SNAP-ON Inc
Form 10-K
February 14, 2019

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 29, 2018, or
TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
Commission File Number 1-7724
(Exact name of registrant as specified in its charter)

Delaware	39-0622040
(State of incorporation)	(I.R.S. Employer Identification No.)
2801 80th Street, Kenosha, Wisconsin	53143
(Address of principal executive offices)	(Zip code)

(262) 656-5200
(Registrant's telephone number, including area code)
Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock, $1.00 par value	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 15(d) of the Act. Yes No
Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No
Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No
Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in a definitive proxy or information statement incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.
Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer", "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.
Large accelerated filer Accelerated filer Non-accelerated filer
Smaller reporting company Emerging growth company
If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.
Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No
The aggregate market value of voting and non-voting common equity held by non-affiliates (excludes 626,160 shares held by directors and executive officers) computed by reference to the price ($160.72) at which common equity was last sold as of the last business day of the registrant's most recently completed second fiscal quarter (June 30, 2018)

was $9.0 billion.

The number of shares of Common Stock ($1.00 par value) of the registrant outstanding as of February 8, 2019, was 55,616,137 shares.

DOCUMENTS INCORPORATED BY REFERENCE

Part III of this Annual Report on Form 10-K incorporates by reference certain information that will be set forth in Snap-on's Proxy Statement, which is expected to first be mailed to shareholders on or about March 11, 2019, prepared for the Annual Meeting of Shareholders scheduled for April 25, 2019.

TABLE OF CONTENTS

		Page
PART I		
Item 1	Business	4
Item 1A	Risk Factors	11
Item 1B	Unresolved Staff Comments	19
Item 2	Properties	19
Item 3	Legal Proceedings	21
Item 4	Mine Safety Disclosures	21
PART II		
Item 5	Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	21
Item 6	Selected Financial Data	24
Item 7	Management's Discussion and Analysis of Financial Condition and Results of Operations	26
Item 7A	Quantitative and Qualitative Disclosures About Market Risk	55
Item 8	Financial Statements and Supplementary Data	56
Item 9	Changes in and Disagreements With Accountants on Accounting and Financial Disclosure	56
Item 9A	Controls and Procedures	56
Item 9B	Other Information	59
PART III		
Item 10	Directors, Executive Officers and Corporate Governance	59
Item 11	Executive Compensation	60
Item 12	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	60
Item 13	Certain Relationships and Related Transactions, and Director Independence	60
Item 14	Principal Accounting Fees and Services	60
PART IV		
Item 15	Exhibits, Financial Statement Schedules	61
Item 16	Form 10-K Summary	64

Signatures 118

Consent of Independent Registered Public Accounting Firm 123

Certifications 124

PART I

Safe Harbor

Statements in this document that are not historical facts, including statements that (i) are in the future tense; (ii) include the words “expects,” “plans,” “targets,” “estimates,” “believes,” “anticipates,” or similar words that reference Snap-on Incorporated (“Snap-on” or “the company”) or its management; (iii) are specifically identified as forward-looking; or (iv) describe Snap-on’s or management’s future outlook, plans, estimates, objectives or goals, are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Snap-on cautions the reader that any forward-looking statements included in this document that are based upon assumptions and estimates were developed by management in good faith and are subject to risks, uncertainties or other factors that could cause (and in some cases have caused) actual results to differ materially from those described in any such statement. Accordingly, forward-looking statements should not be relied upon as a prediction of actual results or regarded as a representation by the company or its management that the projected results will be achieved. For those forward-looking statements, Snap-on cautions the reader that numerous important factors, such as those listed below, as well as those factors discussed in this Annual Report on Form 10-K, particularly those in “Item 1A: Risk Factors,” could affect the company’s actual results and could cause its actual consolidated results to differ materially from those expressed in any forward-looking statement made by, or on behalf of, Snap-on.

These risks and uncertainties include, without limitation, uncertainties related to estimates, statements, assumptions and projections generally, and the timing and progress with which Snap-on can attain value through its Snap-on Value Creation Processes, including its ability to realize efficiencies and savings from its rapid continuous improvement and other cost reduction initiatives, improve workforce productivity, achieve improvements in the company’s manufacturing footprint and greater efficiencies in its supply chain, and enhance machine maintenance, plant productivity and manufacturing line set-up and change-over practices, any or all of which could result in production inefficiencies, higher costs and/or lost revenues. These risks also include uncertainties related to Snap-on’s capability to implement future strategies with respect to its existing businesses, its ability to refine its brand and franchise strategies, retain and attract franchisees, further enhance service and value to franchisees and thereby help improve their sales and profitability, introduce successful new products, successfully pursue, complete and integrate acquisitions, as well as its ability to withstand disruption arising from natural disasters, planned facility closures or other labor interruptions, the effects of external negative factors, including adverse developments in world financial markets, weakness in certain areas of the global economy (including as a result of the United Kingdom’s pending exit from the European Union), and significant changes in the current competitive environment, inflation, interest rates and other monetary and market fluctuations, changes in tax rates, laws and regulations as well as uncertainty surrounding potential changes, and the impact of energy and raw material supply and pricing, including steel and gasoline, as well as tariffs and other trade protection measures put in place by the U.S. or other countries, the amount, rate and growth of Snap-on’s general and administrative expenses, including health care and postretirement costs, continuing and potentially increasing required contributions to pension and postretirement plans, the impacts of non-strategic business and/or product line rationalizations, and the effects on business as a result of new legislation, regulations or government-related developments or issues, risks associated with data security and technological systems and protections, potential reputational damages and costs related to litigation as well as an inability to assure that costs will be reduced or eliminated on appeal, and other world or local events outside Snap-on’s control, including terrorist disruptions. Snap-on disclaims any responsibility to update any forward-looking statement provided in this document, except as required by law.

In addition, investors should be aware that generally accepted accounting principles in the United States of America (“GAAP”) prescribe when a company should reserve for particular risks, including litigation exposures. Accordingly, results for a given reporting period could be significantly affected if and when a reserve is established for a major contingency. Reported results, therefore, may appear to be volatile in certain accounting periods.

Fiscal Year

Snap-on’s fiscal year ends on the Saturday that is on or nearest to December 31. Unless otherwise indicated, references in this document to “fiscal 2018” or “2018” refer to the fiscal year ended December 29, 2018; references to “fiscal 2017” or

“2017” refer to the fiscal year ended December 30, 2017; and references to “fiscal 2016” or “2016” refer to the fiscal year ended December 31, 2016. Snap-on’s 2018, 2017 and 2016 fiscal years each contained 52 weeks of operating results. References in this document to 2018, 2017 and 2016 year end refer to December 29, 2018, December 30, 2017, and December 31, 2016, respectively.

