forming and former Powertrain segments.

In 2019, we initiated a global restructuring program (the 2019 Program). The primary objectives of the 2019 Program were to further the integration of Metaldyne Performance Group, Inc. (MPG), align AAM's product and process technologies, and to achieve efficiencies within our corporate and business unit support teams to reduce cost in our business.

In the first quarter of 2020, we initiated a new global restructuring program (the 2020 Program) that supersedes the 2019 Program. The primary objectives of the 2020 Program are to achieve efficiencies within our corporate and business unit support teams to reduce cost in our business, and to structurally adjust our operations to a new level of market demand based on the impact of COVID-19. We expect to incur costs under the 2020 Program into 2022.

A summary of our restructuring activity for the years 2020, 2019 and 2018 is shown below:

	Severance Charges	Implementation Costs	Asset Impairment Charges	Total
	<i>(in millions)</i>			
Accrual at January 1, 2018	\$ 0.3	\$ —	\$ —	\$ 0.3
Charges	2.5	11.7	30.0	44.2
Cash utilization	(0.4)	(10.1)	—	(10.5)
Non-cash utilization	—	—	(30.0)	(30.0)
Accrual at December 31, 2018	2.4	1.6	—	4.0
Charges	19.4	20.4	—	39.8
Cash utilization	(17.0)	(14.6)	—	(31.6)
Non-cash utilization	—	—	—	—
Accrual at December 31, 2019	4.8	7.4	—	12.2
Charges	22.3	36.1	—	58.4
Cash utilization	(25.4)	(33.7)	—	(59.1)
Non-cash utilization	—	—	—	—
Accrual at December 31, 2020	\$ 1.7	\$ 9.8	\$ —	\$ 11.5

As part of our total restructuring actions during 2020, we incurred severance charges of approximately \$22.3 million, as well as implementation costs, consisting primarily of plant exit costs and professional fees, of approximately \$36.1 million. Approximately \$47.8 million of the restructuring costs incurred in 2020 were under the 2020 Program. Approximately \$19.3 million and \$16.0 million of our total restructuring costs in 2020 related to our Driveline and Metal Forming segments, respectively, while the remainder were corporate costs.

In 2019, we incurred severance charges of approximately \$19.4 million, as well as implementation costs, consisting primarily of plant exit costs, of approximately \$20.4 million. Approximately \$6.4 million, \$21.5 million and \$0.7 million of our total restructuring costs in 2019 related to our Driveline, Metal Forming and former Casting segments, respectively, while the remainder were corporate costs.

In 2018, we incurred severance charges of approximately \$2.5 million, as well as implementation costs, consisting primarily of plant exit costs and professional fees, of approximately \$11.7 million and long-lived asset impairment charges of \$30.0 million. Approximately \$3.4 million, \$37.6 million and \$0.1 million of our total restructuring costs in 2018 related to our Driveline, Metal Forming and former Casting segments, respectively, while the remainder were corporate costs.

We expect to incur approximately \$50 million to \$65 million of total restructuring charges in 2021, substantially all of which are under the 2020 Program.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

In 2019, we completed our acquisition of certain operations of Mitec Automotive AG, and in 2017, we completed our acquisitions of MPG and USM Mexico. The following table represents a summary of charges incurred in 2020, 2019 and 2018 associated with acquisition and integration costs:

	Acquisition-Related Costs	Severance Charges	Integration Expenses	Total
2020 Charges	\$ —	\$ —	\$ 8.8	\$ 8.8
2019 Charges	1.8	—	16.2	18.0
2018 Charges	1.2	0.5	33.0	34.7

Acquisition-related costs primarily consist of advisory, legal, accounting, valuation and certain other professional or consulting fees incurred. Integration expenses primarily reflect costs incurred for information technology infrastructure and enterprise resource planning systems, and consulting fees incurred in conjunction with the acquisitions.

Total restructuring charges and acquisition-related charges of \$67.2 million, \$57.8 million and \$78.9 million are shown on a separate line item titled "Restructuring and Acquisition-Related Costs" in our Consolidated Statements of Operations for 2020, 2019 and 2018, respectively.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

3. GOODWILL AND OTHER INTANGIBLE ASSETS

Goodwill The following table provides a reconciliation of changes in goodwill for the year ended December 31, 2020 and the year ended December 31, 2019:

	Driveline	Metal Forming	Powertrain	Consolidated
	<i>(in millions)</i>			
Balance as of January 1, 2019	\$ 212.1	\$ 552.4	\$ 377.3	\$ 1,141.8
Reorganization	187.2	190.1	(377.3)	—
Impairment charge	—	(440.0)	—	(440.0)
Foreign currency translation	(1.0)	(1.7)	—	(2.7)
Balance as of December 31, 2019	\$ 398.3	\$ 300.8	\$ —	\$ 699.1
Impairment charge	(210.8)	(299.2)	—	(510.0)
Foreign currency translation	(1.8)	(1.6)	—	(3.4)
Balance as of December 31, 2020	<u>\$ 185.7</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 185.7</u>

We conduct our annual goodwill impairment test in the fourth quarter of each year, as well as whenever adverse events or changes in circumstances indicate a possible impairment. In performing this test, we utilize a third-party valuation specialist to assist management in determining the fair value of our reporting units. Fair value of each reporting unit is estimated based on a combination of discounted cash flows and the use of pricing multiples derived from an analysis of comparable public companies multiplied against historical and/or anticipated financial metrics of each reporting unit. These calculations contain uncertainties as they require management to make assumptions including, but not limited to, market comparables, future cash flows of the reporting units, and appropriate discount and long-term growth rates. This fair value determination is categorized as Level 3 within the fair value hierarchy. We completed our annual goodwill impairment test for our Driveline reporting unit in the fourth quarter of 2020 and no impairment was identified.

In the first quarter of 2020, the reduction in global automotive production volumes caused by the impact of COVID-19 represented an indicator to test our goodwill for impairment. This reduction in production volumes began in March of 2020 and resulted in lower forecasted sales volumes in the periods included in our long-range plan as revised in the first quarter of 2020. As a result of this goodwill impairment test in the first quarter of 2020, we determined that the carrying values of both our Driveline and Metal Forming reporting units were greater than their respective fair values. As such, we recorded a goodwill impairment charge of \$210.8 million associated with our Driveline reporting unit and a goodwill impairment charge of \$299.2 million associated with our Metal Forming reporting unit in the first quarter of 2020. The Metal Forming impairment charge represented a full impairment of the goodwill associated with that reporting unit.

These impairment charges were primarily the result of a decline in the projected cash flows of these reporting units under our revised long-range plan completed in the first quarter of 2020. The revision to our long-range plan was driven by lower forecasted sales volumes in the internal and external data sources used to form our projections primarily due to the reduction in global automotive production volumes caused by the impact of COVID-19. The impairment charges were also the result of changes in certain market-related inputs to the analysis to reflect macro-economic changes caused by the impact of COVID-19, including increased discount rates and lower pricing multiples for comparable public companies. At December 31, 2020, accumulated goodwill impairment losses were \$1,435.5 million.

The reduction in production volumes and changes to macro-economic factors caused by the impact of COVID-19 also represented an indicator to test our long-lived assets, including other intangible assets and property, plant and equipment, for impairment. We completed this test in the first quarter of 2020 and there was no impairment of these assets.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

As a result of our annual goodwill impairment test in the fourth quarter of 2019, we determined that the carrying value of our Metal Forming reporting unit was greater than its fair value. As such, we recorded a goodwill impairment charge of \$440.0 million in 2019 associated with this reporting unit. This impairment was primarily the result of a decline in the projected cash flows of this reporting unit under our long-range plan completed in the fourth quarter of 2019, as compared to the long-range plan completed in the fourth quarter of 2018. This was driven, in part, by lower forecasted sales volumes in the internal and external data sources used to form our projections.

In the first quarter of 2019, we initiated a global restructuring program (the 2019 Program) to further streamline our business by consolidating our four existing segments into three segments. Prior to this reorganization, our former Powertrain segment was also a reporting unit for purposes of measuring and reporting goodwill. The goodwill that was previously attributable to the former Powertrain reporting unit was reallocated to the Driveline and Metal Forming reporting units based on the relative fair value of the respective portions that became attributable to those reporting units. The initiation of the 2019 Program and the reorganization of our business represented a triggering event in the first quarter of 2019 to test goodwill for impairment prior to reallocating the former Powertrain goodwill to Driveline and Metal Forming. No impairment was identified as a result of completing this goodwill impairment test.

As a result of our test in the fourth quarter of 2018, we determined that the carrying values of our former Casting and Powertrain reporting units were greater than their respective fair values. As such, we recorded goodwill impairment charges of \$405.5 million associated with our Casting reporting unit and \$80.0 million associated with our former Powertrain reporting unit in 2018. These impairments were primarily the result of a general contraction of pricing multiples associated with capital intensive businesses such as the business conducted by our former Casting and Powertrain reporting units, as well as a decline in the projected cash flows of these reporting units under our long-range plan completed in the fourth quarter of 2018, as compared to the long-range plan completed in the fourth quarter of 2017.

The decline in projected cash flows for our former Powertrain reporting unit was primarily the result of decreased contribution margin on lower production volumes for certain passenger car programs that we support. The decline in projected cash flows for our former Casting reporting unit was primarily the result of a projected increase in labor costs in an effort to address workforce shortages at certain locations, as well as an increase in other maintenance and capital requirements.

Other Intangible Assets The following table provides a reconciliation of the gross carrying amount and associated accumulated amortization for AAM's other intangible assets, which are all subject to amortization, as of December 31, 2020 and December 31, 2019:

	December 31,			December 31,		
	2020			2019		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
	<i>(in millions)</i>					
Capitalized computer software	\$ 47.6	\$ (33.9)	\$ 13.7	\$ 45.8	\$ (27.6)	\$ 18.2
Customer platforms	856.2	(237.9)	618.3	856.2	(174.4)	681.8
Customer relationships	53.0	(12.8)	40.2	53.0	(9.4)	43.6
Technology and other	156.7	(48.2)	108.5	156.0	(35.1)	120.9
Total	\$ 1,113.5	\$ (332.8)	\$ 780.7	\$ 1,111.0	\$ (246.5)	\$ 864.5

Amortization expense for our intangible assets was \$86.6 million for the year ended December 31, 2020, \$95.4 million for the year ended December 31, 2019, and \$99.4 million for the year ended December 31, 2018. The change in amortization expense in 2020, as compared to 2019, was primarily attributable to the sale of the U.S. operations of our Casting business in the fourth quarter of 2019. Amortization expense for the years 2021 through 2025 is expected to be in the range of approximately \$80 million to \$85 million per year.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

4. LONG-TERM DEBT

Long-term debt, net consists of the following:

	December 31,	
	2020	2019
	<i>(in millions)</i>	
Revolving credit facility	\$ —	\$ —
Term Loan A Facility	323.0	340.0
Term Loan B Facility	1,088.8	1,188.8
6.875% Notes due 2028	400.0	—
6.625% Notes due 2022	—	450.0
6.50% Notes due 2027	500.0	500.0
6.25% Notes due 2026	400.0	400.0
6.25% Notes due 2025	700.0	700.0
Foreign credit facilities and other	88.8	113.4
Total debt	3,500.6	3,692.2
Less: Current portion of long-term debt	13.7	28.7
Long-term debt	3,486.9	3,663.5
Less: Debt issuance costs	45.6	51.2
Long-term debt, net	\$ 3,441.3	\$ 3,612.3

SENIOR SECURED CREDIT FACILITIES In 2017, Holdings and American Axle & Manufacturing, Inc. (AAM Inc.) entered into a credit agreement (the Credit Agreement). In connection with the Credit Agreement, Holdings, AAM, Inc. and certain of their restricted subsidiaries entered into a Collateral Agreement and Guarantee Agreement with the financial institutions party thereto. The Credit Agreement included a \$100.0 million term loan A facility (the Term Loan A Facility), a \$1.55 billion term loan B facility (the Term Loan B Facility) and a \$932 million multi-currency revolving credit facility (the Revolving Credit Facility, and together with the Term Loan A Facility and the Term Loan B Facility, the Senior Secured Credit Facilities).

In July 2019, Holdings, AAM, Inc., and certain subsidiaries of Holdings entered into the First Amendment to the Credit Agreement (as amended by the First Amendment, the Amended Credit Agreement). The First Amendment, among other things, established \$340 million in incremental term loan A commitments under the Amended Credit Agreement with a maturity date of July 29, 2024 (Term Loan A Facility due 2024), reduced the availability under the Revolving Credit Facility from \$932 million to \$925 million and extended the maturity date of the Revolving Credit Facility from April 6, 2022 to July 29, 2024, and modified the applicable margin with respect to interest rates under the Term Loan A Facility due 2024 and interest rates and commitment fees under the Revolving Credit Facility. The applicable margin and the maturity date for the Term Loan B Facility remain unchanged. The proceeds of \$340 million were used to repay all of the outstanding loans under the existing Term Loan A Facility and a portion of the outstanding Term Loan B Facility, resulting in no additional indebtedness. This also satisfied all payment requirements under the Term Loan B Facility until maturity in 2024. We expensed \$5.1 million for the write-off of the unamortized debt issuance costs related to the existing Term Loan A Facility and a portion of the unamortized debt issuance costs related to our Term Loan B Facility that we had been amortizing over the expected life of the borrowings.

In December 2019, we used a portion of the cash proceeds from the sale of the U.S. operations of our Casting segment (the Casting Sale) to make a payment on our Term Loan B Facility, which included a principal payment of \$59.8 million and \$0.4 million in accrued interest. We also expensed approximately \$1.0 million for the write-off of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

In April 2020, Holdings, AAM, Inc., and certain subsidiaries of Holdings entered into the Second Amendment to the Credit Agreement (Second Amendment). For the period from April 1, 2020 through March 31, 2022 (the Amendment Period), the Second Amendment, among other things, replaced the total net leverage ratio covenant with a new senior secured net leverage ratio covenant, reduced the minimum levels of the cash interest expense coverage ratio covenant, and modified certain covenants restricting the ability of Holdings, AAM and certain subsidiaries of Holdings to create, incur, assume or permit to exist certain additional indebtedness and liens and to make certain restricted payments, voluntary payments and distributions. The Second Amendment also increased the maximum levels of the total net leverage ratio covenant after the Amendment Period, modified the applicable margin with respect to interest rates under the Term Loan A Facility due 2024 and interest rates and commitment fees under the Revolving Credit Facility, and increased the minimum adjusted London Interbank Offered Rate for Eurodollar-based loans under the Term Loan A Facility due 2024 and Revolving Credit Facility. The applicable margin for the Term Loan B Facility remains unchanged. We paid debt issuance costs of \$4.6 million in the year ended December 31, 2020 related to the Second Amendment.

In December 2020, we made a voluntary prepayment of \$100 million on our Term Loan B Facility and paid approximately \$15 million on our Term Loan A Facility due 2024, which included approximately \$12.8 million for the prepayment of all required payments under the Term Loan A Facility due 2024 for 2021. As a result, we expensed approximately \$1.2 million for the write-off of the unamortized debt issuance costs that we had been amortizing over the life of these borrowings.

At December 31, 2020, \$891.2 million was available under the Revolving Credit Facility. This availability reflects a reduction of \$33.8 million for standby letters of credit issued against the facility. The proceeds of the Revolving Credit Facility are used for general corporate purposes.

The Senior Secured Credit Facilities provide back-up liquidity for our foreign credit facilities. We intend to use the availability of long-term financing under the Senior Secured Credit Facilities to refinance any current maturities related to such debt agreements that are not otherwise refinanced on a long-term basis in their local markets, except where otherwise reclassified to Current portion of long-term debt on our Consolidated Balance Sheet.

6.875% NOTES DUE 2028 In the second quarter of 2020, we issued \$400 million in aggregate principal amount of 6.875% senior notes due 2028 (the 6.875% Notes). Proceeds from the 6.875% Notes were used primarily to fund the redemption of the remaining \$350 million of 6.625% senior notes due 2022 described below and for general corporate purposes. We paid debt issuance costs of \$6.4 million in the year ended December 31, 2020 related to the 6.875% Notes.

REDEMPTION OF 6.625% NOTES DUE 2022 In the first quarter of 2020, we voluntarily redeemed a portion of our 6.625% Notes due 2022. This resulted in a principal payment of \$100.0 million and \$2.0 million in accrued interest. We also expensed approximately \$0.4 million for the write-off of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately \$1.1 million for an early redemption premium.

In the third quarter of 2020, we voluntarily redeemed the remaining portion of our 6.625% Notes due 2022. This resulted in a principal payment of \$350 million and \$5.7 million in accrued interest. We also expensed approximately \$1.3 million for the write-off of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately \$3.9 million for the payment of an early redemption premium.

In the second quarter of 2018, we voluntarily redeemed a portion of our 6.625% Notes due 2022. This resulted in a principal payment of \$100.0 million, and a payment of \$0.8 million in accrued interest. During 2018, we expensed \$0.8 million for the write-off of a portion of the remaining unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing and \$3.3 million for an early redemption premium.

REDEMPTION OF 7.75% NOTES DUE 2019 In the second quarter of 2019, we voluntarily redeemed the remaining balance outstanding under our 7.75% Notes due 2019. This resulted in a principal payment of \$100.0 million and \$0.3 million in accrued interest. We also expensed approximately \$0.1 million for the write-off of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately \$2.2 million for an early redemption premium.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

In the fourth quarter of 2018, we voluntarily redeemed a portion of our 7.75% Notes due 2019. This resulted in a principal payment of \$100.0 million and \$3.9 million in accrued interest. We also expensed approximately \$0.3 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately \$4.5 million for an early redemption premium.

6.25% NOTES DUE 2026 In the first quarter of 2018, we issued \$400.0 million in aggregate principal amount of 6.25% senior notes due 2026 (the 6.25% Notes due 2026). Proceeds from the 6.25% Notes due 2026 were used primarily to fund the tender offer for the 6.25% senior notes due 2021 (the 6.25% Notes due 2021) described below. We paid debt issuance costs of \$6.6 million during 2018 related to the 6.25% Notes due 2026.