Item 1: Business

Snap-on was incorporated under the laws of the state of Wisconsin in 1920 and reincorporated under the laws of the state of Delaware in 1930. Snap-on is a leading global innovator, manufacturer and marketer of tools, equipment, diagnostics, repair information and systems solutions for professional users performing critical tasks. Products and services include hand and power tools, tool storage, diagnostics software, handheld and PC-based diagnostic products, information and management systems, shop equipment and other solutions for vehicle dealerships and repair centers, as well as for customers in industries, such as aviation and aerospace, agriculture, construction, government and military, mining, natural resources, power generation and technical education. Snap-on also derives income from various financing programs designed to facilitate the sales of its products and support its franchise business.

Snap-on markets its products and brands worldwide through multiple sales distribution channels in more than 130 countries. Snap-on's largest geographic markets include the United States, Europe, Canada and Asia Pacific. Snap-on reaches its customers through the company's franchised, company-direct, distributor and internet channels.

The company began with the development of the original Snap-on interchangeable socket set in 1920 and subsequently pioneered mobile tool distribution in the automotive repair market, where well stocked vans sell to professional vehicle technicians at their place of business. Today, Snap-on defines its value proposition more broadly, extending its reach "beyond the garage" to deliver a broad array of unique solutions that make work easier for serious professionals performing critical tasks. The company's "coherent growth" strategy focuses on developing and expanding its professional customer base in its legacy automotive market, as well as in adjacent markets, additional geographies and other areas, including in critical industries, where the cost and penalties for failure can be high. In addition to its coherent growth strategy, Snap-on is committed to its "Value Creation Processes" – a set of strategic principles and processes designed to create value and employed in the areas of (i) safety; (ii) quality; (iii) customer connection; (iv) innovation; and (v) rapid continuous improvement ("RCI"). Snap-on's RCI initiatives employ a structured set of tools and processes across multiple businesses and geographies intended to eliminate waste and improve operations. Savings from Snap-on's RCI initiatives reflect benefits from a wide variety of ongoing efficiency, productivity and process improvements, including savings generated from product design cost reductions, improved manufacturing line set-up and change-over practices, lower-cost sourcing initiatives and facility consolidations.

Snap-on's primary customer segments include: (i) commercial and industrial customers, including professionals in critical industries and emerging markets; (ii) professional vehicle repair technicians who purchase products through the company's mobile tool distribution network; and (iii) other professional customers related to vehicle repair, including owners and managers of independent and original equipment manufacturer ("OEM") dealership service and repair shops ("OEM dealerships"). Snap-on's Financial Services customer segment includes: (i) franchisees' customers, principally serving vehicle repair technicians, and Snap-on customers who require financing for the purchase or lease of tools and diagnostics and equipment products on an extended-term payment plan; and (ii) franchisees who require financing for vehicle leases and business loans.

Snap-on's business segments are based on the organization structure used by management for making operating and investment decisions and for assessing performance. Snap-on's reportable business segments are: (i) the Commercial & Industrial Group; (ii) the Snap-on Tools Group; (iii) the Repair Systems & Information Group; and (iv) Financial Services. The Commercial & Industrial Group consists of business operations serving a broad range of industrial and commercial customers worldwide, including customers in the aerospace, natural resources, government, power generation, transportation and technical education market segments (collectively, "critical industries"), primarily through direct and distributor channels. The Snap-on Tools Group consists of business operations primarily serving vehicle service and repair technicians through the company's worldwide mobile tool distribution channel. The Repair Systems & Information Group consists of business operations serving other professional vehicle repair customers worldwide, primarily owners and managers of independent repair shops and OEM dealerships, through direct and distributor channels. Financial Services consists of the business operations of Snap-on Credit LLC ("SOC"), the company's financial services business in the United States, and Snap-on's other financial services subsidiaries in those international markets where Snap-on has franchise operations. See Note 19 to the Consolidated Financial Statements for information on business segments and foreign operations.

Snap-on evaluates the performance of its operating segments based on segment revenues, including both external and intersegment net sales, and segment operating earnings. Snap-on accounts for intersegment sales and transfers based primarily on standard costs with reasonable mark-ups established between the segments. Identifiable assets by segment are those assets used in the respective reportable segment's operations. Corporate assets consist of cash and cash equivalents (excluding cash held at Financial Services), deferred income taxes and certain other assets. Intersegment amounts are eliminated to arrive at Snap-on's consolidated financial results.

Recent Acquisitions

On January 31, 2018, Snap-on acquired substantially all of the assets of George A. Sturdevant, Inc. (d/b/a Fastorq) for a cash purchase price of $3.0 million. Fastorq, based in New Caney, Texas, designs, assembles and distributes hydraulic torque and hydraulic tensioning products for use in critical industries. The acquisition of the Fastorq product line complemented and increased Snap-on's existing torque product offering and broadened its established capabilities in serving in critical industries. For segment reporting purposes, the results of operations and assets of Fastorq have been included in the Commercial & Industrial Group since the acquisition date.

On July 28, 2017, Snap-on acquired Torque Control Specialists Pty Ltd ("TCS") for a cash purchase price of $3.6 million (or $3.5 million, net of cash acquired). TCS, based in Adelaide, Australia, distributes a full range of torque products, including wrenches, multipliers and calibrators, for use in critical industries. The acquisition of TCS enhanced and expanded Snap-on's capabilities in providing solutions that address torque requirements, which are increasingly essential to critical mechanical performance. For segment reporting purposes, the results of operations and assets of TCS have been included in the Commercial & Industrial Group since the acquisition date.

On May 4, 2017, Snap-on acquired Norbar Torque Tools Holdings Limited, along with its U.S. and Chinese joint ventures ("Norbar"), for a cash purchase price of $71.6 million (or $69.9 million, net of cash acquired). Norbar, based in Banbury, U.K., designs and manufactures a full range of torque products, including wrenches, multipliers and calibrators, for use in critical industries. The acquisition of Norbar enhanced and expanded Snap-on's capabilities in providing solutions that address torque requirements. For segment reporting purposes, the results of operations and assets of Norbar have been included in the Commercial & Industrial Group since the acquisition date.

On January 30, 2017, Snap-on acquired BTC Global Limited ("BTC") for a cash purchase price of $9.2 million. BTC, based in Crewe, U.K., designs and implements automotive vehicle inspection and management software for OEM franchise repair shops. The acquisition of BTC enhanced Snap-on's capabilities to grow enterprise revenues and add increased productivity for repair workshops. For segment reporting purposes, the results of operations and assets of BTC have been included in the Repair Systems & Information Group since the acquisition date.

On November 16, 2016, Snap-on acquired Ryeson Corporation (d/b/a Sturtevant Richmont) for a cash purchase price of $13.0 million (or $12.6 million, net of cash acquired). Sturtevant Richmont, based in Carol Stream, Illinois, designs, manufactures and distributes mechanical and electronic torque wrenches as well as wireless torque error proofing systems for a variety of industrial applications. The acquisition of Sturtevant Richmont enhanced and expanded Snap-on's capabilities in providing solutions that address torque requirements. For segment reporting purposes, the results of operations and assets of Sturtevant Richmont have been included in the Commercial & Industrial Group since the acquisition date.