TENDER OFFER OF 6.25% NOTES DUE 2021 Also during the first quarter of 2018, we made a tender offer for our 6.25% Notes due 2021. Under this tender offer, we retired the \$400.0 million of the 6.25% Notes due 2021 and expensed \$2.5 million for the write-off of the remaining unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing and \$8.0 million in tender premiums.

FOREIGN CREDIT FACILITIES We utilize local currency credit facilities to finance the operations of certain foreign subsidiaries. These credit facilities, some of which are guaranteed by Holdings and/or AAM, Inc., expire at various dates through May 2023. At December 31, 2020, \$88.8 million was outstanding under our foreign credit facilities and an additional \$72.8 million was available. At December 31, 2019, \$106.0 million was outstanding under these facilities and an additional \$89.1 million was available.

DEBT MATURITIES Aggregate maturities of long-term debt are as follows (*in millions*):

2021	\$	32.2
2022		34.2
2023		73.4
2024		1,360.8
2025		700.0
Thereafter		1,300.0
Total	\$	3,500.6

INTEREST EXPENSE AND INTEREST INCOME Interest expense was \$212.3 million in 2020, \$217.3 million in 2019 and \$216.3 million in 2018.

We capitalized interest of \$7.9 million in 2020, \$15.5 million in 2019 and \$28.4 million in 2018. The weighted-average interest rate of our long-term debt outstanding at December 31, 2020 and December 31, 2019 was 5.8%, as compared to 5.9% at December 31, 2018.

Interest income was \$11.6 million in 2020, \$5.8 million in 2019 and \$2.0 million in 2018. Interest income primarily includes interest earned on cash and cash equivalents, realized and unrealized gains and losses on our short-term investments during the period, and the impact of the interest rate differential on our fixed-to-fixed cross-currency swap.

5. DERIVATIVES AND RISK MANAGEMENT

DERIVATIVE FINANCIAL INSTRUMENTS In the normal course of business, we are exposed to market risk associated with changes in foreign currency exchange rates and interest rates. To manage a portion of these inherent risks, we may purchase certain types of derivative financial instruments based on management's judgment of the trade-off between risk, opportunity and cost. We do not hold or issue derivative financial instruments for trading or speculative purposes. The impact of hedge ineffectiveness was not significant in any of the periods presented.

CURRENCY DERIVATIVE CONTRACTS From time to time, we use foreign currency forward contracts to reduce the effects of fluctuations in exchange rates relating to certain foreign currencies. We had currency forward contracts outstanding with a notional amount of \$178.2 million and \$180.1 million at December 31, 2020 and 2019, respectively, that hedge our exposure to changes in foreign currency exchange rates for certain payroll expenses into the third quarter of 2023 and the purchase of certain direct and indirect inventory and other working capital items into the fourth quarter of 2021.

FIXED-TO-FIXED CROSS-CURRENCY SWAP In 2019, we entered into a fixed-to-fixed cross-currency swap to reduce the variability of functional currency equivalent cash flows associated with changes in exchange rates on certain Euro-based intercompany loans. In the first quarter of 2020, we discontinued this fixed-to-fixed cross-currency swap, which was in an asset position of \$9.8 million on the date that it was discontinued.

Also in the first quarter of 2020, we entered into a new fixed-to-fixed cross-currency swap to reduce the variability of functional currency equivalent cash flows associated with changes in exchange rates on certain Euro-based intercompany loans. As of December 31, 2020 and December 31, 2019 the notional amount of the fixed-to-fixed cross-currency swap was \$244.2 million and \$224.2 million, respectively, and hedges our exposure to changes in exchange rates on the intercompany loans into the second quarter of 2024.

VARIABLE-TO-FIXED INTEREST RATE SWAP In 2017, we entered into a variable-to-fixed interest rate swap to reduce the variability of cash flows associated with interest payments on our variable rate debt. In 2018, we discontinued this variable-to-fixed interest rate swap, which was in an asset position of \$5.6 million on the date that it was discontinued.

Also in 2018, we entered into a new variable-to-fixed interest rate swap to reduce the variability of cash flows associated with interest payments on our variable rate debt. In 2019, we discontinued this variable-to-fixed interest rate swap, which was a liability of \$9.7 million on the date that it was discontinued.

Also in 2019, we entered into a new variable-to-fixed interest rate swap to reduce the variability of cash flows associated with interest payments on our variable rate debt. As of December 31, 2020, we have the following notional amounts hedged in relation to our variable-to-fixed interest rate swap: \$900.0 million through May 2021, \$750.0 million through May 2022, \$600.0 million through May 2023 and \$500.0 million through May 2024.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

The following table summarizes the reclassification of pre-tax derivative gains (losses) into net income (loss) from accumulated other comprehensive income (loss) for those derivative instruments designated as cash flow hedges under Accounting Standards Codification 815 - Derivatives and Hedging (ASC 815):

	Location of Gain (Loss) Reclassified into Net Income (Loss)	Gain (Loss) Reclassified During the Twelve Months Ended December 31,			Total of Financial Statement Line Item	Gain (Loss) Expected to be Reclassified During the Next 12 Months
		2020	2019	2018	2020	
<i>(in millions)</i>						
Currency forward contracts	Cost of Goods Sold	\$ (2.9)	\$ 2.4	\$ (2.8)	\$ 4,128.1	\$ 5.7
Fixed-to-fixed cross-currency swap	Other Expense, net	(18.7)	1.3	—	(5.2)	1.7
Variable-to-fixed interest rate swap	Interest Expense	(14.2)	(2.0)	3.2	(212.3)	(15.3)

See Note 12 - Reclassifications Out of Accumulated Other Comprehensive Income (Loss) for amounts recognized in Accumulated other comprehensive income (loss) during the years ended December 31, 2020, December 31, 2019 and December 31, 2018.

The following table summarizes the amount and location of gains (losses) recognized in the Consolidated Statements of Operations for those derivative instruments not designated as hedging instruments under ASC 815:

	Location of Gain (Loss) Recognized in Net Income (Loss)	Gain (Loss) Recognized During the Twelve Months Ended December 31,			Total of Financial Statement Line Item
		2020	2019	2018	2020
<i>(in millions)</i>					
Currency forward contracts	Cost of Goods Sold	\$ (6.7)	\$ 3.9	\$ 1.6	\$ 4,128.1
Currency forward contracts	Other Expense, Net	0.6	—	1.4	(5.2)

CONCENTRATIONS OF CREDIT RISK In the normal course of business, we provide credit to customers. We periodically evaluate the creditworthiness of our customers and we maintain reserves for potential credit losses.

Sales to General Motors Company (GM) were approximately 39% of our consolidated net sales in 2020, 37% in 2019, and 41% in 2018. Accounts and other receivables due from GM were \$297.5 million at year-end 2020 and \$328.5 million at year-end 2019. Sales to FCA US LLC (FCA, now part of Stellantis N.V. effective January 2021), were approximately 19% of our consolidated net sales in 2020, 17% in 2019 and 13% in 2018. Accounts and other receivables due from FCA were \$157.0 million at year-end 2020 and \$154.8 million at year-end 2019. Sales to Ford Motor Company (Ford) were approximately 12% of our consolidated net sales in 2020, 9% in of 2019 and 8% in 2018. Accounts and other receivables due from Ford were \$116.5 million at year-end 2020 and \$111.7 million at year end 2019. No other single customer accounted for more than 10% of our consolidated net sales in any year presented.

In addition, our total GM postretirement cost sharing asset was \$250.0 million as of December 31, 2020 and \$236.0 million as of December 31, 2019. See Note 7 - Employee Benefit Plans for more detail on this cost sharing asset.

We diversify the concentration of invested cash and cash equivalents among different financial institutions and we monitor the selection of counterparties to other financial instruments to avoid unnecessary concentrations of credit risk.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

6. FAIR VALUE

The fair value accounting guidance defines fair value as “the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.” The definition is based on an exit price rather than an entry price, regardless of whether the entity plans to hold or sell the asset. This guidance also establishes a fair value hierarchy to prioritize inputs used in measuring fair value as follows:

- Level 1: Observable inputs such as quoted prices in active markets;
- Level 2: Inputs, other than quoted prices in active markets, that are observable either directly or indirectly; and
- Level 3: Unobservable inputs in which there is little or no market data, which require the reporting entity to develop its own assumptions.

FINANCIAL INSTRUMENTS The estimated fair values of our financial assets and liabilities that are recognized at fair value on a recurring basis, using available market information and other observable data are as follows:

	December 31, 2020		December 31, 2019		Input
	Carrying Amount	Fair Value	Carrying Amount	Fair Value	
	<i>(in millions)</i>				
Balance Sheet Classification					
Cash equivalents	\$ 206.7	\$ 206.7	\$ 271.3	\$ 271.3	Level 1
Prepaid expenses and other					
Cash flow hedges - currency forward contracts	5.8	5.8	5.0	5.0	Level 2
Cash flow hedges - variable-to-fixed interest rate swap	4.9	4.9	0.9	0.9	Level 2
Nondesignated - currency forward contracts	0.2	0.2	1.9	1.9	Level 2
Other assets and deferred charges					
Cash flow hedges - currency forward contracts	3.3	3.3	3.4	3.4	Level 2
Cash flow hedges - fixed-to-fixed cross-currency swap	—	—	1.1	1.1	Level 2
Cash flow hedges - variable-to-fixed interest rate swap	8.6	8.6	2.2	2.2	Level 2
Accrued expenses and other					
Cash flow hedges - currency forward contracts	0.1	0.1	—	—	Level 2
Cash flow hedges - variable-to-fixed interest rate swap	17.8	17.8	7.9	7.9	Level 2
Postretirement benefits and other long-term liabilities					
Cash flow hedges - currency forward contracts	0.1	0.1	—	—	Level 2
Cash flow hedges - fixed-to-fixed cross-currency swap	20.6	20.6	—	—	Level 2
Cash flow hedges - variable-to-fixed interest rate swap	32.1	32.1	18.4	18.4	Level 2

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

The carrying values of our cash, accounts receivable, accounts payable and accrued liabilities approximate their fair values due to the short-term maturities of these instruments. The carrying values of our borrowings under the foreign credit facilities approximate their fair values due to the frequent resetting of the interest rates. We estimated the fair value of our outstanding debt using available market information and other observable data to be as follows:

	December 31, 2020		December 31, 2019		Input
	Carrying Amount	Fair Value	Carrying Amount	Fair Value	
	<i>(in millions)</i>				
Revolving Credit Facility	\$ —	\$ —	\$ —	\$ —	Level 2
Term Loan A Facility	323.0	318.6	340.0	337.9	Level 2
Term Loan B Facility	1,088.8	1,071.1	1,188.8	1,174.0	Level 2
6.875% Notes due 2028	400.0	426.0	—	—	Level 2
6.625% Notes due 2022	—	—	450.0	455.4	Level 2
6.50% Notes due 2027	500.0	523.8	500.0	516.3	Level 2
6.25% Notes due 2026	400.0	411.0	400.0	409.0	Level 2
6.25% Notes due 2025	700.0	724.3	700.0	716.6	Level 2

Investments in our defined benefit pension plans are stated at fair value. See Note 7 - Employee Benefit Plans for additional fair value disclosures of our pension plan assets.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

7. EMPLOYEE BENEFIT PLANS

PENSION AND OTHER POSTRETIREMENT DEFINED BENEFIT PLANS We sponsor various qualified and non-qualified defined benefit pension plans for our eligible associates. We also maintain hourly and salaried benefit plans that provide postretirement medical, dental, vision and life insurance benefits (OPEB) to our eligible retirees and their dependents in the U.S.

Actuarial valuations of our benefit plans were made as of December 31, 2020 and 2019. The primary weighted-average assumptions used in the year-end valuation of our principal plans appear in the following table. The U.S. discount rates are based on an actuarial review of a hypothetical portfolio of long-term, high quality corporate bonds matched against the expected payment stream for each of our plans. The United Kingdom (U.K.) discount rates are based on hypothetical yield curves developed from corporate bond yield information within each regional market. The assumptions for expected return on plan assets are based on future capital market expectations for the asset classes represented within our portfolios and a review of long-term historical returns. The rates of increase in compensation and health care costs are based on current market conditions, inflationary expectations and historical information.

	Pension Benefits						OPEB		
	2020		2019		2018		2020	2019	2018
	U.S.	U.K.	U.S.	U.K.	U.S.	U.K.			
Discount rate	2.50 %	1.55 %	3.40 %	2.05 %	4.30 %	2.95 %	2.55 %	3.35 %	4.35 %
Expected return on plan assets	7.25 %	4.00 %	7.25 %	4.00 %	7.50 %	5.10 %	N/A	N/A	N/A
Rate of compensation increase	N/A	3.15 %	N/A	3.15 %	4.00 %	3.40 %	4.00 %	4.00 %	4.00 %

The accumulated benefit obligation for all defined benefit pension plans was \$796.6 million and \$737.8 million at December 31, 2020 and December 31, 2019, respectively. As of December 31, 2020, the accumulated benefit obligation for our underfunded defined benefit pension plans was \$618.8 million, the projected benefit obligation was \$618.8 million and the fair value of assets for these plans was \$469.6 million.

Certain eligible retirees under our OPEB plans have past service with both AAM and GM. AAM and GM share proportionally in the cost of OPEB for these retirees based on the length of service an employee had with AAM and GM. We have included in our OPEB obligation the amounts expected to be received pursuant to this agreement of \$250.0 million and \$236.0 million at December 31, 2020 and December 31, 2019, respectively. We have also recorded a corresponding asset for these amounts on our Consolidated Balance Sheets, \$13.0 million that is classified as a current asset and \$237.0 million that is classified as a noncurrent asset as of December 31, 2020.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

The following table summarizes the changes in projected benefit obligations and plan assets and reconciles the funded status of the benefit plans, which is the net benefit plan liability:

	Pension Benefits		OPEB	
	December 31,		December 31,	
	2020	2019	2020	2019
	<i>(in millions)</i>			
Change in benefit obligation				
Benefit obligation at beginning of year	\$ 740.2	\$ 734.5	\$ 549.1	\$ 537.3
Service cost	2.0	1.5	0.4	0.3
Interest cost	21.4	28.0	10.2	12.8
Actuarial loss	63.5	71.5	25.3	11.9
Change in GM portion of OPEB obligation	—	—	14.0	3.1
Participant contributions	0.2	0.2	—	—
Curtailments	—	(1.9)	—	—
Settlements	(3.3)	(28.8)	—	—
Benefit payments	(34.4)	(44.1)	(12.5)	(15.5)
Sale of business	—	(26.2)	—	(0.8)
Currency fluctuations	8.7	5.5	—	—
Other	0.6	—	—	—
Net change	<u>58.7</u>	<u>5.7</u>	<u>37.4</u>	<u>11.8</u>
Benefit obligation at end of year	<u>\$ 798.9</u>	<u>\$ 740.2</u>	<u>\$ 586.5</u>	<u>\$ 549.1</u>
Change in plan assets				
Fair value of plan assets at beginning of year	\$ 636.6	\$ 625.8	\$ —	\$ —
Actual return on plan assets	55.7	87.5	—	—
Employer contributions	8.5	10.0	12.5	15.5
Participant contributions	0.2	0.2	—	—
Benefit payments	(34.4)	(44.1)	(12.5)	(15.5)
Settlements	(3.3)	(28.8)	—	—
Sale of business	—	(20.7)	—	—
Currency fluctuations	6.6	6.7	—	—
Net change	<u>33.3</u>	<u>10.8</u>	<u>—</u>	<u>—</u>
Fair value of plan assets at end of year	<u>\$ 669.9</u>	<u>\$ 636.6</u>	<u>\$ —</u>	<u>\$ —</u>

Amounts recognized in our Consolidated Balance Sheets are as follows:

	Pension Benefits		OPEB	
	December 31,		December 31,	
	2020	2019	2020	2019
	<i>(in millions)</i>			
Noncurrent assets	\$ 20.2	\$ 21.2	\$ —	\$ —
Current liabilities	(8.0)	(6.6)	(29.8)	(29.1)
Noncurrent liabilities	(141.2)	(118.2)	(556.7)	(520.0)
Net liability	<u>\$ (129.0)</u>	<u>\$ (103.6)</u>	<u>\$ (586.5)</u>	<u>\$ (549.1)</u>

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

Pre-tax amounts recorded in accumulated other comprehensive income (loss) (AOCI), not yet recognized in net periodic benefit cost (credit) as of December 31, 2020 and 2019, consists of:

	Pension Benefits		OPEB	
	December 31,		December 31,	
	2020	2019	2020	2019
	<i>(in millions)</i>			
Net actuarial gain (loss)	\$ (278.0)	\$ (239.2)	\$ (4.9)	\$ 19.3
Net prior service credit (cost)	(1.8)	(1.2)	3.1	4.7
Total amounts recorded	\$ (279.8)	\$ (240.4)	\$ (1.8)	\$ 24.0

The increase in net actuarial loss for pension benefits and decrease in net actuarial gain for OPEB as of December 31, 2020, as compared to December 31, 2019, is primarily attributable to a reduction in the discount rates used in the valuation at December 31, 2020 as compared to prior year.

The components of net periodic benefit cost (credit) are as follows:

	Pension Benefits			OPEB		
	2020	2019	2018	2020	2019	2018
		<i>(in millions)</i>				
Service cost	\$ 2.0	\$ 1.5	\$ 2.6	\$ 0.4	\$ 0.3	\$ 0.4
Interest cost	21.4	28.0	27.3	10.2	12.8	12.4
Expected asset return	(38.4)	(41.1)	(45.8)	—	—	—
Amortized actuarial loss	8.6	6.4	7.8	1.0	0.1	0.8
Amortized prior service cost (credit)	0.1	—	0.1	(1.5)	(1.5)	(2.7)
Curtailed loss (gain)	—	—	3.2	—	—	(0.6)
Settlement charge	0.5	10.4	0.4	—	—	—
Net periodic benefit cost (credit)	\$ (5.8)	\$ 5.2	\$ (4.4)	\$ 10.1	\$ 11.7	\$ 10.3

Our postretirement cost sharing asset from GM is measured on the same basis as the portion of the obligation to which it relates. The actuarial gains and losses related to the GM portion of the OPEB obligation are recognized immediately in the Consolidated Statements of Operations as an offset against the gains and losses related to the change in the corresponding GM postretirement cost sharing asset. These items are presented net in the change in benefit obligation and net periodic benefit cost components disclosed above. Remaining actuarial gains and losses are deferred and amortized over the expected future service periods of the active participants or the remaining life expectancy of the inactive participants.

For measurement purposes, a weighted average annual increase in the per-capita cost of covered health care benefits of 6.25% was assumed for 2021. The rate was assumed to decrease gradually to 5.00% by 2026 and to remain at that level thereafter.

The expected future pension and other postretirement benefits to be paid, net of GM cost sharing, for each of the next five years and in the aggregate for the succeeding five years thereafter are as follows: \$59.7 million in 2021; \$55.2 million in 2022; \$55.1 million in 2023; \$56.4 million in 2024; \$57.2 million in 2025 and \$287.4 million for 2026 through 2030. These amounts were estimated using the same assumptions that were used to measure our 2020 year-end pension and OPEB obligations and include an estimate of future employee service.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

Contributions We contributed \$4.2 million to our pension trusts in 2020. Due to the availability of our pre-funded pension balances (previous contributions in excess of prior required pension contributions), we expect our regulatory pension funding requirements in 2021 to be less than \$1.0 million. We expect our cash payments, net of GM cost sharing, for OPEB to be approximately \$17.0 million in 2021.

Terminated vested lump sum payment offer In 2019, we offered a voluntary one-time lump sum payment option to certain eligible terminated vested participants in our U.S. pension plans that, if accepted, settled our pension obligations to them (AAM Pension Payout Offer). The lump sum settlements, which were paid from plan assets, reduced our liabilities and administrative costs going forward.

The AAM Pension Payout Offer was offered to approximately 2,000 of our U.S. pension plan participants, of which 616 participants accepted the offer. We made a one-time lump sum payment from our pension trust of \$28.4 million in 2019. As a result of this settlement, we remeasured the assets and liabilities of our U.S. pension plans, which reduced our projected benefit obligation by \$32.5 million and resulted in a non-cash settlement charge of \$9.8 million in the fourth quarter of 2019 related to the accelerated recognition of certain deferred losses.

Pension plan assets The weighted-average asset allocations of our pension plan assets at December 31, 2020 and 2019 appear in the following table. The asset allocation for our plans is developed in consideration of the demographics of the plan participants and expected payment stream of the benefit obligation.

	U.S.			U.K.		
	2020	2019	Target Allocation	2020	2019	Target Allocation
Equity securities	34.7 %	35.2 %	25% - 40%	21.8 %	22.7 %	15% - 30%
Fixed income securities	57.3	52.9	50% - 70%	65.9	66.8	60% - 80%
Alternative assets	7.3	10.4	5% - 15%	8.9	9.4	5% - 15%
Cash	0.7	1.5	0% - 5%	3.4	1.1	0% - 5%
Total	100.0 %	100.0 %		100.0 %	100.0 %	

The primary objective of our pension plan assets is to provide a source of retirement income for participants and beneficiaries. Our primary financial objectives for the pension plan assets have been established in conjunction with a comprehensive review of our current and projected financial requirements. These objectives include having the ability to pay all future benefits and expenses when due, maintaining flexibility and minimizing volatility. These objectives are based on a long-term investment horizon.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

Defined Benefit Pension Plan Assets Investments in our defined benefit plans are stated at fair value. Level 1 assets are valued using quoted market prices that represent the asset value of the shares held by the trusts. The level 2 assets are investments in pooled funds, which are valued using a model to reflect the valuation of their underlying assets that are publicly traded with observable values. The fair values of our pension plan assets are as follows:

December 31, 2020					
Asset Categories	Level 1	Level 2	Level 3	Total	
	<i>(in millions)</i>				
Cash and Cash Equivalents	\$ 7.4	\$ 2.9	\$ —	\$ 10.3	
Equity					
U.S. Large Cap	88.1	2.7	—	90.8	
U.S. Small/Mid Cap	20.5	—	—	20.5	
World Equity	87.0	7.8	—	94.8	
Fixed Income Securities					
Government & Agencies	84.1	45.9	—	130.0	
Corporate Bonds - Investment Grade	219.0	2.7	—	221.7	
Corporate Bonds - Non-investment Grade	22.4	0.7	—	23.1	
Emerging Market Debt	21.1	1.1	—	22.2	
Other	3.6	0.3	—	3.9	
Other					
Property Funds ^(a)	—	—	—	44.2	
Liquid Alternatives Fund ^(a)	—	—	—	1.8	
Structured Credit Fund ^(a)	—	—	—	6.6	
Total Plan Assets	\$ 553.2	\$ 64.1	\$ —	\$ 669.9	

December 31, 2019					
Asset Categories	Level 1	Level 2	Level 3	Total	
	<i>(in millions)</i>				
Cash and Cash Equivalents	\$ 7.3	\$ 2.0	\$ —	\$ 9.3	
Equity					
U.S. Large Cap	82.4	3.0	—	85.4	
U.S. Small/Mid Cap	22.7	—	—	22.7	
World Equity	88.1	4.7	—	92.8	
Fixed Income Securities					
Government & Agencies	74.3	45.0	—	119.3	
Corporate Bonds - Investment Grade	185.8	0.6	—	186.4	
Corporate Bonds - Non-investment Grade	21.7	1.1	—	22.8	
Emerging Market Debt	20.4	0.7	—	21.1	
Other	6.9	4.8	—	11.7	
Other					
Property Funds ^(a)	—	—	—	57.3	
Liquid Alternatives Fund ^(a)	—	—	—	1.6	
Structured Credit Fund ^(a)	—	—	—	6.2	
Total Plan Assets	\$ 509.6	\$ 61.9	\$ —	\$ 636.6	

(a) In accordance with ASC 820 - Fair Value Measurement certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the Consolidated Balance Sheets.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

DEFINED CONTRIBUTION PLANS Most of our salaried and hourly U.S. associates, including certain UAW represented associates at our U.S. locations, are eligible to participate in voluntary savings plans. Our maximum match is 50% of eligible associates' contribution up to 10% of their eligible salary. Matching contributions amounted to \$7.9 million in 2020, \$11.5 million in 2019 and \$12.4 million in 2018. Certain U.S. associates are eligible annually to receive an additional AAM Retirement Contribution (ARC) benefit between 3% to 5% of eligible salary, depending on years of service. We made ARC contributions of \$8.0 million, \$10.3 million and \$7.3 million in 2020, 2019 and 2018, respectively.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

8. STOCK-BASED COMPENSATION AND OTHER INCENTIVE COMPENSATION

STOCK-BASED COMPENSATION

At December 31, 2020, we had stock-based awards outstanding under stock compensation plans approved by our stockholders. Under these plans, shares have been authorized for issuance to our directors, officers and certain other associates in the form of unvested restricted stock units, performance shares or other awards that are based on the value of our common stock. Shares available for future grants at December 31, 2020 were 2.1 million. The current stock plan will expire in May 2028.

RESTRICTED STOCK UNITS We have awarded restricted stock units (RSUs). Compensation expense associated with RSUs settled in stock is recorded to paid-in-capital ratably over the three-year vesting period.

The following table summarizes activity relating to our RSUs:

	Number of Shares/Units	Weighted-Average Grant Date Fair Value per Share/Unit
	<i>(in millions, except per share data)</i>	
Outstanding at January 1, 2018	2.5	\$ 18.35
Granted	1.7	14.57
Vested	(0.4)	24.16
Canceled	(0.3)	15.84
Outstanding at December 31, 2018	3.5	\$ 16.00
Granted	1.0	15.78
Vested	(0.7)	15.53
Canceled	(0.7)	16.05
Outstanding at December 31, 2019	3.1	\$ 16.03
Granted	3.2	5.08
Vested	(0.8)	18.22
Canceled	(0.6)	10.33
Outstanding at December 31, 2020	4.9	\$ 9.20

As of December 31, 2020, unrecognized compensation cost related to unvested RSUs totaled \$15.5 million. The weighted average period over which this cost is expected to be recognized is approximately 2 years. In 2020 and 2019, the total fair market value of RSUs vested was \$5.0 million and \$10.9 million, respectively.

PERFORMANCE SHARES As of December 31, 2020, we have performance shares (PS) outstanding under our 2018 Omnibus Incentive Plan. We grant performance shares payable in stock to officers which vest in full over a three-year performance period. In 2020, these grants were based on AAM's three-year cumulative free cash flow, adjusted based on a total shareholder return (TSR) measure. In 2019, these grants were based on a TSR measure, and in 2018, these grants were based equally on a TSR measure and AAM's three-year cumulative free cash flow. The TSR metric compares our TSR over the three-year performance period relative to the TSR of our pre-defined competitor peer group. Based on these free cash flow and relative TSR performance metrics, the number of performance shares that will vest will be between 0% and 200% of the grant date amount. Share price appreciation and dividends paid are measured over the performance period to determine TSR. As these awards are settled in stock, the compensation expense is recorded ratably over the vesting period to paid-in-capital.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

The following table summarizes activity relating to our performance shares:

	Number of Shares	Weighted Average Grant Date Fair Value per Share
<i>(in millions, except per share data)</i>		
EBITDA Awards		
Outstanding at January 1, 2018	0.6	\$ 33.91
Granted	—	—
Vested	(0.1)	37.67
Canceled	—	—
Outstanding at December 31, 2018	0.5	\$ 34.49
Granted	—	—
Vested	(0.4)	31.21
Canceled	—	—
Outstanding at December 31, 2019	0.1	\$ 39.09
Granted	—	—
Vested	(0.1)	39.09
Canceled	—	—
Outstanding at December 31, 2020	—	\$ —
TSR Awards		
Outstanding at January 1, 2018	0.6	\$ 20.93
Granted	0.3	13.91
Vested	(0.1)	31.21
Canceled	—	—
Outstanding at December 31, 2018	0.8	\$ 16.25
Granted	0.3	24.36
Vested	(0.2)	17.54
Canceled	(0.1)	20.49
Outstanding at December 31, 2019	0.8	\$ 20.13
Granted	—	—
Vested	(0.2)	24.63
Canceled	—	—
Outstanding at December 31, 2020	0.6	\$ 18.86
Free Cash Flow Awards		
Outstanding at January 1, 2018	—	\$ —
Granted	0.3	14.28
Vested	—	—
Canceled	—	—
Outstanding at December 31, 2018	0.3	\$ 14.28
Granted	—	—
Vested	—	—
Canceled	—	—
Outstanding at December 31, 2019	0.3	\$ 14.28
Granted	0.9	5.18
Vested	—	—
Canceled	—	—
Outstanding at December 31, 2020	1.2	\$ 7.50

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

We estimate the fair value of our EBITDA performance shares on the date of grant using our estimated three-year adjusted EBITDA margin, based on AAM's budget and long-range plan assumptions at that time, and adjust quarterly as necessary. We estimate the fair value of our TSR performance shares on the date of grant using the Monte Carlo simulation approach. The Monte Carlo simulation approach utilizes inputs on volatility assumptions, risk free rates, the price of the Company's and our competitor peer group's common stock and their correlation as of each valuation date. Volatility assumptions are based on historical and implied volatility measurements. We estimate the fair value of our free cash flow performance shares on the date of grant using our estimated three-year cumulative free cash flow, based on AAM's budget and long-range plan assumptions at the time, and adjust quarterly as necessary.

Based on the current fair value, the estimated unrecognized compensation cost related to unvested PS totaled \$5.3 million, as of December 31, 2020. The weighted-average period over which this cost is expected to be recognized is approximately two years.

OTHER INCENTIVE COMPENSATION

PERFORMANCE UNITS As of December 31, 2020, we have performance units (PU) outstanding under our 2018 Omnibus Incentive Plan. We grant PU payable in cash to officers and certain other associates which vest in full over a three-year performance period and are based primarily on AAM's three-year cumulative free cash flow. The \$13.6 million and \$14.2 million of PU granted during 2020 and 2019, respectively, will vest for officers between 0% and 200% of the grant date amount, and for other associates between 0% and 150% of the grant date amount, using our cumulative free cash flow performance metric. Based on the current fair value, the estimated unrecognized compensation cost related to unvested PU totaled \$13.7 million, as of December 31, 2020. The weighted-average period over which this cost is expected to be recognized is approximately two years.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

9. INCOME TAXES

The components of income (loss) before income taxes are as follows:

	2020	2019	2018
	<i>(in millions)</i>		
U.S. loss	\$ (721.6)	\$ (889.0)	\$ (549.4)
Non - U.S. income	111.3	356.0	435.5
Total loss before income taxes	<u>\$ (610.3)</u>	<u>\$ (533.0)</u>	<u>\$ (113.9)</u>

The following is a summary of the components of our provision for income taxes:

	2020	2019	2018
	<i>(in millions)</i>		
Current			
Federal	\$ 2.0	\$ (11.9)	\$ (81.5)
State and local	0.5	0.1	3.2
Foreign	20.2	49.3	46.5
Total current	<u>\$ 22.7</u>	<u>\$ 37.5</u>	<u>\$ (31.8)</u>
Deferred			
Federal	\$ (60.0)	\$ (73.5)	\$ (5.1)
State and local	(0.7)	(1.5)	(6.7)
Foreign	(11.2)	(11.4)	(13.5)
Total deferred	<u>(71.9)</u>	<u>(86.4)</u>	<u>(25.3)</u>
Total income tax benefit	<u>\$ (49.2)</u>	<u>\$ (48.9)</u>	<u>\$ (57.1)</u>

The following is a reconciliation of income taxes calculated at the U.S. federal statutory income tax rate of 21% in 2020, 2019 and 2018 to our provision for income taxes:

	2020	2019	2018
	<i>(in millions)</i>		
Federal statutory	\$ (128.2)	\$ (111.9)	\$ (23.9)
Foreign income taxes	(21.5)	(40.2)	(39.7)
Change in enacted tax rate	2.1	0.2	(8.3)
Transition tax	—	(7.5)	5.8
State and local	(5.0)	(20.0)	(12.8)
Tax credits	(9.7)	(9.6)	(20.1)
Valuation allowance	19.8	12.6	12.9
Goodwill impairment	107.1	92.4	21.6
Withholding taxes	5.6	4.0	6.6
U.S. tax on unremitted foreign earnings	—	(2.8)	4.1
Tax benefit on loss carryback	(14.4)	—	—
Global intangible low-taxed income	2.3	31.1	8.0
Uncertain tax positions	(8.8)	5.9	(9.8)
Other	1.5	(3.1)	(1.5)
Effective income tax benefit	<u>\$ (49.2)</u>	<u>\$ (48.9)</u>	<u>\$ (57.1)</u>

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

In 2020, our effective income tax rate varied from the U.S. federal statutory rate primarily as a result of the goodwill impairment charge, which resulted in no income tax benefit, as well as favorable foreign tax rates, the impact of tax credits, and the finalization of an advance pricing agreement in a foreign jurisdiction, which resulted in a tax benefit of approximately \$6.8 million. We also recognized a tax benefit of approximately \$14.4 million related to our ability to carry back prior year losses, as well as projected current year losses, under the CARES Act to years with the previous 35% tax rate. These income tax benefits were partially offset by our inability to realize an income tax benefit for losses incurred in certain foreign and state jurisdictions, as well as a partial valuation allowance of approximately \$5.3 million on certain U.S. federal income tax attributes.

In 2019, our income tax benefit varied from the tax benefit computed at the U.S. federal statutory rate primarily as a result of the goodwill impairment charge, which resulted in no income tax benefit, as well as the incremental tax expense associated with the global intangible low-taxed income inclusion under the Tax Cuts and Jobs Act of 2017 (the 2017 Act), and our inability to realize an income tax benefit for losses incurred in certain foreign and state jurisdictions. These items were partially offset by the impact of favorable foreign tax rates and income tax credits. In addition, as part of the 2017 Act, a one-time transition tax (Transition Tax) was imposed on certain foreign earnings for which U.S. income tax was previously deferred. The Department of Treasury and Internal Revenue Service issued final regulations on February 5, 2019 regarding the Transition Tax, which changed the manner in which we are required to compute the Transition Tax when it is recognized over a two-year period. The application of the final regulations resulted in a \$9.3 million income tax benefit, which has been recorded in 2019, the period in which the final regulations were issued.

In 2018, our income tax benefit varied from the tax benefit computed at the U.S. federal statutory rate primarily due to the impact of favorable foreign tax rates, and the impact of income tax credits, partially offset by our inability to realize an income tax benefit for losses incurred in certain foreign and state jurisdictions. In addition, during 2018, we finalized an advance pricing agreement in a foreign jurisdiction and settled various other matters, which resulted in an income tax benefit and a reduction of our liability for unrecognized tax benefits and related interest and penalties of approximately \$20 million. We also recorded an income tax benefit of approximately \$85 million in 2018 as a result of the goodwill impairment charge, partially offset by a discrete tax expense related to the sale of the aftermarket business associated with our former Powertrain segment.

The 2017 Act subjects a U.S. shareholder to tax on global intangible low-taxed income (GILTI) earned by certain foreign subsidiaries. Under GAAP, we made an accounting policy election to provide for the tax expense related to GILTI in the year the tax is incurred as a period expense.