On October 31, 2016, Snap-on acquired Car-O-Liner Holding AB ("Car-O-Liner") for a cash purchase price of $152.0 million (or $148.1 million, net of cash acquired). Car-O-Liner, based in Gothenburg, Sweden, designs and manufactures collision repair equipment, and information and truck alignment systems. The acquisition of Car-O-Liner complemented and increased Snap-on's existing equipment and repair and service information product offerings, broadened its established capabilities in serving vehicle repair facilities and further expanded the company's presence with repair shop owners and managers. For segment reporting purposes, substantially all of Car-O-Liner's results of operations and assets have been included in the Repair Systems & Information Group since the acquisition date, with the remaining portions included in the Commercial & Industrial Group.

Pro forma financial information has not been presented for any of these acquisitions as the net effects, individually and collectively, were neither significant nor material to Snap-on's results of operations or financial position.

Information Available on the Company's Website

Additional information regarding Snap-on and its products is available on the company's website at www.snapon.com. Snap-on is not including the information contained on its website as a part of, or incorporating it by reference into, this Annual Report on Form 10-K. Snap-on's Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Proxy Statements on Schedule 14A and Current Reports on Form 8-K, as well as any amendments to those reports, are made available to the public at no charge through the Investors section of the company's website at www.snapon.com. Snap-on makes such material available on its website as soon as reasonably practicable after it electronically files such material with, or furnishes it to, the Securities and Exchange Commission ("SEC"). Copies of any materials the company files with the SEC can also be obtained free of charge through the SEC's website at www.sec.gov. In addition, Snap-on's (i) charters for the Audit, Corporate Governance and Nominating, and Organization and Executive Compensation Committees of the company's Board of Directors; (ii) Corporate Governance Guidelines; and (iii) Code of Business Conduct and Ethics are available on the company's website. Snap-on will also post any amendments to these documents, or information about any waivers granted to directors or executive officers with respect to the Code of Business Conduct and Ethics, on the company's website at www.snapon.com.

Products and Services

Tools; Diagnostics, Information and Management Systems; and Equipment

Snap-on offers a broad line of products and complementary services that are grouped into three product categories: (i) tools; (ii) diagnostics, information and management systems; and (iii) equipment. Further product line information is not presented as it is not practicable to do so. The following table shows the consolidated net sales of these product categories for the last three years:

	Net Sales		
(Amounts in millions)	2018	2017	2016
Product Category:			
Tools	$2,021.2	$1,946.7	$1,899.2
Diagnostics, information and management systems	797.9	800.4	748.2
Equipment	921.6	939.8	783.0
	$3,740.7	$3,686.9	$3,430.4

The tools product category includes hand tools, power tools, tool storage products and other similar products. Hand tools include wrenches, sockets, ratchet wrenches, pliers, screwdrivers, punches and chisels, saws and cutting tools, pruning tools, torque measuring instruments and other similar products. Power tools include cordless (battery), pneumatic (air), hydraulic and corded (electric) tools, such as impact wrenches, ratchets, screwdrivers, drills, sanders, grinders and similar products. Tool storage includes tool chests, roll cabinets and other similar products. For many industrial customers, Snap-on creates specific, engineered solutions, including facility-level tool control and asset management hardware and software, custom kits in a wide range of configurations, and custom-built tools designed to meet customer requirements. The majority of products are manufactured by Snap-on and, in completing the product offering, other items are purchased from external manufacturers.

The diagnostics, information and management systems product category includes handheld and PC-based diagnostic products, service and repair information products, diagnostic software solutions, electronic parts catalogs, business management systems and services, point-of-sale systems, integrated systems for vehicle service shops, OEM purchasing facilitation services, and warranty management systems and analytics to help OEM dealerships manage and track performance.

The equipment product category includes solutions for the service of vehicles and industrial equipment. Products include wheel alignment equipment, wheel balancers, tire changers, vehicle lifts, test lane systems, collision repair equipment, vehicle air conditioning service equipment, brake service equipment, fluid exchange equipment, transmission troubleshooting equipment, safety testing equipment, battery chargers and hoists.

Snap-on supports the sale of its diagnostics and vehicle service shop equipment by offering training programs as well as after-sales support for its customers, primarily focusing on the technologies and the application of specific products

developed and marketed by Snap-on.

Products are marketed under a number of brand names and trademarks, many of which are well known in the vehicle service and industrial markets served. Some of the major trade names and trademarks and the products and services with which they are associated include the following:

Names	Products and Services
Snap-on	Hand tools, power tools, tool storage products (including tool control software and hardware), diagnostics, certain equipment and related accessories, mobile tool stores, websites, electronic parts catalogs, warranty analytics solutions, business management systems and services, OEM specialty tools and equipment development and distribution, and OEM facilitation services
ATI	Aircraft hand tools and machine tools
autoVHC	Vehicle inspection and training services
BAHCO	Saw blades, cutting tools, pruning tools, hand tools, power tools and tool storage
Blackhawk	Collision repair equipment
Blue-Point	Hand tools, power tools, tool storage, diagnostics, certain equipment and related accessories
Cartec	Safety testing, brake testers, test lane equipment, dynamometers, suspension testers, emission testers and other equipment
Car-O-Liner	Collision repair equipment, and information and truck alignment systems
CDI	Torque tools
Challenger	Vehicle lifts
Ecotechnics	Vehicle air conditioning service equipment
Fastorq	Hydraulic torque and tensioning products
Fish and Hook	Saw blades, cutting tools, pruning tools, hand tools, power tools and tool storage
Hofmann	Wheel balancers, vehicle lifts, tire changers, wheel aligners, brake testers and test lane equipment
Irimo	Saw blades, cutting tools, hand tools, power tools and tool storage
John Bean	Wheel balancers, vehicle lifts, tire changers, wheel aligners, brake testers and test lane equipment
Josam	Heavy duty alignment and collision repair solutions
Lindström	Hand tools
Mitchell1	Repair and service information, shop management systems and business services

Nexiq	Diagnostic tools, information and program distributions for fleet and heavy duty equipment
Norbar	Torque tools
Pro-Cut	On-car brake lathes, related equipment and accessories
Sandflex	Hacksaw blades, bandsaws, saw blades, hole saws and reciprocating saw blades
ShopKey	Repair and service information, shop management systems and business services
Sioux	Power tools
Sturtevant Richmont	Torque tools
Sun	Diagnostic tools, wheel balancers, vehicle lifts, tire changers, wheel aligners, air conditioning products and emission testers
TruckCam	Commercial OEM factory solutions
Williams	Hand tools, tool storage, certain equipment and related accessories

Financial Services

Snap-on also generates revenue from various financing programs that include: (i) installment sales and lease contracts arising from franchisees' customers and Snap-on customers who require financing for the purchase or lease of tools and diagnostic and equipment products on an extended-term payment plan; and (ii) business loans and vehicle leases to franchisees. The decision to finance through Snap-on or another financing source is solely by election of the customer. When assessing customers for potential financing, Snap-on considers various factors regarding ability to pay, including the customers' financial condition, debt-servicing ability, past payment experience, and credit bureau and proprietary Snap-on credit model information, as well as the value of the underlying collateral.

Snap-on offers financing through SOC and the company's international finance subsidiaries in those markets where Snap-on has franchise operations. Financing revenue from contract originations is recognized over the life of the underlying contracts, with interest computed primarily on the average daily balances of the underlying contracts.

Sales and Distribution

Snap-on markets and distributes its products and related services principally to professional tool and equipment users around the world. The two largest market sectors are the vehicle service and repair sector and the industrial sector.

Vehicle Service and Repair Sector

The vehicle service and repair sector has three main customer groups: (i) professional technicians who purchase tools and diagnostic and equipment products for use in their work; (ii) other professional customers related to vehicle repair, including owners and managers of independent repair shops and OEM dealerships who purchase tools and diagnostic and equipment products for use by multiple technicians within a service or repair facility; and (iii) OEMs. Snap-on provides innovative tool, equipment and business solutions, as well as technical sales support and training, designed to meet technicians' evolving needs. Snap-on's mobile tool distribution system offers technicians the convenience of purchasing quality tools at their place of business with minimal disruption of their work routine. Snap-on also provides owners and managers of repair shops, where technicians work, with tools, diagnostic equipment, and repair and service information, including electronic parts catalogs and shop management products. Snap-on's OEM facilitation business provides OEMs with products and services including special and essential tools as well as consulting and facilitation services, which include product procurement, distribution and administrative support to customers for their dealership equipment programs.

The vehicle service and repair sector is characterized by an increasing rate of technological change within motor vehicles, vehicle population growth and increasing vehicle life, and the resulting effects of these changes on the businesses of both our suppliers and customers. Snap-on believes it is a meaningful participant in the vehicle service and repair market sector.

Industrial Sector

Snap-on markets its products and services globally to a broad cross-section of commercial and industrial customers, including maintenance and repair operations; manufacturing and assembly facilities; various government agencies, facilities and operations, including military operations; schools with vocational and technical programs; aviation and aerospace operations; oil and gas developers; mining operations; energy and power generation; equipment fabricators and operators; railroad manufacturing and maintenance; customers in agriculture; infrastructure construction companies; and other customers that require instrumentation, service tools and/or equipment for their products and business needs. The industrial sector for Snap-on focuses on providing value-added products and services to an increasingly expanding global base of customers in critical industries.

The industrial sector is characterized by a highly competitive environment with multiple suppliers offering either a full line or industry specific portfolios for tools and equipment. Industrial customers increasingly require specialized solutions that provide repeatability and reliability in performing tasks of consequence that are specific to the particular end market in which they operate. Snap-on believes it is a meaningful participant in the industrial tools and equipment market sector.

Distribution Channels

Snap-on serves customers primarily through the following channels of distribution: (i) the mobile van channel; (ii) company direct sales; (iii) distributors; and (iv) e-commerce. The following discussion summarizes Snap-on's general approach for each channel and is not intended to be all-inclusive.

Mobile Van Channel

In the United States, a significant portion of sales to the vehicle service and repair sector is conducted through Snap-on's mobile franchise van channel. Snap-on's franchisees primarily serve vehicle repair technicians and vehicle service shop owners, generally providing weekly contact at the customer's place of business. Franchisees' sales are concentrated in hand and power tools, tool storage products, shop equipment, and diagnostic and repair information products, which can easily be transported in a van or trailer and demonstrated during a brief sales call. Franchisees purchase Snap-on's products at a discount from suggested list prices and resell them at prices established by the franchisee. U.S. franchisees are provided a list of calls that serves as the basis of the franchisee's sales route. Snap-on's franchisees also have the opportunity to add a limited number of additional franchises.

Snap-on charges nominal initial and ongoing monthly franchise fees. Franchise fee revenue, including nominal, non-refundable initial and ongoing monthly fees (primarily for sales and business training, and marketing and product promotion programs), is recognized as the fees are earned. Franchise fee revenue totaled $16.2 million, $15.2 million and $13.9 million in fiscal 2018, 2017 and 2016, respectively.

Snap-on also has a company-owned route program that is designed to: (i) provide another pool of potential field organization personnel; (ii) service customers in select new and/or open routes not currently serviced by franchisees; and (iii) allow Snap-on to pilot new sales and promotional ideas prior to introducing them to franchisees. As of 2018 year end, company-owned routes comprised less than 3% of the total route population; Snap-on may elect to increase or reduce the number of company-owned routes in the future.

In addition to its mobile van channel in the United States, Snap-on has replicated its U.S. franchise distribution model in certain other countries, including the United Kingdom, Canada, Japan, Australia, Germany, Netherlands, South Africa, New Zealand, Belgium and Ireland. In many of these markets, as in the United States, purchase decisions are generally made or influenced by professional vehicle service technicians as well as repair shop owners and managers. As of 2018 year end, Snap-on's worldwide route count was approximately 4,800, including approximately 3,450 routes in the United States.

Through SOC, financing is available to U.S. franchisees, including financing for van leases, working capital loans and loans to help enable new franchisees to fund the purchase of the franchise or the expansion of an existing franchise. In many international markets, Snap-on offers a variety of financing options to its franchisees and/or customer networks through its international finance subsidiaries. The decision to finance through Snap-on or another financing source is solely at the customer's election.

Snap-on supports its franchisees with a field organization of regional offices, franchise performance teams, customer care centers and distribution centers. Snap-on also provides sales and business training, and marketing and product promotion programs, as well as customer and franchisee financing programs through SOC and the company's international finance subsidiaries, all of which are designed to strengthen franchisee sales. National Franchise Advisory Councils in the United States, the United Kingdom, Canada and Australia, composed primarily of franchisees that are elected by franchisees, assist Snap-on in identifying and implementing enhancements to the franchise program.

Company Direct Sales

A significant proportion of shop equipment sales in North America under the John Bean, Hofmann, Blackhawk, Car-O-Liner, Challenger and Pro-Cut brands, diagnostic products under the Snap-on brand and information products under the Mitchell1 brand are made by direct and independent sales forces that have responsibility for national and other accounts. As the vehicle service and repair sector consolidates (with more business conducted by national chains and franchised service centers), Snap-on believes these larger organizations can be serviced most effectively by sales people who can demonstrate and sell the full line of diagnostic and equipment products and services. Snap-on also sells these products and services directly to OEMs and their franchised dealers.

Snap-on brand tools and equipment are marketed to industrial and governmental customers worldwide through both industrial sales associates and independent distributors. Selling activities focus on industrial customers whose main purchase criteria are quality and integrated solutions. As of 2018 year end, Snap-on had industrial sales associates and

independent distributors primarily in the United States, Canada and in various European, Latin American, Middle Eastern, Asian and African countries, with the United States representing the majority of Snap-on's total industrial sales.