As of December 31, 2020, we have refundable income taxes of approximately \$14 million classified as Prepaid expenses and other on our Consolidated Balance Sheet, as compared to approximately \$25 million as of December 31, 2019. We also have income taxes payable of approximately \$6 million and \$3 million classified as Accrued expenses and other on our Consolidated Balance Sheets as of December 31, 2020 and 2019, respectively.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

The approximate tax effect of each significant type of temporary difference and carryforward that results in a deferred tax asset or liability is as follows:

	December 31,	
	2020	2019
	<i>(in millions)</i>	
Deferred tax assets		
Employee benefits	\$ 162.4	\$ 149.4
Inventory	32.9	27.3
Net operating loss (NOL) carryforwards	221.4	201.7
Tax credit carryforwards	88.6	47.8
Capital allowance carryforwards	10.2	9.3
Capitalized expenditures	45.9	42.9
Interest carryforward	10.4	43.9
Operating lease liabilities	25.7	27.1
Other	50.6	42.7
Valuation allowances	(208.0)	(196.0)
Deferred tax assets	<u>\$ 440.1</u>	<u>\$ 396.1</u>
Deferred tax liabilities		
Other intangible assets	(179.9)	(199.7)
Fixed assets	(137.5)	(120.7)
Operating lease right-of-use assets	(25.6)	(27.1)
Other	(2.5)	(4.1)
Deferred tax liabilities	<u>\$ (345.5)</u>	<u>\$ (351.6)</u>
Deferred tax assets, net	<u>\$ 94.6</u>	<u>\$ 44.5</u>

Deferred tax assets and liabilities recognized in our Consolidated Balance Sheets are as follows:

	December 31,	
	2020	2019
	<i>(in millions)</i>	
U.S. federal and state deferred tax asset, net	\$ 44.1	\$ 5.0
Other foreign deferred tax asset, net	50.5	39.5
Deferred tax asset, net	<u>\$ 94.6</u>	<u>\$ 44.5</u>

DEFERRED INCOME TAX ASSETS AND LIABILITIES AND VALUATION ALLOWANCES The deferred income tax assets and liabilities summarized above reflect the impact of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the basis of such assets and liabilities for income tax purposes. ASC 740 - *Income Taxes* states that companies must measure deferred tax amounts at the rate at which they are expected to be realized.

As of December 31, 2020 and December 31, 2019, we had deferred tax assets from domestic and foreign net operating loss and tax credit carryforwards of \$320.2 million and \$258.8 million, respectively. Approximately \$107.7 million of the deferred tax assets at December 31, 2020 relate to NOL and tax credits that can be carried forward indefinitely with the remainder expiring between 2021 and 2040.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

Accounting guidance for income taxes requires a deferred tax liability to be established for the U.S. tax impact of undistributed earnings of foreign subsidiaries unless it can be shown that these earnings will be permanently reinvested outside the U.S. We have provided deferred income taxes for the estimated U.S. federal income tax, foreign income tax, and applicable withholding taxes on earnings of subsidiaries expected to be distributed.

In accordance with the accounting guidance for income taxes, we review the likelihood that we will realize the benefit of deferred tax assets and estimate whether recoverability of our deferred tax assets is "more likely than not," based on forecasts of taxable income in the related tax jurisdictions. In determining the requirement for a valuation allowance, the historical results, projected future operating results based upon approved business plans, eligible carry forward periods, and tax planning opportunities are considered, along with other relevant positive and negative evidence. If, based upon available evidence, it is more likely than not the deferred tax assets will not be realized, a valuation allowance is recorded. During 2020, we determined that a portion of our deferred tax assets related to certain U.S. federal income tax attributes that are being carried forward were not more likely than not to be realized and, as such, we recorded a valuation allowance resulting in tax expense of approximately \$5.3 million during the year ended December 31, 2020.

Due to the uncertainty associated with the extent and ultimate impact of COVID-19 on global automotive production volumes, we may experience lower than projected earnings in certain jurisdictions in future periods, and it is reasonably possible that changes in valuation allowances could be recognized in the next twelve months as a result.

During 2020, 2019 and 2018, we recorded a net tax expense of \$14.5 million, \$25.4 million and \$16.0 million, respectively, resulting from net losses in certain foreign and U.S. state and local jurisdictions with no corresponding tax benefit due to increases in our valuation allowance. These income tax expenses were increased in 2020 and partially offset in 2019 and 2018 by a net tax expense of \$5.3 million, and a net tax benefit of \$12.8 million and \$3.1 million, respectively, resulting from changes in determinations relating to the potential realization of deferred tax assets, the resulting establishment of a partial valuation allowance in the U.S., and the resulting release of valuation allowances in foreign jurisdictions.

As of December 31, 2020 and December 31, 2019, we have a valuation allowance of \$208.0 million and \$196.0 million, respectively, related to net deferred tax assets in several foreign jurisdictions and U.S. federal, state and local jurisdictions.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

UNRECOGNIZED INCOME TAX BENEFITS To the extent that we have uncertain tax positions, a determination is made as to whether such positions meet the “more likely than not” threshold. This threshold must be met in order to record any tax benefit and, to the extent that an uncertain tax position meets the “more likely than not” threshold, we have measured and recorded the highest probable benefit, and have established appropriate reserves for benefits that exceed the amount likely to be sustained upon examination.

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

	Unrecognized Income Tax Benefits		Interest and Penalties
	<i>(in millions)</i>		
Balance at January 1, 2018	\$	47.7	\$ 7.5
Increase in prior year tax positions		5.6	3.5
Decrease in prior year tax positions		(16.9)	(2.5)
Increase in current year tax positions		6.0	—
Settlement		(3.7)	(1.6)
Balance at December 31, 2018	\$	38.7	\$ 6.9
Increase in prior year tax positions		0.2	4.5
Decrease in prior year tax positions		(3.1)	(0.1)
Increase in current year tax positions		4.4	—
Foreign currency remeasurement adjustment		0.9	0.2
Balance at December 31, 2019	\$	41.1	\$ 11.5
Increase in prior year tax positions		0.2	—
Decrease in prior year tax positions		(6.6)	(1.7)
Increase in current year tax positions		0.7	—
Settlement		(12.2)	(6.3)
Foreign currency remeasurement adjustment		(3.0)	(1.5)
Balance at December 31, 2020	\$	20.2	\$ 2.0

At December 31, 2020 and December 31, 2019, we had \$20.2 million and \$41.1 million of gross unrecognized income tax benefits, respectively.

In 2020, 2019, and 2018, we recognized a tax (benefit)/expense of \$(1.7) million, \$4.4 million and \$1.0 million, respectively, related to interest and penalties in Income tax benefit on our Consolidated Statements of Operations. We have a liability of \$2.0 million and \$11.5 million related to the estimated future payment of interest and penalties at December 31, 2020 and 2019, respectively. The amount of the unrecognized income tax benefits, including interest and penalties, as of December 31, 2020 that, if recognized, would affect the effective tax rate is \$19.0 million.

We operate in multiple jurisdictions throughout the world and the income tax returns of several subsidiaries in various tax jurisdictions are currently under examination. We are currently under a U.S. federal income tax examination for the years 2015 through 2018. Generally, we are no longer subject to U.S. federal, state and local, or non-U.S. income tax examinations by tax authorities for years prior to 2013. In the second quarter of 2020, we finalized an advance pricing agreement in a foreign jurisdiction, which resulted in a cash payment to the tax authorities of \$18.5 million and a reduction of our liability for unrecognized tax benefits and related interest and penalties of \$25.3 million.

Based on the status of ongoing tax audits, and the protocol of finalizing audits by the relevant tax authorities, it is not possible to estimate the impact of changes, if any, to previously recorded uncertain tax positions. We will continue to monitor the progress and conclusions of all ongoing audits and other communications with tax authorities and will adjust our estimated liability as necessary.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

10. EARNINGS (LOSS) PER SHARE (EPS)

We present EPS using the two-class method. This method allocates undistributed earnings between common shares and non-vested share based payment awards that entitle the holder to non-forfeitable dividend rights. Our participating securities include non-vested restricted stock units.

The following table sets forth the computation of our basic and diluted EPS available to shareholders of common stock (excluding participating securities):

	2020	2019	2018
	<i>(in millions, except per share data)</i>		
Numerator			
Net loss attributable to AAM	\$ (561.3)	\$ (484.5)	\$ (57.5)
Less: Net loss allocated to participating securities	—	—	—
Net loss attributable to common shareholders - Basic and Dilutive	<u>\$ (561.3)</u>	<u>\$ (484.5)</u>	<u>\$ (57.5)</u>
Denominators			
Basic common shares outstanding -			
Weighted-average shares outstanding	117.9	115.6	115.0
Less: Participating securities	(4.8)	(3.3)	(3.4)
Weighted-average common shares outstanding	<u>113.1</u>	<u>112.3</u>	<u>111.6</u>
Effect of dilutive securities -			
Dilutive stock-based compensation	—	—	—
Diluted shares outstanding -			
Adjusted weighted-average shares after assumed conversions	<u>113.1</u>	<u>112.3</u>	<u>111.6</u>
Basic EPS	<u>\$ (4.96)</u>	<u>\$ (4.31)</u>	<u>\$ (0.51)</u>
Diluted EPS	<u>\$ (4.96)</u>	<u>\$ (4.31)</u>	<u>\$ (0.51)</u>

Basic and diluted loss per share are the same in each of the years presented because the effect of potentially dilutive stock-based compensation would have been antidilutive. Excluded potentially dilutive shares were zero in 2020, and were 0.4 million and 0.8 million in 2019 and 2018, respectively.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

11. COMMITMENTS AND CONTINGENCIES

PURCHASE COMMITMENTS Obligated purchase commitments for capital expenditures and related project expenses were approximately \$90.8 million at December 31, 2020 and \$131.9 million at December 31, 2019.

LEGAL PROCEEDINGS We are involved in, or potentially subject to, various legal proceedings or claims incidental to our business. These include, but are not limited to, matters arising out of product warranties, tax or contractual matters, and environmental obligations. Although the outcome of these matters cannot be predicted with certainty, we do not believe that any of these matters, individually or in the aggregate, will have a material effect on our financial condition, results of operations or cash flows.

We are subject to various federal, state, local and foreign environmental and occupational safety and health laws, regulations and ordinances, including those regulating air emissions, water discharge, waste management and environmental cleanup. We will continue to closely monitor our environmental conditions to ensure that we are in compliance with all laws, regulations and ordinances. We have made, and anticipate continuing to make, capital and other expenditures (including recurring administrative costs) to comply with environmental requirements at our current and former facilities. Such expenditures were not significant in 2020, 2019 and 2018.

ENVIRONMENTAL OBLIGATIONS Due to the nature of our manufacturing operations, we have legal obligations to perform asset retirement activities pursuant to federal, state, and local requirements at our current and former facilities. The process of estimating environmental liabilities is complex. Significant uncertainty may exist related to the timing and method of the settlement of these obligations. Therefore, these liabilities are not reasonably estimable until a triggering event occurs that allows us to estimate a range and assess the probabilities of potential settlement dates and the potential methods of settlement.

In the future, we will update our estimated costs and potential settlement dates and methods and their associated probabilities based on available information. Any update may change our estimate and could result in a material adjustment to this liability.

PRODUCT WARRANTIES We record a liability for estimated warranty obligations at the dates our products are sold. These estimates are established using sales volumes and internal and external warranty data where there is no payment history and historical information about the average cost of warranty claims for customers with prior claims. We estimate our costs based on the contractual arrangements with our customers, existing customer warranty terms and internal and external warranty data, which includes a determination of our warranty claims and actions taken to improve product quality and minimize warranty claims. We continuously evaluate these estimates and our customers' administration of their warranty programs. We monitor actual warranty claim data and adjust the liability, as necessary, on a quarterly basis.

During 2020 and 2019, we also made adjustments to our warranty accrual to reflect revised estimates regarding our projected future warranty obligations. The following table provides a reconciliation of changes in the product warranty liability:

	December 31,	
	2020	2019
	<i>(in millions)</i>	
Beginning balance	\$ 62.0	\$ 57.7
Accruals	21.9	18.5
Settlements	(14.1)	(10.4)
Adjustments to prior period accruals	(3.5)	(3.9)
Foreign currency translation	0.4	0.1
Ending balance	\$ 66.7	\$ 62.0

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

12. RECLASSIFICATIONS OUT OF ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)

Reclassification adjustments and other activity impacting accumulated other comprehensive income (loss) (AOCI) during the year ended December 31, 2020, December 31, 2019 and December 31, 2018 are as follows (in millions):

	Defined Benefit Plans	Foreign Currency Translation Adjustments	Unrecognized Loss on Cash Flow Hedges	Total
Balance at January 1, 2018	\$ (252.0)	\$ (34.1)	\$ (6.6)	\$ (292.7)
Other comprehensive income (loss) before reclassifications	41.9	(62.7)	5.4	(15.4)
Income tax effect of other comprehensive income (loss) before reclassifications	(8.4)	—	(0.2)	(8.6)
Amounts reclassified from accumulated other comprehensive loss into net loss	6.0 (a)	0.2	(0.4) (b)	5.8
Income taxes reclassified into net loss	(1.4)	—	0.7	(0.7)
Net current period other comprehensive income (loss)	<u>38.1</u>	<u>(62.5)</u>	<u>5.5</u>	<u>(18.9)</u>
Balance at December 31, 2018	<u>\$ (213.9)</u>	<u>\$ (96.6)</u>	<u>\$ (1.1)</u>	<u>\$ (311.6)</u>
Other comprehensive loss before reclassifications	(61.5) (c)	(4.6)	(19.0)	(85.1)
Income tax effect of other comprehensive loss before reclassifications	5.6	—	6.3	11.9
Amounts reclassified from accumulated other comprehensive loss into net loss	12.5 (a)	—	(1.7) (b)	10.8
Income taxes reclassified into net loss	(2.6)	—	(0.2)	(2.8)
Net current period other comprehensive loss	<u>(46.0)</u>	<u>(4.6)</u>	<u>(14.6)</u>	<u>(65.2)</u>
Balance at December 31, 2019	<u>\$ (259.9)</u>	<u>\$ (101.2)</u>	<u>\$ (15.7)</u>	<u>\$ (376.8)</u>
Other comprehensive income (loss) before reclassifications	(72.0)	0.1	(41.5)	(113.4)
Income tax effect of other comprehensive income (loss) before reclassifications	14.2	—	8.2	22.4
Amounts reclassified from accumulated other comprehensive loss into net loss	8.2 (a)	—	35.8 (b)	44.0
Income taxes reclassified into net loss	(1.5)	—	(6.9)	(8.4)
Net current period other comprehensive income (loss)	<u>(51.1)</u>	<u>0.1</u>	<u>(4.4)</u>	<u>(55.4)</u>
Balance at December 31, 2020	<u>\$ (311.0)</u>	<u>\$ (101.1)</u>	<u>\$ (20.1)</u>	<u>\$ (432.2)</u>

(a) Subsequent to the adoption of ASU 2017-07 effective January 1, 2018, these amounts were reclassified from AOCI to Other, net for the years ended December 31, 2020, 2019 and 2018. The amount reclassified for 2019 includes a credit to AOCI of \$7.4 million related to the net effect of the AAM Pension Payout Offer and the Casting Sale. See Note 7 - Employee Benefit Plans and Note 16 - Acquisitions and Dispositions for more detail.

(b) The amounts reclassified from AOCI included \$2.9 million in COGS, \$14.2 million in interest expense and \$18.7 million in other expense, net for the year ended December 31, 2020, \$(2.4) million in COGS, \$2.0 million in interest expense and \$(1.3) million in other expense, net for the year ended December 31, 2019 and \$2.8 million in COGS and \$(3.2) million in interest expense for the year ended December 31, 2018.

(c) ASU 2018-02 became effective on January 1, 2019, and we elected to reclassify the stranded tax effects caused by the 2017 Tax Cuts and Jobs Act, resulting in a decrease in Accumulated other comprehensive income (loss) of \$27.7 million at January 1, 2019.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

13. REVENUE FROM CONTRACTS WITH CUSTOMERS

The guidance in ASC 606 - *Revenue from Contracts with Customers* is based on the principle that an entity should recognize revenue to depict the transfer of goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. We are obligated under our contracts with customers to manufacture and supply products for use in our customers' operations. We satisfy these performance obligations at the point in time that the customer obtains control of the products, which is the point in time that the customer is able to direct the use of, and obtain substantially all of the remaining benefits from, the products. This typically occurs upon shipment to the customer in accordance with purchase orders and delivery releases issued by our customers. There is judgment involved in determining when the customer obtains control of the products and we have utilized the following indicators of control in our assessment:

- We have the present right to payment for the asset;
- The customer has legal title to the asset;
- We have transferred physical possession of the asset;
- The customer has the significant risks and rewards of ownership of the asset; and
- The customer has accepted the asset.

Our product offerings by segment are as follows:

- Driveline products consist primarily of front and rear axles, driveshafts, differential assemblies, clutch modules, balance shaft systems, disconnecting driveline technology, and electric and hybrid driveline products and systems for light trucks, sport utility vehicles (SUVs), crossover vehicles (CUVs), passenger cars and commercial vehicles; and
- Metal Forming products consist primarily of axle and transmission shafts, ring and pinion gears, differential gears and assemblies, connecting rods and variable valve timing products for OEMs and Tier 1 automotive suppliers.

Our contracts with customers, which are comprised of purchase orders and delivery releases issued by our customers, generally state the terms of the sale, including the quantity and price of each product purchased. Trade accounts receivable from our customers are generally due approximately 50 days from the date our customers receive our product. Our contracts typically do not contain variable consideration as the contracts include stated prices. We provide our customers with assurance type warranties, which are not separate performance obligations and are outside the scope of ASC 606. Refer to Note 11 - Commitments and Contingencies for further information on our product warranties.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

Disaggregation of Net Sales

Net sales recognized from contracts with customers, disaggregated by segment and geographical location, are presented in the following table for the years ended December 31, 2020, 2019 and 2018. Net sales are attributed to regions based on the location of production. Intersegment sales have been excluded from the table.

In 2019, we finalized the Casting Sale. The Casting Sale did not qualify for classification as discontinued operations, as it did not represent a strategic shift in our business that has had, or will have, a major effect on our operations and financial results. As such, we continue to present Casting as a segment in the tables below, which is comprised entirely of the U.S. casting operations that were included in the sale.