Snap-on also sells software, services and solutions to the automotive, commercial, heavy duty, agriculture, power equipment and power sports segments. Products and services are marketed to targeted groups, including OEMs and their dealerships, fleets and individual repair shops. To effectively reach OEMs, which frequently have a multi-national presence, Snap-on has deployed focused business teams globally.

Distributors

Sales of certain tools and equipment are made through independent distributors who purchase the items from Snap-on and resell them to end users. Hand tools sold under the BAHCO, Fish and Hook, Irimo, Lindström, CDI, ATI, Fastorq, Norbar, Sioux, Sturtevant Richmont and Williams brands and trade names, for example, are sold through distributors worldwide. Wheel service and other vehicle service equipment are sold through distributors primarily under brands including Hofmann, John Bean, Car-O-Liner, Challenger, Pro-Cut, Cartec, Blackhawk and Ecotechnics. Diagnostic and equipment products are marketed through distributors in South America and Asia, and through both a direct sales force and distributors in Europe under the Snap-on, Sun and Blue-Point brands.

E-commerce

Snap-on offers current and prospective customers online access to research and purchase products through its public website at www.snapon.com. The site features an online catalog of Snap-on hand tools, power tools, tool storage units and diagnostic equipment available to customers in the United States, the United Kingdom, Canada and Australia. E-commerce and certain other system enhancement initiatives are designed to improve productivity and further leverage the one-on-one relationships and service Snap-on has with its current and prospective customers. Sales through the company's e-commerce distribution channel were not significant in any of the last three years.

Competition

Snap-on competes on the basis of its product quality and performance, product line breadth and depth, service, brand awareness and imagery, technological innovation and availability of financing (through SOC or its international finance subsidiaries). While Snap-on does not believe that any single company competes with it across all of its product lines and distribution channels, various companies compete in one or more product categories and/or distribution channels.

Snap-on believes it is a leading manufacturer and distributor of professional tools, tool storage, diagnostic and equipment products, and repair software and solutions, offering a broad line of these products to both vehicle service and industrial marketplaces. Various competitors target and sell to professional technicians in the vehicle service and repair sector through the mobile tool distribution channel. Snap-on also competes with companies that sell tools and equipment to vehicle service and repair technicians online and through retail stores, vehicle parts supply outlets and tool supply warehouses/distributorships. Within the power tools category and the industrial sector, Snap-on has various other competitors, including companies with offerings that overlap with other areas discussed herein. Major competitors selling diagnostics, shop equipment and information to vehicle dealerships and independent repair shops include OEMs and their proprietary electronic parts catalogs and diagnostics and information systems, and other companies that offer products serving this sector.

Raw Materials and Purchased Product

Snap-on's supply of raw materials and purchased components are generally and readily available from numerous suppliers. Snap-on believes it has secured an ample supply of both bar and coil steel for the near future to ensure stable supply to meet material demands. The company does not currently anticipate experiencing any significant impact in 2019 from steel pricing or availability issues, though it is continuing to monitor the impact of tariffs and other trade protection measures put in place by the U.S. and other countries.

Patents, Trademarks and Other Intellectual Property

Snap-on vigorously pursues and relies on patent protection to protect its intellectual property and position in its markets. As of 2018 year end, Snap-on and its subsidiaries held approximately 750 active and pending patents in the United States and approximately 2,000 active and pending patents outside of the United States. Sales relating to any single patent did not represent a material portion of Snap-on's revenues in any of the last three years.

Examples of products that have features or designs that benefit from patent protection include hand tools (including sealed ratchets and ratcheting screwdrivers), power tools, wheel alignment systems, wheel balancers, tire changers, vehicle lifts, tool storage, tool control, collision measurement, test lanes, brake lathes, electronic torque instruments, emissions-sensing devices and diagnostic equipment.

Much of the technology used in the manufacture of vehicle service tools and equipment is in the public domain. Snap-on relies primarily on trade secret protection to protect proprietary processes used in manufacturing. Methods and processes are patented when appropriate. Copyright protection is also utilized when appropriate.

Trademarks used by Snap-on are of continuing importance to Snap-on in the marketplace. Trademarks have been registered in the United States and many other countries, and additional applications for trademark registrations are pending. Snap-on vigorously polices proper use of its trademarks. Snap-on's right to manufacture and sell certain products is dependent upon licenses from others; however, these products under license do not represent a material portion of Snap-on's net sales.

Domain names have become a valuable corporate asset for companies around the world, including Snap-on. Domain names often contain a trademark or service mark or even a corporate name and are often considered intellectual property. The recognition and value of the Snap-on name, trademark and domain name are core strengths of the company.

Snap-on strategically licenses the Snap-on brand to carefully selected manufacturing and distribution companies for items such as apparel and a variety of other goods, in order to further build brand awareness and market presence for the company's strongest brand.

Environmental

Snap-on is subject to various environmental laws, ordinances, regulations, and other requirements of government authorities in the United States and other nations. At Snap-on, these environmental liabilities are managed through the Snap-on Environmental, Health and Safety Management System ("EH & SMS"), which is applied worldwide. The system is based upon continual improvement and is certified to ISO 14001:2015 and OHSAS 18001:2007, verified through Det Norske Veritas (DNV) Certification, Inc.

Snap-on believes that it complies with applicable environmental control requirements in its operations. Expenditures on environmental matters through EH & SMS have not had, and Snap-on does not for the foreseeable future expect them to have, a material effect upon Snap-on's capital expenditures, earnings or competitive position.

Employees

Snap-on employed approximately 12,600 people at the end of both January 2019 and January 2018.

Approximately 2,650 employees, or 21% of Snap-on's worldwide workforce, are represented by unions and/or covered under collective bargaining agreements. The number of covered union employees whose contracts expire over the next five years approximates 875 employees in 2019, 975 employees in 2020, 575 employees in 2021, 175 employees in 2022, and 50 employees in 2023. In recent years, Snap-on has not experienced any significant work slowdowns, stoppages or other labor disruptions.

There can be no assurance that these and other future contracts with Snap-on's unions will be renegotiated upon terms acceptable to Snap-on.

Working Capital

Most of Snap-on's businesses are not seasonal and their inventory needs are relatively constant. Snap-on did not have a significant backlog of orders at 2018 year end. In recent years, Snap-on has been using its working capital to fund, in part, the continued growth of the company's financial services portfolio and the acquisitions discussed above.

Snap-on's liquidity and capital resources and use of working capital are discussed herein in "Part II, Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations."

As of 2018 year end, neither Snap-on nor any of its segments depend on any single customer, small group of customers or government for any material part of its revenues.

Item 1A: Risk Factors

In evaluating the company, careful consideration should be given to the following risk factors, in addition to the other information included in this Annual Report on Form 10-K, including the Consolidated Financial Statements and the related notes. Each of these risk factors could adversely affect the company's business, operating results, cash flows and/or financial condition, as well as adversely affect the value of an investment in the company's common stock.

Economic conditions and world events could affect our operating results.

We, our franchisees and our customers, may be adversely affected by changing economic conditions, including conditions that may particularly impact specific regions. These conditions may result in reduced consumer and investor confidence, instability in the credit and financial markets, volatile corporate profits, and reduced business and consumer spending. We, our franchisees and our customers, and the economy as a whole, also may be affected by future world or local events outside our control, such as tariffs and other trade protection measures put in place by the United States or other countries, acts of terrorism, developments in the war on terrorism, conflicts in international situations, weather events and natural disasters, as well as government-related developments or issues. These factors may affect our results of operations by reducing our sales, margins and/or net earnings as a result of a slowdown in customer orders or order cancellations, impact the availability and/or pricing of raw materials and/or the supply chain, and could potentially lead to future impairment of our intangible assets. In addition, political and social turmoil related to international conflicts and terrorist acts may put pressure on economic conditions abroad. Unstable political, social and economic conditions may make it difficult for our franchisees, customers, suppliers and us to accurately forecast and plan future business activities. If such conditions persist, our business, financial condition, results of operations and cash flows could be negatively affected.

In 2016, the United Kingdom voted in a referendum to exit the European Union (“Brexit”), which resulted in significant currency exchange rate fluctuations and volatility. Negotiations continue to determine the terms of Brexit. Given the lack of comparable precedent and the status of the negotiations, the implications of Brexit, or how such implications might affect Snap-on, continue to remain unclear at this time. Brexit could, among other impacts, disrupt trade and the movement of goods, services and people between the United Kingdom and the European Union or other countries as well as create legal and global economic uncertainty. These and other potential implications could adversely affect our business and results of operations.

In 2018, Canada, Mexico and the United States negotiated the United States-Mexico-Canada Agreement (the “USMCA”), which is intended to update and replace the North American Free Trade Agreement (“NAFTA”). THE USMCA must be ratified by all three countries before it becomes fully effective and many of its provisions will not take effect until 2020. While the USMCA is somewhat similar to NAFTA, it contains several new compliance obligations addressing such issues as rules of origin, labor standard, certificate of origin documentation and de minimis thresholds, as well as new policies on labor and environmental standards, intellectual property protections and some digital trade provisions. The Company is currently analyzing the expected impact of the USMCA. While certain aspects of the USMCA are expected to be positive, others, including potentially higher regulatory compliance costs, may have an adverse impact on our business.

These and other matters significantly impacting the regulation of trade could adversely affect our business and results of operations.

Raw material and energy price fluctuations and shortages (including steel and various fuel sources) could adversely affect the ability to obtain needed manufacturing materials and could adversely affect our results of operations.

The principal raw material used in the manufacture of our products is steel, which we purchase in competitive, price-sensitive markets. To meet Snap-on’s high quality standards, our steel needs range from specialized alloys, which are available only from a limited group of approved suppliers, to common alloys, which are available from multiple suppliers. Some of these materials have been, and in the future may be, in short supply, particularly in the event of mill shutdowns or production cut backs. As some steel alloys require specialized manufacturing procedures, we could experience inventory shortages if we were required to use an alternative manufacturer on short notice. These raw materials exhibit price and demand cyclicality, including tariffs and other trade protection measures enacted in fiscal 2018 and which could continue to in fiscal 2019. Unexpected price increases for raw materials could result in an erosion of the margins on our products or higher prices to our customers.

We believe our ability to sell our products is also dependent on the number of vehicles on the road, the number of miles driven and the general aging of vehicles. These factors affect the frequency, type and amount of service and repair performed on vehicles by technicians, and therefore affect the demand for the number of technicians, the

prosperity of technicians and, consequently, the demand technicians have for our tools, other products and services, and the value technicians place on those products and services. The use of other methods of transportation, including more frequent use of public transportation, could result in a decrease in the use of privately operated vehicles. A decrease in the use of privately operated vehicles may lead to fewer repairs and less demand for our products.

We use various energy sources to transport, produce and distribute products, and some of our products have components that are petroleum based. Petroleum and energy prices have periodically increased significantly over short periods of time; future volatility and changes may be caused by market fluctuations, supply and demand, currency fluctuations, production and transportation disruptions, world events and changes in governmental programs. Energy price increases raise both our operating costs and the costs of our materials, and we may not be able to increase our prices enough to offset these costs. Higher prices also may reduce the level of future customer orders and our profitability.

The performance of Snap-on's mobile tool distribution business depends on the success of its franchisees.

Approximately 40% of our consolidated net revenues in 2018 were generated by the Snap-on Tools Group, which consists of Snap-on's business operations primarily serving vehicle service and repair technicians through the company's worldwide mobile tool distribution channel. Snap-on's success is dependent on its relationships with franchisees, individually and collectively, as they are the primary sales and service link between the company and vehicle service and repair technicians, who are an important class of end users for Snap-on's products and services. If our franchisees are not successful, or if we do not maintain an effective relationship with our franchisees, the delivery of products, the collection of receivables and/or our relationship with end users could be adversely affected and thereby negatively impact our business, financial condition, results of operations and cash flows.

In addition, if we are unable to maintain effective relationships with franchisees, Snap-on or the franchisees may choose to terminate the relationship, which may result in (i) open routes, in which end-user customers are not provided reliable service; (ii) litigation resulting from termination; (iii) reduced collections or increased charge-offs of franchisee receivables owed to Snap-on; and/or (iv) reduced collections or increased charge-offs of finance and contract receivables.

Exposure to credit risks of customers and resellers may make it difficult to collect receivables, and our allowances for credit losses for receivables may prove inadequate, which could adversely affect operating results and financial condition.

Our financial services portfolio represents a significant portion of the company's assets. A decline in industry and/or economic conditions could have the potential to weaken the financial position of some of our customers, including financial services customers. If circumstances surrounding our customers' ability to repay their credit obligations were to deteriorate and result in the write-down or charge-off of such receivables, it would negatively affect our operating results for the period in which they occur and, if large, could have a material adverse effect on our business, financial condition, results of operations and cash flows.

We maintain allowances for credit losses for receivables to provide for defaults and nonperformance, which represent an estimate of losses of our receivables portfolios. The determination of the appropriate levels of the allowances for credit losses inherently involves a high degree of subjectivity and judgment, and requires us to make estimates of current credit risks, which may undergo material changes. The allowances may not be adequate to cover actual losses, and future allowances for credit losses could materially and adversely affect our financial condition, results of operations and cash flows.

Our inability to provide acceptable financing alternatives to franchisees and other end-user customers could adversely impact our operating results.

An integral component of our business and profitability is our ability to offer competitive financing alternatives to franchisees and other end-user customers. The lack of our ability to offer such alternatives or obtain capital resources or other financing to support our receivables on terms that we believe are attractive, whether resulting from the state of the financial markets, our own operating performance, or other factors, would negatively affect our operating results and financial condition. Adverse fluctuations in interest rates and/or our ability to provide competitive financing programs could also have an adverse impact on our revenue and profitability.