	Twelve Months Ended December 31, 2020			
	Driveline	Metal Forming	Casting	Total
North America	\$ 2,770.1	\$ 855.0	\$ —	\$ 3,625.1
Asia	433.7	43.8	—	477.5
Europe	352.5	198.0	—	550.5
South America	49.2	8.5	—	57.7
Total	\$ 3,605.5	\$ 1,105.3	\$ —	\$ 4,710.8

	Twelve Months Ended December 31, 2019			
	Driveline	Metal Forming	Casting	Total
North America	\$ 3,466.3	\$ 1,153.1	\$ 627.7	\$ 5,247.1
Asia	533.6	37.6	—	571.2
Europe	351.0	256.3	—	607.3
South America	98.8	6.5	—	105.3
Total	\$ 4,449.7	\$ 1,453.5	\$ 627.7	\$ 6,530.9

	Twelve Months Ended December 31, 2018			
	Driveline	Metal Forming	Casting	Total
North America	\$ 3,823.1	\$ 1,275.9	\$ 741.3	\$ 5,840.3
Asia	634.4	43.9	—	678.3
Europe	329.0	293.1	—	622.1
South America	124.9	4.8	—	129.7
Total	\$ 4,911.4	\$ 1,617.7	\$ 741.3	\$ 7,270.4

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

Contract Assets and Liabilities

The following table summarizes our beginning and ending balances for accounts receivable and contract liabilities associated with our contracts with customers:

	Accounts Receivable, Net	Contract Liabilities (Current)	Contract Liabilities (Long-term)
December 31, 2019	\$ 815.4	\$ 18.9	\$ 83.7
December 31, 2020	793.2	23.4	91.0
Increase/(decrease)	\$ (22.2)	\$ 4.5	\$ 7.3

Contract liabilities relate to deferred revenue associated with various settlements and commercial agreements for which we have future performance obligations to the customer. We recognize this deferred revenue into revenue over the life of the associated program as we satisfy our performance obligations to the customer. We do not have contract assets as defined in ASC 606.

During the twelve months ended December 31, 2020 and December 31, 2019 we amortized \$22.7 million and \$48.6 million, respectively, of previously recorded contract liabilities into revenue as we satisfied performance obligations with our customers.

Sales and Other Taxes

ASC 606 provides a practical expedient that allows companies to exclude from the transaction price any amounts collected from customers for all sales (and other similar) taxes. We do not include sales and other taxes in our transaction price and thus do not recognize these amounts as revenue.

**AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)**

14. LEASING

When an agreement grants us the right to substantially all of the economic benefits associated with an identified asset, and we are able to direct the use of that asset throughout the term of the agreement, we have a lease. We lease certain facilities, manufacturing machinery and equipment, and furniture under finance leases, and we also lease certain commercial office and production facilities, manufacturing machinery and equipment, vehicles and other assets under operating leases. Some of our leases include options to extend or terminate the leases and these options have been included in the relevant lease term to the extent that they are reasonably certain to be exercised.

The lease consideration for some of our facilities and machinery and equipment is variable, as it is based on various indices or usage of the underlying assets, respectively. Variable lease payments based on indices have been included in the related right-of-use assets and lease liabilities on our Consolidated Balance Sheets, while variable lease payments based on usage of the underlying asset have been excluded as they do not represent present rights or obligations.

Lease cost consists of the following:

	Twelve Months Ended	
	December 31,	
	2020	2019
	<i>(in millions)</i>	
Finance lease cost		
Amortization of right-of-use assets	\$ 1.8	\$ 1.0
Interest on lease liabilities	0.4	0.3
Total finance lease cost	2.2	1.3
Operating lease cost	32.7	28.9
Short-term lease cost	3.0	5.9
Variable lease cost	2.9	7.2
Total lease cost	<u>\$ 40.8</u>	<u>\$ 43.3</u>

For the year ended December 31, 2020, \$28.4 million and \$10.2 million were recorded to Cost of goods sold (COGS) and Selling, general and administrative expenses (SG&A), respectively, related to our operating leases, on our Consolidated Statements of Operations, as compared to \$31.9 million and \$10.1 million, respectively, for the year ended December 31, 2019 and \$28.4 million and \$10.0 million, respectively, for the year ended December 31, 2018.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

The following table summarizes additional information related to our lease agreements.

	Twelve Months Ended	
	December 31,	
	2020	2019
	<i>(in millions, except lease term and rate)</i>	
Cash paid for amounts included in measurement of lease liabilities		
Operating cash flows from finance leases	\$ 0.3	\$ 0.3
Operating cash flows from operating leases	35.1	29.0
Financing cash flows from finance leases	3.0	1.0
Weighted-average remaining lease term - finance leases	15.8 years	2.8 years
Weighted-average remaining lease term - operating leases	8.7 years	9.2 years
Weighted-average discount rate - finance leases	4.2 %	5.1 %
Weighted-average discount rate - operating leases	5.7 %	6.1 %

As the rate implicit in the lease is typically unknown, the discount rate used to determine the lease liability for the majority of our leases is the collateralized incremental borrowing rate in the applicable geographic area for a similar term and amount as the lease agreement.

Future undiscounted minimum payments under non-cancelable leases are as follows:

	Finance Leases		Operating Leases	
	<i>(in millions)</i>			
2021	\$	3.9	\$	27.9
2022		3.1		23.8
2023		1.6		17.3
2024		1.1		12.8
2025		1.1		10.4
Thereafter		18.4		57.4
Total future undiscounted minimum lease payments		29.2		149.6
Less: Impact of discounting		(7.6)		(32.6)
Total	\$	21.6	\$	117.0

The right-of-use assets and lease liabilities recorded on our Consolidated Balance Sheets are as follows:

	December 31, 2020		December 31, 2019	
	Finance Leases	Operating Leases	Finance Leases	Operating Leases
	<i>(in millions)</i>		<i>(in millions)</i>	
Property, plant and equipment, net	\$ 24.9	\$ —	\$ 7.3	\$ —
Operating lease right-of-use assets	—	116.6	—	118.5
Total	\$ 24.9	\$ 116.6	\$ 7.3	\$ 118.5
Current portion of operating lease liabilities	\$ —	\$ 22.6	\$ —	\$ 21.8
Accrued expenses and other	3.3	—	3.3	—
Long-term portion of operating lease liabilities	—	94.4	—	96.7
Postretirement benefits and other long-term liabilities	18.3	—	4.0	—
Total	\$ 21.6	\$ 117.0	\$ 7.3	\$ 118.5

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

ASC 842 Adoption of Practical Expedients

We have elected to adopt, for all classes of underlying assets, a package of practical expedients provided under ASC 842 that allow us to 1) not reassess whether existing or expired contracts contain or contained a lease; 2) not reassess the lease classification (operating or financing) of our existing leases at adoption; and 3) not reassess initial direct costs for existing leases.

ASC 842 also provides a practical expedient that allows companies to exclude balance sheet recognition of right-of-use assets and associated liabilities for lease terms of 12 months or less, which we have elected as part of our adoption of ASC 842 for all classes of underlying assets. We do not include right-of-use assets and operating lease liabilities on our Consolidated Balance Sheet for leases with a term of 12 months or less.

We have also elected to adopt the practical expedient under ASC 842 to not separate lease and non-lease components in contracts that contain both. These lease agreements are accounted for as a single lease component for all classes of underlying assets.

Leases Not Yet Commenced

As of December 31, 2020, we have entered into additional leases that have not yet commenced of approximately \$85.2 million, which primarily reflects a lease of a facility in the United States, which has a term of 15 years, and the lease of our new European headquarters and engineering center in Langen, Germany, which has a term of 20 years. These leases are expected to commence in 2021.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

15. MANUFACTURING FACILITY FIRE AND INSURANCE RECOVERY

On September 22, 2020, a significant industrial fire occurred at our Malvern Manufacturing Facility in Ohio (Malvern Fire). All associates were evacuated safely and without injury. We continue to focus on managing this disruption and protecting continuity of supply to our customers, including utilizing production capacity and resources at other AAM facilities.

Our insurance policies are expected to cover the repair, replacement or actual cash value of the assets that incurred loss or damage, less our applicable deductible of \$1.0 million. In addition, our insurance policies are expected to provide coverage for interruption to our business, including lost or reduced profits and reimbursement for certain expenses and costs that are incurred relating to the fire. In 2020, we recorded \$36.5 million of charges primarily related to site services and clean-up, expediting, asset repairs and other costs incurred to resume or relocate operations and ensure continuity of supply to our customers. In addition, we recorded \$27.0 million of costs primarily associated with the write-down of PP&E as a result of damage from the fire. We also recorded an estimated insurance recovery of \$54.2 million in the twelve months ended December 31, 2020, of which \$43.1 million is included in Prepaid expenses and other in our Consolidated Balance Sheet as of December 31, 2020. This receivable is net of cash received in the fourth quarter of 2020 as an advance under our insurance policies of \$11.1 million. This resulted in a net pre-tax impact to our Consolidated Statement of Operations of approximately \$9.3 million in Cost of goods sold for the twelve months ended December 31, 2020, which includes our applicable deductible.

In the fourth quarter of 2020, we determined that we will cease production at the Malvern Manufacturing Facility and relocate production capacity to other AAM manufacturing facilities during 2021. As such, we cannot estimate the total claim eligible costs that we will incur as a result of the Malvern Fire and the associated relocation of production capacity to other AAM manufacturing facilities. At December 31, 2020, we have estimated the amount of expected insurance proceeds recoverable in consideration of the policy provisions, carrying amount of the PP&E that was written-down, and claim eligible expenses incurred from the date of the fire. We expect the claim settlement process to continue through 2021, however, based on the provisions of the policy the process could continue into 2022. We will update our estimates as additional information becomes available, however, the actual impact on our results of operations, financial position or cash flows, or the timing of such impact, could differ from our estimates.

16. ACQUISITIONS AND DISPOSITIONS

Acquisition of Mitec

In December 2019, AAM completed our acquisition of certain operations of Mitec Automotive AG (Mitec), under which we acquired \$20.2 million of net assets for a purchase price of \$9.4 million, which was funded entirely with available cash. We recognized a gain on bargain purchase of \$10.8 million, which was primarily the result of Mitec's insolvency prior to the acquisition. This gain is presented in the Gain on bargain purchase of business line item in our Consolidated Statement of Operations for the year ended December 31, 2019.

The operating results of Mitec for the period from our acquisition date through December 31, 2019, were insignificant to AAM's Consolidated Statement of Operations for this period. Further we have not disclosed pro forma revenue and earnings for the years ended December 31, 2019 and December 31, 2018, as the operating results of Mitec would be insignificant to AAM's consolidated results for these periods.

Sale of U.S. Casting Operations

In December 2019, we completed the Casting Sale. Upon closing the sale, we received net cash proceeds of \$141.2 million subsequent to customary closing adjustments. Upon reclassification of the U.S. casting operations to held-for-sale in 2019, we recorded a pre-tax impairment charge of \$225.0 million to reduce the carrying value of this business to fair value less cost to sell. The sale of the U.S. operations of our Casting segment did not qualify for classification as discontinued operations, as the sale did not represent a strategic shift in our business that has had, or will have, a major effect on our operations and financial results. Upon finalizing the sale, we recorded a loss on deconsolidation of the U.S. Casting entities of \$21.3 million. During 2020, we finalized certain customary post-closing calculations associated with the Casting Sale, resulting in an additional loss on sale of \$1.0 million. These losses are presented in Loss (gain) on sale of business in our Consolidated Statements of Operations for the years ended December 31, 2020 and 2019.

Sale of Powertrain Aftermarket

In April 2018, we completed the sale of the aftermarket business associated with our former Powertrain segment for approximately \$50.0 million. As a result, we recorded a \$15.5 million pre-tax gain, which is presented in Loss (gain) on sale of business in our Consolidated Statement of Operations for the year ended December 31, 2018.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

17. SEGMENT AND GEOGRAPHIC INFORMATION

Our business is organized into Driveline and Metal Forming segments, with each representing a reportable segment under ASC 280 - *Segment Reporting*. In the fourth quarter of 2019, we completed the Casting Sale. The Casting Sale did not qualify for classification as discontinued operations, as it did not represent a strategic shift in our business that has had, or will have, a major effect on our operations and financial results. As such, we continue to present Casting as a segment in the tables below, which is comprised entirely of the U.S. casting operations that were included in the sale.

The results of each segment are regularly reviewed by the chief operating decision maker to assess the performance of the segment and make decisions regarding the allocation of resources.

Our product offerings by segment are as follows:

- Driveline products consist primarily of front and rear axles, driveshafts, differential assemblies, clutch modules, balance shaft systems, disconnecting driveline technology, and electric and hybrid driveline products and systems for light trucks, SUVs, crossover vehicles (CUVs), passenger cars and commercial vehicles; and
- Metal Forming products consist primarily of axle and transmission shafts, ring and pinion gears, differential gears and assemblies, connecting rods and variable valve timing products for OEMs and Tier 1 automotive suppliers.

We use Segment Adjusted EBITDA as the measure of earnings to assess the performance of each segment and determine the resources to be allocated to the segments. Segment Adjusted EBITDA is defined as earnings before interest expense, income taxes, depreciation and amortization for our reportable segments, excluding the impact of restructuring and acquisition-related costs, debt refinancing and redemption costs, gain (loss) on the sale of a business, impairment charges, pension settlements, and non-recurring items.

	Year Ended December 31, 2020				
	Driveline	Metal Forming	Casting	Corporate and Eliminations	Total
	<i>(in millions)</i>				
Sales	\$ 3,635.6	\$ 1,439.2	\$ —	\$ —	\$ 5,074.8
Less: Intersegment sales	30.1	333.9	—	—	364.0
Net external sales	\$ 3,605.5	\$ 1,105.3	\$ —	\$ —	\$ 4,710.8
Segment adjusted EBITDA	\$ 501.7	\$ 218.1	\$ —	\$ —	\$ 719.8
Depreciation and amortization	\$ 332.7	\$ 189.2	\$ —	\$ —	\$ 521.9
Capital expenditures	\$ 133.5	\$ 73.7	\$ —	\$ 8.4	\$ 215.6
Total assets	\$ 3,231.3	\$ 1,484.7	\$ —	\$ 1,200.3	\$ 5,916.3

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

Year Ended December 31, 2019					
	Driveline	Metal Forming	Casting	Corporate and Eliminations	Total
Sales	\$ 4,550.2	\$ 1,845.2	\$ 669.2	\$ —	\$ 7,064.6
Less: Intersegment sales	100.5	391.7	41.5	—	533.7
Net external sales	\$ 4,449.7	\$ 1,453.5	\$ 627.7	\$ —	\$ 6,530.9
Segment adjusted EBITDA	\$ 610.8	\$ 316.5	\$ 43.0	\$ —	\$ 970.3
Depreciation and amortization	\$ 307.7	\$ 186.9	\$ 42.3	\$ —	\$ 536.9
Capital expenditures	\$ 283.8	\$ 105.5	\$ 28.5	\$ 15.5	\$ 433.3
Total assets	\$ 3,778.8	\$ 1,900.0	\$ —	\$ 965.8	\$ 6,644.6
Year Ended December 31, 2018					
	Driveline	Metal Forming	Casting	Corporate and Eliminations	Total
Sales	\$ 5,001.2	\$ 2,046.0	\$ 780.6	\$ —	\$ 7,827.8
Less: Intersegment sales	89.8	428.3	39.3	—	557.4
Net external sales	\$ 4,911.4	\$ 1,617.7	\$ 741.3	\$ —	\$ 7,270.4
Segment adjusted EBITDA	\$ 754.5	\$ 376.5	\$ 52.9	\$ —	\$ 1,183.9
Depreciation and amortization	\$ 272.0	\$ 192.6	\$ 64.2	\$ —	\$ 528.8
Capital expenditures	\$ 339.4	\$ 138.3	\$ 35.0	\$ 12.0	\$ 524.7
Total assets	\$ 3,796.6	\$ 2,607.2	\$ 521.5	\$ 585.4	\$ 7,510.7

Assets included in the Corporate and Eliminations column of the tables above represent AAM corporate assets, as well as eliminations of intercompany assets.

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

The following table represents a reconciliation of Segment Adjusted EBITDA to consolidated loss before income taxes for the years ended December 31, 2020, 2019 and 2018:

	Year Ended December 31,		
	2020	2019	2018
	<i>(in millions)</i>		
Segment adjusted EBITDA	\$ 719.8	\$ 970.3	\$ 1,183.9
Interest expense	(212.3)	(217.3)	(216.3)
Depreciation and amortization	(521.9)	(536.9)	(528.8)
Impairment charges	(510.0)	(665.0)	(485.5)
Restructuring and acquisition-related costs	(67.2)	(57.8)	(78.9)
Pension settlements	(0.5)	(9.8)	—
Gain (loss) on sale of business	(1.0)	(21.3)	15.5
Gain on bargain purchase of business	—	10.8	—
Gain on settlement of capital lease	—	—	15.6
Debt refinancing and redemption costs	(7.9)	(8.4)	(19.4)
Malvern Fire charges, net of recoveries	(9.3)	—	—
Other	—	2.4	—
Loss before income taxes	<u>\$ (610.3)</u>	<u>\$ (533.0)</u>	<u>\$ (113.9)</u>

Financial information relating to our operations by geographic area is presented in the following table. Net sales are attributed to countries based upon location of production. Long-lived assets exclude deferred income taxes.

	December 31,		
	2020	2019	2018
	<i>(in millions)</i>		
Net sales			
United States	\$ 1,816.7	\$ 2,894.0	\$ 3,293.2
Mexico	1,808.5	2,353.1	2,547.1
South America	57.6	105.3	129.7
China	317.1	315.4	373.4
All other Asia	160.4	255.8	304.9
Europe	550.5	607.3	622.1
Total net sales	<u>\$ 4,710.8</u>	<u>\$ 6,530.9</u>	<u>\$ 7,270.4</u>
Long-lived assets			
United States	\$ 2,099.4	\$ 2,805.8	\$ 3,612.3
Mexico	1,021.6	1,117.4	1,117.9
South America	49.7	61.9	70.6
China	185.1	191.4	177.6
All other Asia	84.2	106.8	101.0
Europe	491.5	439.4	356.0
Total long-lived assets	<u>\$ 3,931.5</u>	<u>\$ 4,722.7</u>	<u>\$ 5,435.4</u>

AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

18. UNAUDITED QUARTERLY FINANCIAL DATA

	Three Months Ended,			
	March 31	June 30	September 30	December 31
	<i>(in millions, except per share data)</i>			
2020				
Net sales	\$ 1,343.5	\$ 515.3 ⁽³⁾	\$ 1,414.1	\$ 1,437.9
Gross profit	195.3	(98.9) ⁽³⁾	249.8	236.5
Net income (loss)	(501.2) ⁽²⁾	(213.2) ⁽³⁾	117.2	36.1
Net income (loss) attributable to AAM	(501.3) ⁽²⁾	(213.2) ⁽³⁾	117.2	36.0
Basic EPS ⁽¹⁾	\$ (4.45) ⁽²⁾	\$ (1.88) ⁽³⁾	\$ 0.99	\$ 0.30
Diluted EPS ⁽¹⁾	\$ (4.45) ⁽²⁾	\$ (1.88) ⁽³⁾	\$ 0.99	\$ 0.30
2019				
Net sales	\$ 1,719.2	\$ 1,704.3	\$ 1,677.4	\$ 1,430.0
Gross profit	222.2	248.3	248.7	183.4
Net income (loss)	41.7	52.7	(124.1) ⁽⁴⁾	(454.4) ⁽⁵⁾
Net income (loss) attributable to AAM	41.6	52.5	(124.2) ⁽⁴⁾	(454.4) ⁽⁵⁾
Basic EPS ⁽¹⁾	\$ 0.36	\$ 0.45	\$ (1.10) ⁽⁴⁾	\$ (4.04) ⁽⁵⁾
Diluted EPS ⁽¹⁾	\$ 0.36	\$ 0.45	\$ (1.10) ⁽⁴⁾	\$ (4.04) ⁽⁵⁾

(1) Full year basic and diluted EPS will not necessarily agree to the sum of the four quarters because each quarter is a separate calculation.

(2) In the first quarter of 2020, we recorded a goodwill impairment charge of \$510 million that was not subject to tax effect as a result of the significant decline in automotive production volumes due to the impact of COVID-19.

(3) Many of our plant locations temporarily suspended production or experienced a significant reduction in production volumes during the second quarter of 2020 as a result of the impact of COVID-19.

(4) In the third quarter of 2019, we recorded an impairment charge of approximately \$178 million, net of tax, to reduce the carrying value of our U.S. Casting operations to fair value less cost to sell upon reclassification of the assets and liabilities to held-for-sale.

(5) In the fourth quarter of 2019, we recorded a goodwill impairment charge of \$440 million that was not subject to tax effect associated with the annual goodwill impairment test for our Metal Forming reporting unit. We also recorded a loss on the Casting Sale of approximately \$17 million, net of tax, recognized a gain on bargain purchase of approximately \$10.8 million, which was not subject to tax effect, associated with the acquisition of Mitec, and recognized a loss of approximately \$8 million, net of tax, related to pension settlements.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of American Axle and Manufacturing Holdings, Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of American Axle and Manufacturing Holdings, Inc. and subsidiaries (the "Company") as of December 31, 2020 and 2019, the related consolidated statements of operations, comprehensive income (loss), stockholders' equity, and cash flows, for each of the three years in the period ended December 31, 2020, and the related notes and the schedule listed in the Index at Item 15 (collectively referred to as the "financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

Basis for Opinions

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

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

Our audits of the financial statements included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures to respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

Critical Audit Matters

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

Goodwill Impairment — Refer to Notes 1 and 3 to the consolidated financial statements

Critical Audit Matter Description

The Company conducts its annual goodwill impairment test in the fourth quarter of each year, as well as whenever adverse events or changes in circumstances indicate a possible impairment. Fair value of each reporting unit is estimated based on a combination of discounted cash flows and the use of pricing multiples derived from an analysis of comparable public companies multiplied against historical and/or anticipated financial metrics of each reporting unit. These calculations contain uncertainties as they require management to make assumptions including, but not limited to, market comparables, future cash flows of the reporting units, and appropriate discount and long-term growth rates.

In the first quarter of 2020, the reduction in global automotive production volumes caused by the impact of COVID-19 represented an indicator to test goodwill for impairment. This reduction in production volumes began in March of 2020 and resulted in lower forecasted sales volumes in the periods included in the Company's long-range plan as revised in the first quarter of 2020. As a result of this goodwill impairment test, management determined that the carrying values of both the Driveline reporting unit (Driveline) and the Metal Forming reporting unit (Metal Forming) were greater than their respective fair values. As such, the Company recorded a goodwill impairment charge of \$210.8 million associated with Driveline and a goodwill impairment charge of \$299.2 million associated with Metal Forming in the first quarter of 2020. The Metal Forming impairment charge represented a full impairment of the goodwill associated with that reporting unit.

As a result of the Company's annual goodwill impairment test in the fourth quarter of 2020, management determined that the fair value of Driveline was greater than its carrying value.

The consolidated goodwill balance was \$185.7 million as of December 31, 2020 which is attributed to Driveline. The impairment test requires management to make assumptions to estimate the fair value of the reporting units. Performing audit procedures to evaluate the reasonableness of management's assumptions related to market comparables, future cash flows, and discount and long-term growth rates required a high degree of auditor judgment and an increased extent of effort, including the need to involve our fair value specialists.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to market comparables, future cash flows and discount and long-term growth rates for Driveline and Metal Forming included the following, among others:

- We tested the effectiveness of controls over the Company's goodwill impairment tests and determination of related assumptions, including those over market comparables, future cash flows and discount and long-term growth rates.
- We evaluated management's ability to accurately forecast future cash flows within the goodwill impairment test, by comparing actual reporting unit results to management's historical forecasts.
- We evaluated the reasonableness of management's forecast of future cash flows by comparing the projected cash flows to (1) historical results, (2) internal communications to management and the Board of Directors, and (3) forecasted information included in Company press releases, analyst and industry reports of the Company and companies in its peer group. With the assistance of our fair value specialists, we tested the underlying source information, and the mathematical accuracy of the forecasted cash flows within the fair value calculations.
- With the assistance of our fair value specialists, we evaluated the market comparables and discount and long-term growth rates, including testing the underlying source information and the mathematical accuracy of the calculations, and developed a range of independent estimates and compared those to the rates selected by management.

Income Taxes — Refer to Notes 1 and 9 to the consolidated financial statements

Critical Audit Matter Description

The Company operates in many different geographic locations, including several foreign, state and local tax jurisdictions. Determining the provision for income taxes, the realizability of deferred tax assets and the recognition and measurement of tax positions requires management to make assumptions and judgments regarding the application of complex tax laws and regulations as well as projected future operating results, eligible carry forward periods, and tax planning opportunities.

The Company recorded an income tax benefit of \$49.2 million for the year ended December 31, 2020 and net deferred tax assets of \$94.6 million, net of a valuation allowance of \$208 million, and unrecognized tax benefits and related interest and penalties of \$22.2 million as of December 31, 2020. Accounting for income taxes requires management to make assumptions and judgments. Performing audit procedures to evaluate the reasonableness of management's assumptions and judgments required a high degree of auditor judgment and an increased extent of effort, including the need to involve our income tax specialists.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the provision for income taxes, the realizability of deferred tax assets and the recognition and measurement of tax positions included the following which were performed with the assistance of our income tax specialists, among others:

- We tested the effectiveness of controls over the Company's determination of the provision for income taxes, the realizability of deferred tax assets and the recognition and measurement of tax positions.
- We tested the provision for income taxes, including the effective tax rate reconciliation, permanent and temporary differences and uncertain tax positions, by evaluating communications with tax advisors and regulators, and testing the underlying data for completeness and accuracy.
- We evaluated the significant assumptions used by management in establishing and measuring tax-related assets and liabilities, including the application of recent tax laws and regulations, as well as forecasted taxable income, eligible carry forward periods and tax planning opportunities supporting the realizability of deferred tax assets.
- We evaluated the application of relevant tax laws and regulations and the reasonableness of management's assessments of whether certain tax positions are more-likely than not of being sustained.

/s/ Deloitte & Touche LLP

Detroit, Michigan
February 12, 2021

We have served as the Company's auditor since 1998.

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

None.

Item 9A. Controls and Procedures***Disclosure Controls and Procedures***

Under the direction of our Chief Executive Officer and Chief Financial Officer, we evaluated our disclosure controls and procedures and internal control over financial reporting and concluded that our disclosure controls and procedures (as defined in Rules 13a - 15(e) or 15d - 15(e) under the Securities Exchange Act of 1934 (the "Exchange Act")) were effective as of December 31, 2020.

Management Report on Internal Control over Financial Reporting

We are responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control system was designed to provide reasonable assurance to our management and Board of Directors regarding the preparation and fair presentation of our consolidated financial statements.

Our management assessed the effectiveness of our internal control over financial reporting as of December 31, 2020. In making this assessment, we used criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our assessment, management concluded that, as of December 31, 2020, our internal control over financial reporting was effective based on those criteria.

The audit report of our independent registered public accounting firm regarding internal control over financial reporting is included in Item 8, "Financial Statements and Supplementary Data."

Changes in Internal Control over Financial Reporting

On January 1, 2019, we began the implementation of our global enterprise planning (ERP) systems at certain locations that were acquired as part of the MPG acquisition. As part of these implementations, we have modified the design and documentation of our internal controls processes and procedures, where appropriate. We will continue to implement these ERP systems at certain locations into 2021.

As a result of temporarily closing certain of our global facilities due to the impact of COVID-19, a significant number of our associates have continued to work remotely during the fourth quarter of 2020. This has not had a material effect on our internal control over financial reporting as we have maintained our existing controls and procedures over financial reporting during this period.

Except as described above with regard to implementation of ERP systems at certain legacy MPG locations, there were no changes in our internal control over financial reporting during the fourth quarter ended December 31, 2020 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

None.

Item 10. Directors, Executive Officers and Corporate Governance

The information required by Item 401(b), (d) (e) and (f) of Regulation S-K about our executive officers is furnished in Part I of this Form 10-K, Annual Report under the caption "Executive Officers of the Registrant." All other information required by Item 10 is incorporated herein by reference from our Proxy Statement which we expect to file on or about March 25, 2021.

We have adopted a code of ethics that applies to our Chief Executive Officer and Chief Financial Officer and the senior financial executives who report directly to our Chief Financial Officer. This code of ethics is available on our website at www.aam.com. We will post on our website any amendment to or waiver from the provisions of the code of ethics or our code of business conduct that applies to executive officers or directors of the Company.

Item 11. Executive Compensation

The information required by Item 11 is incorporated by reference from our Proxy Statement.

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

The information required by Item 12 is incorporated by reference from our Proxy Statement.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by Item 13 under Items 404 and 407(a) of Regulation S-K is incorporated by reference from our Proxy Statement.

Item 14. Principal Accounting Fees and Services

The information required by Item 9(e) of Schedule 14A is incorporated by reference from our Proxy Statement.

Item 15. Exhibits and Financial Statement Schedules

The following documents are filed as a part of this report:

1. All Financial Statements

Consolidated Statements of Operations
Consolidated Statements of Comprehensive Income (Loss)
Consolidated Balance Sheets
Consolidated Statements of Cash Flows
Consolidated Statements of Stockholders' Equity
Notes to Consolidated Financial Statements
Report of Independent Registered Public Accounting Firm

2. Financial Statement Schedules

Schedule II - Valuation and Qualifying Accounts for the years ended December 31, 2020, 2019 and 2018 is filed as part of this Form 10-K.

All other schedules have been omitted because they are not applicable or not required.

3. Exhibits

The following exhibits were previously filed unless otherwise indicated:

Number	Description of Exhibit
2.01	Agreement and Plan of Merger by and among American Axle & Manufacturing Holdings, Inc., ALPHA SPV I, Inc. and Metaldyne Performance Group Inc. (Incorporated by reference to Exhibit 2.1 of Current Report on Form 8-K dated November 8, 2016.)
2.02	Unit Purchase Agreement, dated as of September 18, 2019, by and among American Axle & Manufacturing Holdings, Inc., Grede Acquisition Co, Inc. and, for certain limited purposes, Grede TopCo, Inc. (Incorporated by reference to Exhibit 2.1 of Current Report on Form 8-K dated September 18, 2019)
3.01	Amended and Restated Certificate of Incorporation of American Axle & Manufacturing Holdings, Inc. (Incorporated by reference to Exhibit 3.2 filed with American Axle & Manufacturing Holdings, Inc. Registration Statement on Form S-8 (Registration No. 333-220300).)
3.02	Third Amended and Restated Bylaws of American Axle & Manufacturing Holdings, Inc. (Incorporated by reference to Exhibit 3.04 filed of Current Report on Form 8-K dated February 13, 2018.)
4.01	Specimen Certificate for shares of the Company's Common Stock (Incorporated by reference to Exhibit 4.01 filed with American Axle & Manufacturing Holdings, Inc. Registration Statement on Form S-1 (Registration No. 333-53491).)
4.02	Form of Indenture, among American Axle & Manufacturing, Inc., American Axle & Manufacturing Holdings, Inc., as guarantor, certain subsidiary guarantors and U.S. Bank National Association, as trustee (Incorporated by reference to Exhibit 4.3 of Registration Statement on Form S-3 dated July 12, 2011.)

Number	Description of Exhibit
4.03	<u>Indenture, dated as of November 3, 2011, among American Axle & Manufacturing, Inc., the Guarantors and U.S. Bank National Association, as trustee</u> (Incorporated by Reference to Exhibit 4.1 of Current Report on Form 8-K dated October 31, 2011.)
4.04	<u>Form of 6.625% Notes due 2022</u> (Incorporated by Reference to Exhibit 4.1 of Current Report on Form 8-K dated September 17, 2012.)
4.05	<u>Form of 6.25% Notes due 2025</u> (Incorporated by Reference to Exhibit 4.2 of Current Report on Form 8-K dated March 23, 2017.)
4.06	<u>Form of 6.50% Notes due 2027</u> (Incorporated by Reference to Exhibit 4.3 of Current Report on Form 8-K dated March 23, 2017.)
4.07	<u>First Supplemental Indenture, dated March 23, 2017 among American Axle & Manufacturing, Inc., Alpha SPV I, Inc., American Axle & Manufacturing Holdings, Inc., certain subsidiary guarantors and U.S. Bank National Association, as trustee</u> (Incorporated by reference to Exhibit 4.1 of Current Report on Form 8-K dated March 23, 2017.)
4.08	<u>Second Supplemental Indenture, dated May 17, 2017 among American Axle & Manufacturing, Inc., Metaldyne Performance Group Inc., American Axle & Manufacturing Holdings, Inc. certain subsidiary guarantors and U.S. Bank National Association, as trustee</u> (Incorporated by reference to Exhibit 4.1 of Current Report on Form 8-K dated May 17, 2017.)
4.09	<u>Registration Rights Agreement, dated as of March 23, 2017, among American Axle & Manufacturing, Inc., certain subsidiary guarantors and J.P. Morgan Securities LLC, as representative of the Initial Purchasers, in respect of the 6.25% Senior Notes due 2025</u> (Incorporated by reference to Exhibit 10.1 of Current Report on Form 8-K dated March 23, 2017.)
4.10	<u>Registration Rights Agreement, dated as of March 23, 2017, among American Axle & Manufacturing, Inc., certain subsidiary guarantors and J.P. Morgan Securities LLC, as representative of the Initial Purchasers, in respect of the 6.50% Senior Notes due 2027</u> (Incorporated by reference to Exhibit 10.2 of Current Report on Form 8-K dated March 23, 2017.)
4.11	<u>Third Supplemental Indenture, dated March 23, 2018 among American Axle & Manufacturing, Inc., American Axle & Manufacturing Holdings, Inc., certain subsidiary guarantors signatory thereto and U.S. Bank National Association, as trustee</u> (Incorporated by reference to Exhibit 4.1 of Current Report on Form 8-K dated March 26, 2018.)
4.12	<u>Form of 6.25% Notes due 2026</u> (Incorporated by reference to Exhibit 4.1 of Current Report on Form 8-K dated March 27, 2018.)
4.13	<u>Form of 6.875% Senior Notes due 2028</u> (Incorporated by reference to Exhibit 4.1 of Current Report on Form 8-K dated June 12, 2020)
*4.14	<u>Description of Registered Securities</u>

Number	Description of Exhibit
10.01	Asset Purchase Agreement, dated February 18, 1994, between AAM, Inc. and GM, and all amendments thereto (Incorporated by reference to Exhibit 10.01 filed with American Axle & Manufacturing Holdings, Inc. Registration Statement on Form S-1 (Registration No. 333-53491).)
10.02	Lifetime Program Contract for GMT-900 Products, between GM and AAM, Inc. (Incorporated by reference to Exhibit 10.51 filed with American Axle & Manufacturing Holdings, Inc. Form 10-Q for the quarterly period ended June 30, 2003.)
++10.03	Letter Agreement dated April 22, 2004 by and between DaimlerChrysler Corporation and AAM, Inc. (Incorporated by reference to Exhibit 10.43 filed with American Axle & Manufacturing Holdings, Inc. Form 10-Q for the quarterly period ended June 30, 2004.)
++10.04	Letter Agreement between General Motors Corporation and American Axle & Manufacturing, Inc. dated June 29, 2007 (Incorporated by reference to Exhibit 99.1 of Current Report on Form 8-K dated June 29, 2007.)
10.05	Agreement between General Motors Corporation and American Axle & Manufacturing, Inc. dated May 3, 2008, as amended May 16, 2008 (Incorporated by reference to Exhibit 10.1 of Current Report on Form 8-K dated May 23, 2008.)
++10.06	Settlement and Commercial Agreement, dated as of September 16, 2009, among General Motors Company, American Axle & Manufacturing Holdings, Inc. and American Axle & Manufacturing, Inc. (Incorporated by reference to Exhibit 10.62 of Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2009.)
‡10.07	Form of Restricted Stock Unit Award Agreement for Board of Directors under the 2012 Omnibus Incentive Plan (Incorporated by reference to Exhibit 10.1 of Quarterly Report on Form 10-Q dated May 2, 2014.)
‡10.08	Amended and Restated American Axle & Manufacturing Holdings, Inc. 2012 Omnibus Incentive Plan (Incorporated by reference to Exhibit 4.1 filed with American Axle & Manufacturing Holdings, Inc. Registration Statement on Form S-8 (Registration No. 333-220300).)
‡10.09	Employment Agreement dated as of August 1, 2015 by and between the Company and Michael K. Simonte (Incorporated by reference to Exhibit 10.1 of Current Report on Form 8-K dated July 31, 2015.)
‡10.10	Voting Agreement (Incorporated by reference to Exhibit 10.1 of Current Report on Form 8-K dated November 8, 2016.)
10.11	Credit Agreement dated as of April 6, 2017 among American Axle & Manufacturing Holdings, Inc., American Axle & Manufacturing, Inc., each financial institution party thereto as a lender and JPMorgan Chase Bank, N.A., as Administrative Agent (Incorporated by reference to Exhibit 10.1 of Current Report on Form 8-K dated April 12, 2017.)