Adverse developments in the credit and financial markets could negatively impact the availability of credit that we and our customers need to operate our businesses.

We depend upon the availability of credit to operate our business, including the financing of receivables from end-user customers that are originated by our financial services businesses. Our end-user customers, franchisees and suppliers also require access to credit for their businesses. At times, world financial markets have been unstable and subject to uncertainty. Adverse developments in the credit and financial markets, or unfavorable changes in Snap-on's credit rating, could negatively impact the availability of future financing and the terms on which it might be available to Snap-on, its end-user customers, franchisees and suppliers. Inability to access credit or capital markets, or a deterioration in the terms on which financing might be available, could have an adverse impact on our business, financial condition, results of operations and cash flows.

Increasing our financial leverage could affect our operations and profitability.
The maximum available credit under our multi-currency revolving credit facility is $700 million. The company's leverage ratio may affect both our availability of additional capital resources as well as our operations in several ways, including:

- The terms on which credit may be available to us could be less attractive, both in the economic terms of the credit and the covenants stipulated by the credit terms;
- The possible lack of availability of additional credit or access to the commercial paper market;
- The potential for higher levels of interest expense to service or maintain our outstanding debt;
- The possibility of additional borrowings in the future to repay our indebtedness when it comes due; and
- The possible diversion of capital resources from other uses.

While we believe we will have the ability to service our debt and obtain additional resources in the future if and when needed, that will depend upon our results of operations and financial position at the time, the then-current state of the credit and financial markets, and other factors that may be beyond our control. Therefore, we cannot give assurances that credit will be available on terms that we consider attractive, or at all, if and when necessary or beneficial to us.

Data security and information technology infrastructure and security are critical to supporting business objectives; failure of our systems to operate effectively could adversely affect our business and reputation.
We depend heavily on information technology infrastructure to achieve our business objectives and to protect sensitive information, and continually invest in improving such systems. Problems that impair or compromise this infrastructure, including natural disasters, power outages, major network failures, security breaches or malicious attacks, or during system upgrades and/or new system implementations, could impede our ability to record or process orders, manufacture and ship in a timely manner, manage our financial services operations including originating, processing, accounting for and collecting receivables, protect sensitive data of the company, our customers, our suppliers and business partners, or otherwise carry on business in the normal course. Any such events, if significant, could cause us to lose customers and/or revenue and could require us to incur significant expense to remediate, including as a result of legal or regulatory claims, proceedings, fines or penalties, and could also damage our reputation. While we have taken steps to maintain adequate data security and address these risks and uncertainties by implementing security technologies, internal controls, network and data center resiliency, and redundancy and recovery processes, as well as by securing insurance, these measures may be inadequate.
In association with initiatives to better integrate business units, rationalize operating footprint and improve responsiveness to franchisees and customers, Snap-on is continually replacing and enhancing its global Enterprise Resource Planning (ERP) management information systems. As we integrate, implement and deploy new information technology processes and enhance our common information infrastructure across our global operations, we could experience disruptions in our business that could have an adverse effect on our business, financial condition, results of operations and cash flows.
Changes to legislation and regulations may affect our business, reputation, results of operations and financial condition.
Significant changes to legislative and regulatory activity and compliance burdens, including those associated with sales to our government, military and defense contractor customers, as well as the manner in which they are applied, could significantly impact our business and the economy as a whole.
Financial services businesses of all kinds are subject to significant and complex regulations and enforcement. In addition to potentially increasing the costs of doing business due to compliance obligations, new laws and regulations, or changes to existing laws and regulations, as well as the enforcement thereof, may affect the relationships between creditors and debtors, inhibit the rights of creditors to collect amounts owed to them, expand liability for certain actions or inactions, or limit the types of financial products or services offered, any or all of which could have a material adverse effect on our financial condition, results of operations and cash flows. Failure to comply with any of these laws or regulations could also result in civil, criminal, monetary and/or non-monetary penalties, damage to our

reputation, and/or the incurrence of remediation costs.

In fiscal 2018, Snap-on's results of operations were impacted, and in the future could be further affected, by changes in the company's effective tax rate as a result of changes in statutory tax rates, laws and regulations, as well as related guidance. The Tax Cuts and Jobs Act in the United States (the "Tax Act"), which made significant changes to the U.S. Tax Code and affects, among other items, the company's tax rate, previously unremitted foreign earnings and valuations of deferred tax assets and liabilities. If new guidance is issued on the recently enacted tax revisions, depending on the circumstances, this (and other) tax legislation could adversely affect our results of operations.

These developments, and other potential future legislation and regulations, as well as the factors in the strict regulatory environment, including the growing international regulation of privacy rights, may also adversely affect the customers to which, and the markets into which, we sell our products, and increase our costs and otherwise negatively affect our business, reputation, results of operations and financial condition, including in ways that cannot yet be foreseen.

Failure to achieve expected investment returns on pension plan assets, as well as changes in interest rates or plan demographics, could adversely impact our results of operations, financial condition and cash flows.

Snap-on sponsors various defined benefit pension plans (the "pension plans"). The assets of the pension plans are diversified in an attempt to mitigate the risk of a large loss. Required funding for the company's domestic defined benefit pension plans is determined in accordance with guidelines set forth in the federal Employee Retirement Income Security Act ("ERISA"); foreign defined benefit pension plans are funded in accordance with local statutes or practice. Additional contributions to enhance the funded status of the pension plans can be made at the company's discretion. However, there can be no assurance that the value of the pension plan assets, or the investment returns on those plan assets, will be sufficient to meet the future benefit obligations of such plans. In addition, during periods of adverse investment market conditions and declining interest rates, the company may be required to make additional cash contributions to the pension plans that could reduce our financial flexibility. Changes in plan demographics, including an increase in the number of retirements or changes in life expectancy assumptions, may also increase the costs and funding requirements of the obligations related to the company's pension plans.

Our pension plan obligations are affected by changes in market interest rates. Significant fluctuations in market interest rates have added, and may further add, volatility to our pension plan obligations. In periods of declining market interest rates, our pension plan obligations generally increase; in periods of increasing market interest rates, our pension plan obligations generally decrease. While our plan assets are broadly diversified, there are inherent market risks associated with investments; if adverse market conditions occur, our plan assets could incur significant or material losses. Since we may need to make additional contributions to address changes in obligations and/or a loss in plan assets, the combination of declining market interest rates, past or future plan asset investment losses, and/or changes in plan demographics could adversely impact our results of operations, financial condition and cash flows.