Number	Description of Exhibit
10.12	Collateral Agreement dated as of April 6, 2017 among American Axle & Manufacturing Holdings, Inc., American Axle & Manufacturing, Inc., certain subsidiaries of American Axle & Manufacturing Holdings, Inc. identified therein and JPMorgan Chase Bank, N.A., as Collateral Agent (Incorporated by reference to Exhibit 10.2 of Current Report on Form 8-K dated April 12, 2017.)
10.13	Guarantee Agreement dated as of April 6, 2017 among American Axle & Manufacturing Holdings, Inc., American Axle & Manufacturing, Inc., certain subsidiaries identified therein and JPMorgan Chase Bank, N.A., as Administrative Agent (Incorporated by reference to Exhibit 99.1 of Current Report on Form 8-K dated April 12, 2017.)
10.14	Stockholders' Agreement, dated as of April 6, 2017, among American Axle & Manufacturing Holdings, Inc., ASP MD Investco L.P. and American Securities LLC (Incorporated by reference to Exhibit 10.1 of Current Report on Form 8-K dated April 6, 2017.)
‡10.15	Amendment to American Axle & Manufacturing Holdings, Inc. Executive Deferred Compensation Plan (as amended and restated effective January 1, 2005, and as further amended prior to the date hereof) (Incorporated by reference to Exhibit 10.2 of Current Report on Form 8-K dated April 16, 2018.)
‡10.16	Amendments to the Amended and Restated Employment Agreement dated February 15, 2015 by and between the Company and David C. Dauch (Incorporated by reference to Exhibit 10.5 of Current Report on Form 8-K dated April 16, 2018.)
‡10.17	Amendment to the Employment Agreement dated August 1, 2015 by and between the Company and Michael K. Simonte (Incorporated by reference to Exhibit 10.6 of Current Report on Form 8-K dated April 16, 2018.)
‡10.18	Form of Performance Share Award (Relative TSR) for Executive Officers under the 2012 Omnibus Incentive Plan (Incorporated by reference to Exhibit 10.1 of Quarterly Report on Form 10-Q dated May 4, 2018.)
‡10.19	Form of Performance Share Award (Free Cash Flow) for Executive Officers under the 2012 Omnibus Incentive Plan (Incorporated by reference to Exhibit 10.2 of Quarterly Report on Form 10-Q dated May 4, 2018.)
‡10.20	Form of Restricted Stock Unit Award Agreement (Cliff Vesting) for Executive Officers under the 2012 Omnibus Incentive Plan (Incorporated by reference to Exhibit 10.3 of Quarterly Report on Form 10-Q dated May 4, 2018.)
‡10.21	American Axle & Manufacturing Holdings, Inc. 2018 Omnibus Incentive Plan (Incorporated by reference to Exhibit 4.1 filed with American Axle & Manufacturing Holdings, Inc. Registration Statement on Form S-8 (Registration No. 333-225468).)
‡10.22	American Axle & Manufacturing Holdings, Inc. Change in Control Plan (Incorporated by reference to Exhibit 10.1 of Quarterly Report on Form 10-Q dated August 3, 2018.)

Number	Description of Exhibit
‡10.23	American Axle & Manufacturing, Inc. Amended and Restated Supplemental Executive Retirement Program Document (Incorporated by reference to Exhibit 10.29 of Annual Report on Form 10-K dated February 15, 2019).
‡10.24	Form of Performance Unit Award (Free Cash Flow) for Executive Officers under the 2018 Omnibus Incentive Plan (Incorporated by reference to Exhibit 10.1 of Current Report on Form 8-K dated March 8, 2019).
‡10.25	Form of Performance Share Award (Relative TSR) for Executive Officers under the 2018 Omnibus Incentive Plan (Incorporated by reference to Exhibit 10.2 of Current Report on Form 8-K dated March 8, 2019).
‡10.26	Form of Restricted Stock Unit Award Agreement (Cliff Vesting) for Executive Officers under the 2018 Omnibus Incentive Plan (Incorporated by reference to Exhibit 10.3 of Current Report on Form 8-K dated March 8, 2019).
10.27	First Amendment dated as of July 29, 2019, among American Axle & Manufacturing Holdings, Inc., American Axle & Manufacturing, Inc., certain subsidiaries of American Axle & Manufacturing Holdings, Inc. identified therein, each financial institution party thereto as a lender and JPMorgan Chase Bank, N.A., as Administrative Agent (Incorporated by reference to Exhibit 10.1 of Current Report on Form 8-K dated August 1, 2019).
10.28	Second Amendment dated as of April 29, 2020 among American Axle & Manufacturing Holdings, Inc., American Axle & Manufacturing, Inc., certain subsidiaries of American Axle & Manufacturing Holdings, Inc. identified therein (for the limited purpose specified therein), each financial institution party thereto and JPMorgan Chase Bank, N.A., as Administrative Agent (Incorporated by reference to Exhibit 10.1 of Current Report on Form 8-K dated May 4, 2020).
‡10.29	Form of Performance Share Award (Free Cash Flow) for Executive Officers under the 2018 Omnibus Incentive Plan (Incorporated by reference to Exhibit 10.1 of Quarterly Report on Form 10-Q dated May 8, 2020).
‡10.30	Form of Performance Unit Award (Free Cash Flow) for Executive Officers under the 2018 Omnibus Incentive Plan (Incorporated by reference to Exhibit 10.2 of Quarterly Report on Form 10-Q dated May 8, 2020).
‡10.31	Form of Restricted Stock Unit Award Agreement (Cliff Vesting) for Non-Employee Directors under the 2018 Omnibus Incentive Plan (Incorporated by reference to Exhibit 10.3 of Quarterly Report on Form 10-Q dated May 8, 2020).
‡10.32	American Axle & Manufacturing Holdings, Inc. Executive Officer Severance Plan (Incorporated by reference to Exhibit 10.1 of Quarterly Report on Form 10-Q dated October 30, 2020).
‡10.33	American Axle & Manufacturing Holdings, Inc. Executive Retirement Savings Plan (Incorporated by reference to Exhibit 10.2 of Quarterly Report on Form 10-Q dated October 30, 2020).

Number	Description of Exhibit
*10.34	American Axle & Manufacturing Holdings, Inc. 2018 Omnibus Incentive Plan - 2020 Incentive Compensation Program for Executive Officers
*21	Subsidiaries of the Registrant
*22	Subsidiary Guarantors and Issuers of Guaranteed Securities
*23	Consent of Independent Registered Public Accounting Firm
*31.1	Certification of Chief Executive Officer Pursuant to Rule 13a-14(a) of the Securities Exchange Act
*31.2	Certification of Chief Financial Officer Pursuant to Rule 13a-14(a) of the Securities Exchange Act
*32	Certifications of Chief Executive Officer and Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.INS	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
**101.SCH	XBRL Taxonomy Extension Schema Document
**101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
**101.LAB	XBRL Taxonomy Extension Label Linkbase Document
**101.PRE	XBRL Extension Presentation Linkbase Document
**101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
	(All other exhibits are not applicable.)

++ Confidential Treatment Request Granted by the SEC

‡ Reflects Management or Compensatory Contract

* Shown only in the original filed with the Securities and Exchange Commission

** Submitted electronically with the original filed with the Securities and Exchange Commission

Schedule II - VALUATION AND QUALIFYING ACCOUNTS

	Balance at Beginning of Period	Additions - Charged to Costs and Expenses	Acquisitions and Disposals (a)	Deductions	Balance At End of Period
<i>(in millions)</i>					
Year Ended December 31, 2018:					
Allowance for credit losses ⁽¹⁾	\$ 7.0	\$ 6.6	\$ —	\$ 5.2	\$ 8.4
Allowance for deferred taxes ⁽³⁾	180.4	12.9	—	10.0	183.3
Inventory valuation allowance ⁽²⁾	17.3	22.2	—	25.1	14.4
Year Ended December 31, 2019:					
Allowance for credit losses ⁽¹⁾	8.4	13.2	(0.8)	12.8	8.0
Allowance for deferred taxes ⁽⁴⁾	183.3	25.4	—	12.7	196.0
Inventory valuation allowance ⁽²⁾	14.4	31.0	1.4	26.3	20.5
Year Ended December 31, 2020:					
Allowance for credit losses ⁽¹⁾	8.0	7.0	—	10.5	4.5
Allowance for deferred taxes ⁽⁵⁾	196.0	19.8	—	7.8	208.0
Inventory valuation allowance ⁽²⁾	20.5	31.7	—	28.8	23.4

(a) Amounts represent reserves recognized in conjunction with our acquisition of Mitec as well as reserves derecognized in conjunction with the Casting Sale in 2019.

(1) Uncollectible accounts charged off, net of recoveries.

(2) Primarily relates to write-offs of excess and obsolete inventories, as well as adjustments for physical quantity discrepancies.

(3) Primarily reflects a reduction in deferred tax assets at various foreign locations due to foreign currency translation.

(4) Primarily reflects the reversal of a valuation allowance against certain deferred tax assets in foreign locations, as well as changes due to foreign currency translation.

(5) Primarily reflects new net operating losses established with a corresponding valuation allowance at certain foreign locations, partially offset by adjustments to previously established valuation allowances and foreign currency translation.

Signatures

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

**AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
(Registrant)**

/s/ James G. Zaliwski

James G. Zaliwski
Chief Accounting Officer

Date: February 12, 2021

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ David C. Dauch</u> David C. Dauch	Chairman of the Board & Chief Executive Officer	February 12, 2021
<u>/s/ Christopher J. May</u> Christopher J. May	Vice President & Chief Financial Officer	February 12, 2021
<u>/s/ Elizabeth A. Chappell</u> Elizabeth A. Chappell	Director	February 12, 2021
<u>/s/ William L. Kozyra</u> William L. Kozyra	Director	February 12, 2021
<u>/s/ Peter D. Lyons</u> Peter D. Lyons	Director	February 12, 2021
<u>/s/ James A. McCaslin</u> James A. McCaslin	Director	February 12, 2021
<u>/s/ William P. Miller II</u> William P. Miller II	Director	February 12, 2021
<u>/s/ Herbert K. Parker</u> Herbert K. Parker	Director	February 12, 2021
<u>/s/ Sandra E. Pierce</u> Sandra Pierce	Director	February 12, 2021
<u>/s/ John F. Smith</u> John F. Smith	Director	February 12, 2021
<u>/s/ Samuel Valenti III</u> Samuel Valenti III	Director	February 12, 2021

DESCRIPTION OF COMMON STOCK REGISTERED UNDER SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934

As of February 9, 2021, American Axle & Manufacturing Holdings, Inc. (“Holdings,” “our”), has one class of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended: our common stock.

The following is a summary description of our common stock and does not purport to be complete. For a complete description of the terms and provisions of our common stock refer to our Amended and Restated Certificate of Incorporation (our “Certificate of Incorporation”) and Third Amended and Restated Bylaws (our “Bylaws”). This summary description is qualified in its entirety by reference to these documents, each of which is included as an exhibit to the Annual Report on Form 10-K to which this exhibit is a part.

Authorized Capital Stock

American Axle & Manufacturing Holdings, Inc.’s (“Holdings”) authorized capital stock consists of (i) 150,000,000 shares of common stock, par value \$0.01 per share, of which 113,295,610 shares were outstanding as of February 9, 2021, (ii) 10,000,000 shares of preferred stock, par value \$0.01 per share (the “preferred stock”), of which no shares are issued and outstanding and (iii) 40,000,000 shares of series common stock, par value \$0.01 per share (the “series common stock”), of which no shares are issued and outstanding.

Voting Rights

Holders of common stock are entitled to one vote per share on all matters to be voted upon by the stockholders. The holders of common stock do not have cumulative voting rights in the election of directors.

Dividends

Holders of common stock are entitled to receive dividends if, as and when dividends are declared from time to time by Holdings’ Board of Directors (“Board”) out of funds legally available therefor, after payment of dividends required to be paid on outstanding preferred stock or series common stock (as described below), if any.

Liquidation, Redemption and Preemptive Rights

In the event of liquidation, dissolution or winding up of Holdings, the holders of common stock are entitled to share ratably in all assets remaining after payment of liabilities and accrued but unpaid dividends and liquidation preferences on any outstanding preferred stock or series common stock of Holdings. The common stock has no preemptive or conversion rights and is not subject to further calls or assessment by Holdings. There are no redemption or sinking fund provisions applicable to the common stock.

Listing

Holdings’ common stock is listed on the New York Stock Exchange under the symbol “AXL.”

Registrar and Transfer Agent

The registrar and transfer agent for the common stock is Computershare Trust Co. of New York.

Preferred Stock and Series Common Stock

The Certificate of Incorporation authorizes the Board of Directors to establish one or more series of preferred stock and series common stock and to determine, with respect to any series of preferred stock or series common stock, the terms and rights of such series. The authorized shares of preferred stock and series common stock, as well as shares of common stock, will be available for issuance without further action by Holdings' stockholders, unless such action is required by applicable law or the rules of any stock exchange or automated quotation system on which Holdings' securities may be listed or traded.

Although the Board has no intention at the present time of doing so, it could issue a series of preferred stock or series common stock that could, depending on the terms of such series, impede the completion of a merger, tender offer or other takeover attempt. The Board will make any determination to issue such shares based on its judgment as to the best interests of Holdings and its stockholders. The Board, in so acting, could issue preferred stock or series common stock having terms that could discourage an acquisition attempt or other transaction that some, or a majority, of Holdings' stockholders might believe to be in their best interests or in which stockholders might receive a premium for their stock over the then-current market price of such stock.

Certificate of Incorporation; Bylaws

The Certificate of Incorporation and the Bylaws contain certain provisions that could make more difficult the acquisition of Holdings by means of a tender offer, a proxy contest or otherwise.

Classified Board

The Certificate of Incorporation provides that Holdings' Board of Directors will be divided into three classes of directors, with the classes to be as nearly equal in number as possible. As a result, approximately one-third of the Board of Directors will be elected each year. The classification of directors will have the effect of making it more difficult for stockholders to change the composition of Holdings' Board. The Certificate of Incorporation provides that, subject to any rights of holders of preferred stock or series common stock to elect additional directors under specified circumstances, the number of directors will be fixed in the manner provided in the Bylaws. The Certificate of Incorporation and the Bylaws provide that the number of directors will be fixed from time to time exclusively pursuant to a resolution adopted by the Board, but must consist of not less than three directors. In addition, the Certificate of Incorporation provides that, subject to any rights of holders of preferred stock, and unless the Board otherwise determines, any vacancies will be filled only by the affirmative vote of a majority of the remaining directors, though less than a quorum.

Removal of Directors

Under the Delaware General Corporation Law ("DGCL"), unless otherwise provided in the Certificate of Incorporation, directors serving on a classified board may be removed by the stockholders only for cause. In addition, the Certificate of Incorporation and the Bylaws provide that directors may be removed only for cause and only upon the affirmative vote of holders of at least 75% of the voting power of all the then outstanding shares of stock entitled to vote generally in the election of directors ("Voting Stock"), voting together as a single class.

Stockholder Action

The Certificate of Incorporation and the Bylaws provide that stockholder action can be taken only at an annual or special meeting of stockholders and may not be taken by written consent in lieu of a meeting. The Certificate of Incorporation and the Bylaws provide that special meetings of stockholders can be called only by Holdings' Chief Executive Officer or pursuant to a resolution adopted by the Board. Stockholders are not permitted to call a special meeting or to require that the Board call a special meeting of stockholders. Moreover, the business permitted to be conducted at any special meeting of stockholders is limited to the business brought before the meeting pursuant to the notice of meeting given by Holdings.

Advance Notice Procedures

The Bylaws establish an advance notice procedure for stockholders to make nominations of candidates for election as directors, or bring other business before an annual or special meeting of stockholders of Holdings (the "Stockholders Notice Procedure"). The Stockholders Notice Procedure provides that only persons who are nominated by, or at the direction of the Board of Directors, the Chairman of the Board, or by a stockholder who has given timely written notice to the Secretary of Holdings prior to the meeting at which directors are to be elected, will be eligible for election as directors of Holdings.

Proxy Access

The Bylaws contain a proxy access provision which allows eligible stockholders who comply with the requirements set forth in the Bylaws to include their own director nominees in Holdings' proxy statement along with the candidates nominated by the Board. Pursuant to the proxy access provision, a stockholder, or group of up to 20 stockholders, owning an aggregate of 3% or more of Holdings' outstanding capital stock continuously for at least three years, may nominate a candidate for election to the Board and such candidate will be included in Holdings' proxy statement for the applicable annual meeting of Holdings' stockholders. Holdings will not be required, however, to include in its proxy statement more stockholder nominees than that number constituting the greater of (i) two and (ii) 20% of the total number of directors of Holdings then serving on the Board.

Amendment

The Certificate of Incorporation provides that the affirmative vote of the holders of at least 75% of the voting power of the outstanding shares of Voting Stock, voting together as a single class, is required to amend provisions of the Certificate of Incorporation relating to the prohibition of stockholder action without a meeting; the number, election and term of Holdings' directors; and the removal of directors. The Certificate of Incorporation further provides that the Bylaws may be amended by the Board or by the affirmative vote of the holders of at least 75% of the outstanding shares of Voting Stock, voting together as a single class.

**AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.
2018 OMNIBUS INCENTIVE PLAN**

2020 INCENTIVE COMPENSATION PROGRAM FOR EXECUTIVE OFFICERS

The 2020 Incentive Compensation Program for Executive Officers (the "Program") operates under and is otherwise subject to the terms of the American Axle & Manufacturing Holdings, Inc. 2018 Omnibus Incentive Plan (the "Plan"). Capitalized terms not otherwise defined herein shall have the same meanings as in the Plan.

Article 1

DEFINITIONS

When used in the Program, the following words and phrases shall have the following meanings unless the context clearly indicates another meaning:

1.1 Administrator means the Management Benefits Committee acting through the Corporate Human Resources Department, as set forth in Article 5.

1.2 Base Salary means a Participant's monthly gross regular rate of pay from the Company or a Subsidiary as of December 1 of a Program Year or on the date of a Participant's death, Disability, Retirement, before any required reductions or withholdings or reductions under any salary reduction agreement between a Participant and the Company or a Subsidiary. Base Salary shall not include overtime, bonuses, compensation paid in kind, special allowances or reimbursements to cover expenses paid or incurred on behalf of the Company or a Subsidiary or in the course of employment with the Company or a Subsidiary, the Company's contribution to this Program or to any pension or profit sharing plan to which the Company or a Subsidiary makes contributions, or the Company or applicable Subsidiary's contribution to any employee welfare plan or arrangement.

1.3 Bonus Award means a Cash-Based Award under the Plan determined in accordance with Article 3.

1.4 Bonus Award Multiplier means the applicable annual target bonus percentage of the Eligible Employee's Base Salary.

1.5 CEO means the Chief Executive Officer of the Company.

1.6 CFO means the Chief Financial Officer of the Company.

1.7 Committee means the Compensation Committee of the Board of Directors.

1.8 Covered Earnings means a Participant's Base Salary multiplied by his or her Days of Participation during a Program Year.

1.9 Eligible Employee means an Executive Officer.

1.10 Executive Officer means “executive officer” of the Company as defined in Section 16 of the Securities Exchange Act of 1934 and the rules thereunder, as determined by the Board of Directors.

1.11 Days of Participation means each day on which an employee of the Company or a Subsidiary is an Eligible Employee. An Eligible Employee who, during the Program Year, dies, separates due to Retirement, or incurs a Disability will be credited with his or her Days of Participation through the date of death, Retirement, or Disability but not thereafter.

1.12 Payment Date means the date or dates on which Bonus Awards under the Program are paid to Participants as determined in accordance with Section 4.1 hereof.

1.13 Program Year means the 12-month period beginning on January 1 and ending on December 31 of each year.

1.14 Weighted Percentage means the percentage allocation (relative weighting) assigned to each of the applicable Performance Measures for each Program Year, as approved by the Committee in consultation with the CEO and CFO.

Article 2

PARTICIPATION

2.1 Participation. An individual who becomes an Eligible Employee before October 1 of a Program Year shall be a Participant for such Program Year. An individual who becomes an Eligible Employee on or after October 1 of a Program Year shall not be a Participant for such Program Year, but shall become a Participant for the next succeeding Program Year on January 1 of such next succeeding Program Year in the event and to the extent such individual remains an Eligible Employee continuously into such succeeding Program Year.

2.2 Eligibility. Each Participant:

- a. who remains an Eligible Employee through the last day of a Program Year and continuously throughout the next succeeding Program Year up to and including the Payment Date; or

- b. whose participation in the Program terminated during the Program Year due to the Participant's:
 - i. death; or
 - ii. Disability; or
 - iii. Retirement;

shall be entitled to receive a Bonus Award, except as otherwise provided herein.

Article 3

CALCULATION OF BONUS AWARDS

3.1 Bonus Award Formula. The Bonus Award of an Executive Officer for a particular Program Year shall be determined pursuant to this Article 3 and shall be equal to the sum of the amounts calculated for each applicable Performance Measure pursuant to the following formula:

1. the bonus award percentage which corresponds to the applicable Performance Measure for the Program Year;
2. multiplied by the Weighted Percentage assigned to each such Performance Measure;
3. multiplied by the Covered Earnings of the Executive Officer for the Program Year;
4. multiplied by the Bonus Award Multiplier of the Executive Officer for the Program Year.

3.2 Weighted Percentages. Each Program Year the Committee, in consultation with the CEO and CFO, shall assign a Weighted Percentage to each of the Performance Measures, which may be between 0% and 100%. For purposes of determining Bonus Awards for Executive Officers, the Weighted Percentages for all of the Performance Measures must total 100%. A list setting forth all Weighted Percentages for each of the Performance Measures shall be established for each Program Year based on the recommendation of the CEO and CFO and approval of the Committee. For the avoidance of doubt, such listing need not include any Performance Measures for which the Weighted Percentage is 0%.

3.3 Individual Performance Adjustments. Anything in this Program to the contrary notwithstanding, the amount of a Participant's Bonus Award for a given Program Year shall be subject to review and adjustment by the CEO, who shall have the discretion to increase, decrease, or eliminate entirely (such adjustments, "Individual Performance Adjustments") any Bonus Award determined pursuant to this Article 3; provided, however, that the amount of an Executive Officer's Bonus Award must be

approved by the Committee and cannot exceed the annual individual limit under the Plan applicable to Cash-Based Awards.

3.4 Requirement of Profitability. Except as provided in the Plan and subject to any adjustments made by the Committee in accordance with the Plan, no Bonus Award shall be payable pursuant to this Program to any Participant for any Program Year in which the Company's audited consolidated financial statements contained in its Annual Report on Form 10-K filed with the Securities and Exchange Commission for such Program Year do not report positive net income for the Program Year in question after reflecting all costs and expenses associated with the Plan for such Program Year.

Article 4

PAYMENT OF BONUS AWARD

4.1 Time and Manner of Payment. Payment of a Participant's Bonus Award for a Program Year shall be made not later than March 15 of the subsequent year; provided, however, that if the employment of a Participant by the Company terminates during a Program Year, or prior to March 15 of the subsequent year, for a reason other than his or her death, Disability, or Retirement, the Participant shall forfeit all rights to a Bonus Award in such Program Year and no Bonus Award shall be paid to such Participant for such Program Year. Notwithstanding any provision of the Program to the contrary, the Company shall withhold from any Bonus Award all federal, state and local taxes as shall be required pursuant to any law or governmental regulation or ruling, any amounts owed by the Participant to the Company to the extent permitted by law, and any amounts otherwise required to be withheld or deducted under applicable law or by agreement of the Company and the Participant.

Article 5

ADMINISTRATION, AMENDMENT AND TERMINATION

5.1 Authority of Administrator. The Management Benefits Committee¹ shall monitor the performance of the Program to ensure that it is administered by the Human Resources Department in accordance with its terms and applicable laws and regulations. Except as otherwise expressly stated, the Compensation Committee, or such other committee, including the Management Benefits Committee, to which it delegates such authority, shall have the full power, discretion and authority to construe, interpret and administer the Program, including authority to correct any defect or reconcile any inconsistency or ambiguity. All decisions, acts or interpretations of the Committee shall be final, conclusive and binding upon all persons. No member of the Committee, the Management Benefits Committee, or any other committee to which Plan administrative authority has been delegated, shall be personally liable by reason of any action taken by him or her in good faith or on his or her behalf as Administrator, nor for

any mistake in judgment made in good faith, and the Company shall indemnify and hold harmless each member of the Committee, the Management Benefits Committee, the CEO, the CFO, and each other executive officer, employee or director of the Company or a Subsidiary to whom any duty or power relating to the Program, or its administration or interpretation, may be delegated, against any cost or expense (including legal fees) or liability (including any sum paid in settlement of a claim with the approval of the Board of Directors) arising out of any act or omission to act in connection with the Program unless arising out of such person's own fraud or bad faith.

5.2 Amendment and Termination. The Committee may at its discretion amend this Program in any respect at any time and for any reason and may terminate the Program, in whole or in part, at any time and neither notice of amendment nor of termination is necessary for any amendment or termination to be effective. Any amendment or termination of the Program may be made effective retroactively to the first day of the Program Year or, in the case of an amendment or termination of the Program adopted on or before March 15, the first day of the preceding Program Year. No Participant or designated beneficiary shall be deemed to have a vested or contractual right to a Bonus Award until such Bonus Award is actually paid to the Participant or designated beneficiary by the Company. The payment of Bonus Awards pursuant to this program is completely discretionary on the part of the Company. The existence of this Program shall create no rights on behalf of Participants or beneficiaries or obligations on behalf of the Company.

Article 6

MISCELLANEOUS

6.1 Compliance with Financing Agreements. This Program may be subject to the terms and conditions of any agreements entered into between the Company and any third party lender to whom the Company is now indebted, or may at any time during the term of this Program become indebted, and the Bonus Awards for any Program Year may be reduced by such amounts as may be necessary to ensure that the Company is not in default under any such agreements.

6.2 No Right, Title or Interest in or to the Company's Assets. Neither Participants nor Beneficiaries shall have any right, title or interest whatsoever in or to any investments which the Company may make to aid it in meeting its obligations under this Program. Nothing contained in the Program, and no action taken pursuant to its provisions, shall create or be construed to create a trust of any kind or a fiduciary relationship between Holdings or the Company and any Participant, designated beneficiary or any other person. All payments to be made under this Program shall be paid from the general assets of the Company.

6.3 No Alienation of Bonus Awards. Except as otherwise may be required by law, no amount payable at any time under this Program shall be subject in any manner to alienation by anticipation, sale, transfer, assignment, bankruptcy, pledge, attachment, charge or encumbrance of any kind, nor in any manner be subject to the debts or liabilities of any person, and any attempt to so alienate or subject any such amount, whether currently or hereafter payable, shall be void.

6.4 No Contract of Employment. Neither the actions of the Company in establishing this Program, nor any provisions of this Program or any action taken by the Company, the Committee, the Administrator or the CEO pursuant to its provisions, shall be construed as giving to any Eligible Employee or any employee the right to be employed by the Company or a Subsidiary or affect the right of the Company or a Subsidiary to dismiss any employee.

**EXHIBIT 21 - SUBSIDIARIES OF OUR COMPANY
AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.**

Entity	Organized Under Laws of
Parent Entity	
American Axle & Manufacturing Holdings, Inc.	Delaware
Subsidiary Entities (1)	
AAM Auto Component (India) Private Limited	India
AAM Casting Corp.	Delaware
AAM Casting de Mexico Holdings, S. de. R.L. de C.V.	Mexico
AAM Commercial & Trading (Shanghai) Co., Ltd.	China
AAM Distribution Company, Inc.	Delaware
AAM do Brasil Ltda.	Brazil
AAM Germany GmbH	Germany
AAM India Manufacturing Corporation Private Limited	India
AAM International Holdings, Inc.	Delaware
AAM International S.ár.l.	Luxembourg
AAM Investment Management (Shanghai) Co., Ltd.	China
AAM Luxembourg S.ár.l.	Luxembourg
AAM Maquiladora Mexico S. de R.L. de C.V.	Mexico
AAM Mexico Holdings, LLC	Delaware
AAM Poland Sp. z o. o.	Poland
AAM Powder Metal Components, Inc.	Ohio
AAM Travel Services, LLC	Michigan
AccuGear, Inc.	Delaware
Albion Automotive (Holdings) Limited	Scotland
Albion Automotive Limited	Scotland
American Axle & Manufacturing (Thailand) Co., Ltd.	Thailand
American Axle & Manufacturing de Mexico Holdings S. de R.L. de C.V.	Mexico
American Axle & Manufacturing de Mexico S. de R.L. de C.V.	Mexico
American Axle & Manufacturing Korea, Inc.	Korea
American Axle & Manufacturing, Inc.	Delaware
ASP Grede Intermediate Holdings LLC	Delaware
ASP HHI Acquisition Co., Inc.	Delaware
ASP HHI Holdings Inc.	Delaware
ASP MD Holdings, Inc.	Delaware
Auburn Hills Manufacturing, Inc.	Delaware
Bearing Holdings, LLC	Delaware
Brillion Iron Works, Inc.	Delaware
Changshu AAM Automotive Driveline High Technology Manufacturing Co., Ltd.	China
Colfor Manufacturing, Inc.	Delaware
e-AAM Driveline Systems AB	Sweden
Gear Design and Manufacturing, LLC	Delaware
HHI FormTech, LLC	Delaware
HHI Holdings, LLC	Delaware
Impact Forge Group, LLC	Delaware
Jernberg Industries, LLC	Delaware
Kyklos Bearing International, LLC	Delaware
Kyklos Holdings, LLC	Delaware
MD Investors Corporation	Delaware
Metaldyne (Suzhou) Automotive Components Co., Ltd	China
Metaldyne BSM, LLC	Delaware
Metaldyne Componentes Automotivos do Brasil Ltda.	Brazil
Metaldyne Drivetrain Mexico, S. de R.L. de C.V.	Mexico
Metaldyne Engine Holdings, S.L.	Spain
Metaldyne Europe S.ár.l.	Luxembourg
Metaldyne GmbH	Germany
Metaldyne Grundstrücks GbR	Germany

**EXHIBIT 21 - SUBSIDIARIES OF OUR COMPANY
AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.**

Metaldyne Hong Kong Limited	Hong Kong
Metaldyne Industries Limited	India
Metaldyne International (UK) Ltd	United Kingdom
Metaldyne International Deutschland GmbH	Germany
Metaldyne International France	France
Metaldyne International Spain, S.L.	Spain
Metaldyne Korea Limited	Korea
Metaldyne M&A Bluffton, LLC	Delaware
Metaldyne Mauritius Limited	Mauritius
Metaldyne Netherlands Sintered Holdings B.V.	Netherlands
Metaldyne Nürnberg GmbH	Germany
Metaldyne Oslavany, spol. s.r.o.	Czech Republic
Metaldyne Performance Group, Inc.	Delaware
Metaldyne Powertrain Components, Inc.	Delaware
Metaldyne Sintered Components España, S.L.	Spain
Metaldyne Sintered Components Mexico, S. de R.L. de C.V.	Mexico
Metaldyne Sintered Ridgway, LLC	Delaware
Metaldyne SinterForged Products, LLC	Delaware
Metaldyne Tubular Components, LLC	Delaware
Metaldyne Zell Verwaltungs GmbH	Germany
Metaldyne, LLC	Delaware
MetaldyneLux S.ár.l.	Luxembourg
MPG Holdco I Inc.	Delaware
MPG México, S. de R.L. de C.V.	Mexico
MSP Industries Corporation	Michigan
Novocast, S. de R. L. de C.V.	Mexico
Oxford Forge, Inc.	Delaware
Punchcraft Machining and Tooling, LLC	Delaware
Rochester Manufacturing, LLC	Indiana
Transformaciones Especializadas NC, S.A. de C.V.	Mexico

(1) All subsidiaries set forth herein are reported in our financial statements through consolidations; there are no subsidiaries omitted from this list.

**EXHIBIT 22 - SUBSIDIARY GUARANTORS AND ISSUERS OF GUARANTEED SECURITIES
AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.**

Our 6.875% Notes, 6.50% Notes, 6.25% Notes (due 2026) and 6.25% Notes (due 2025) are senior unsecured obligations of American Axle & Manufacturing, Inc., all of which are fully and unconditionally guaranteed, on a joint and several basis, by American Axle & Manufacturing Holdings, Inc. and substantially all domestic subsidiaries of American Axle & Manufacturing, Inc. and Metaldyne Performance Group, Inc. The table below defines these entities.

Entity	Organized Under Laws of
Parent Entity	
American Axle & Manufacturing Holdings, Inc.	Delaware
Issuing Entity	
American Axle & Manufacturing, Inc.	Delaware
Guarantor Entities	
AAM International Holdings, Inc.	Delaware
Auburn Hills Manufacturing, Inc.	Delaware
Oxford Forge, Inc.	Delaware
MSP Industries Corporation	Michigan
Colfor Manufacturing, Inc.	Delaware
Accugear, Inc.	Delaware
Rochester Manufacturing, LLC	Indiana
Metaldyne Performance Group, Inc.	Delaware
MPG Holdco I Inc.	Delaware
Metaldyne BSM, LLC	Delaware
Metaldyne M&A Bluffton, LLC	Delaware
Metaldyne Powertrain Components, Inc.	Delaware
Metaldyne Sintered Ridgway, LLC	Delaware
Metaldyne SinterForged Products, LLC	Delaware
Punchcraft Machining and Tooling, LLC	Delaware
HHI FormTech, LLC	Delaware
Jernberg Industries, LLC	Delaware
Impact Forge Group, LLC	Delaware
ASP HHI Holdings, Inc.	Delaware
ASP HHI Acquisition Co., Inc.	Delaware
ASP MD Holdings, Inc.	Delaware
MD Investors Corporation	Delaware
Metaldyne, LLC	Delaware
Gear Design and Manufacturing, LLC	Delaware
AAM Powder Metal Components, Inc.	Ohio
ASP Grede Intermediate Holdings LLC	Delaware
HHI Holdings, LLC	Delaware
AAM Casting Corp.	Delaware

EXHIBIT 23 - CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statements No. 333-220300, No. 333-225468 and No. 333-181163 each on Forms S-8, and Registration Statement No. 333-217033 on Form S-3ASR of our report dated February 12, 2021, relating to the consolidated financial statements and financial statement schedule of American Axle & Manufacturing Holdings, Inc. and the effectiveness of American Axle & Manufacturing Holdings, Inc.'s internal control over financial reporting appearing in this Annual Report on Form 10-K for the year ended December 31, 2020.

/s/ Deloitte & Touche LLP

Detroit, Michigan
February 12, 2021

EXHIBIT 31.1 – CERTIFICATION PURSUANT TO RULE 13a-14(a) OF THE SECURITIES EXCHANGE ACT

I, David C. Dauch, certify that:

1. I have reviewed this Annual Report on Form 10-K of American Axle & Manufacturing Holdings, Inc;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 12, 2021

/s/ David C. Dauch

David C. Dauch

Chairman of the Board & Chief Executive Officer

(Principal Executive Officer)

EXHIBIT 31.2 – CERTIFICATION PURSUANT TO RULE 13a-14(a) OF THE SECURITIES EXCHANGE ACT

I, Christopher J. May, certify that:

1. I have reviewed this Annual Report on Form 10-K of American Axle & Manufacturing Holdings, Inc;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 12, 2021

/s/ Christopher J. May

Christopher J. May

Vice President & Chief Financial Officer

(Principal Financial Officer)

**EXHIBIT 32 - CERTIFICATIONS PURSUANT TO
18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report of American Axle & Manufacturing Holdings, Inc. (Issuer) on Form 10-K for the period ending December 31, 2020 as filed with the Securities and Exchange Commission on the date hereof (Report), I, David C. Dauch, Chairman of the Board & Chief Executive Officer of the Issuer, and I, Christopher J. May, Vice President & Chief Financial Officer of the Issuer, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Issuer.

/s/ David C. Dauch

David C. Dauch
Chairman of the Board &
Chief Executive Officer
February 12, 2021

/s/ Christopher J. May

Christopher J. May
Vice President &
Chief Financial Officer
February 12, 2021