The company's pension plan expense is comprised of the following factors: (i) service cost; (ii) interest on projected benefit obligations; (iii) expected return on plan assets; (iv) the amortization of prior service costs and credits; (v) effects of actuarial gains and losses; and (vi) settlement/curtailment costs, when applicable. The accounting for pensions involves the estimation of a number of factors that are highly uncertain. Certain factors, such as the interest on projected benefit obligations and the expected return on plan assets, are impacted by changes in market interest rates and the value of plan assets. A significant decrease in market interest rates and a decrease in the fair value of plan assets would increase net pension expense and may adversely affect the company's future results of operations. See Note 12 to the Consolidated Financial Statements for further information on the company's pension plans.

Failure to maintain effective distribution of products and services could adversely impact revenue, gross margin and profitability.

We use a variety of distribution methods to sell our products and services. Successfully managing the interaction of our distribution efforts to reach various potential customer segments for our products and services is a complex process. Moreover, since each distribution method has distinct risks, costs and gross margins, our failure to implement the most advantageous balance in the delivery model for our products and services could adversely affect our revenue and gross margins and therefore our profitability.

Risks associated with the disruption of manufacturing operations could adversely affect profitability or competitive position.

We manufacture a significant portion of the products we sell. Any prolonged disruption in the operations of our existing manufacturing facilities, whether due to technical or labor difficulties, facility consolidation or closure actions, lack of raw material or component availability, destruction of or damage to any facility (as a result of natural disasters, weather events, use and storage of hazardous materials, acts of war, sabotage or terrorism, or other events),

or other reasons, could have a material adverse effect on our business, financial condition, results of operations and cash flows.

The inability to continue to introduce new products that respond to customer needs and achieve market acceptance could result in lower revenues and reduced profitability.

Sales from new products represent a significant portion of our net sales and are expected to continue to represent a significant component of our future net sales. We may not be able to compete effectively unless we continue to enhance existing products or introduce new products to the marketplace in a timely manner. Product improvements and new product introductions require significant financial and other resources, including significant planning, design, development, and testing at the technological, product and manufacturing process levels. Our competitors' new products may beat our products to market, be more effective with more features, be less expensive than our products, and/or render our products obsolete. Any new products that we develop may not receive market acceptance or otherwise generate any meaningful net sales or profits for us relative to our expectations based on, among other things, existing and anticipated investments in manufacturing capacity and commitments to fund advertising, marketing, promotional programs and research and development.

The global tool, equipment, and diagnostics and repair information industries are competitive.

We face strong competition in all of our market segments. Price competition in our various industries is intense and pricing pressures from competitors and customers are increasing. In general, as a manufacturer and marketer of premium products and services, the expectations of Snap-on's customers and its franchisees are high and continue to increase. Any inability to maintain customer satisfaction could diminish Snap-on's premium image and reputation and could result in a lessening of our ability to command premium pricing. We expect that the level of competition will remain high in the future, which could limit our ability to maintain or increase market share or profitability.

Product liability claims and litigation could affect our business, reputation, financial condition, results of operations and cash flows.

The products that we design and/or manufacture, and/or the services we provide, can lead to product liability claims or other legal claims being filed against us. To the extent that plaintiffs are successful in showing that a defect in a product's design, manufacture or warnings led to personal injury or property damage, or that our provision of services resulted in similar injury or damage, we may be subject to claims for damages. Although we are insured for damages above a certain amount, we bear the costs and expenses associated with defending claims, including frivolous lawsuits, and are responsible for damages up to the insurance retention amount. In addition to claims concerning individual products, as a manufacturer, we can be subject to costs, potential negative publicity and lawsuits related to product recalls, which could adversely impact our results of operations and damage our reputation.

Legal disputes could adversely affect our business, reputation, financial condition, results of operations and cash flows.

From time to time we are subject to legal disputes that are being litigated and/or settled in the ordinary course of business. Disputes or future lawsuits could result in the diversion of management's time and attention away from business operations. Additionally, negative developments with respect to legal disputes and the costs incurred in defending ourselves, even if successful, could have an adverse impact on the company and its reputation. Successful outcomes, at trial or on appeal, can never be assured. Adverse outcomes or settlements could also require us to pay damages, potentially in excess of amounts reserved, or incur liability for other remedies that could have a material adverse effect on our business, reputation, financial condition, results of operations and cash flows.

Failure to adequately protect intellectual property, or claims of infringement, could adversely affect our business, reputation, financial condition, results of operations and cash flows.

Intellectual property rights are an important and integral component of our business and failure to obtain or maintain adequate protection of our intellectual property rights for any reason could have a material adverse effect on our business. We attempt to protect our intellectual property rights through a combination of patent, trademark, copyright and trade secret laws, as well as licensing agreements and third-party nondisclosure and assignment agreements. In addition, we have been, and in the future may be, subject to claims of intellectual property infringement against us by third parties; whether or not these claims have merit, we could be required to expend significant resources in defense of those claims. Adverse determinations in a judicial or administrative proceeding could prevent us from

manufacturing and selling our products, prevent us from stopping others from manufacturing and selling competing products, and/or result in payments for damages. In the event of an infringement claim, we may also be required to spend significant resources to develop alternatives or obtain licenses which may not be available on reasonable terms or at all, and may reduce our sales and disrupt our production. Failure to obtain or maintain adequate protection of our intellectual property rights for any reason could have a material adverse effect on our business.

Foreign operations are subject to political, economic, currency exchange and other risks that could adversely affect our business, financial condition, results of operations and cash flows.

Approximately 33% of our revenues in 2018 were generated outside of the United States. Future growth rates and success of our business depends in large part on continued growth in our non-U.S. operations, including growth in emerging markets and critical industries. Numerous risks and uncertainties affect our non-U.S. operations. These risks and uncertainties include political, economic and social instability, such as acts of war, civil disturbance or acts of terrorism, local labor conditions, changes in government policies and regulations, including imposition or increases in withholding and other taxes on remittances and other payments by international subsidiaries, as well as the exposure to liabilities under anti-corruption laws in various countries, such as the U.S. Foreign Corrupt Practices Act, currency volatility, transportation delays or interruptions, sovereign debt uncertainties and difficulties in enforcement of contract and intellectual property rights, as well as natural disasters. Should the economic environment in our non-U.S. markets deteriorate from current levels, our results of operations and financial position could be materially impacted, including as a result of the effects of potential impairment write-downs of goodwill and/or other intangible assets related to these businesses.

The reporting currency for Snap-on's consolidated financial statements is the U.S. dollar. Certain of the company's assets, liabilities, expenses and revenues are denominated in currencies other than the U.S. dollar. In preparing Snap-on's Consolidated Financial Statements, those assets, liabilities, expenses and revenues are translated into U.S. dollars at applicable exchange rates. Increases or decreases in exchange rates between the U.S. dollar and other currencies affect the U.S. dollar value of those items, as reflected in the Consolidated Financial Statements. Substantial fluctuations in the value of the U.S. dollar could have a significant impact on the company's financial condition and results of operations.

We are also affected by changes in inflation rates and interest rates. Additionally, cash generated in certain non-U.S. jurisdictions may be difficult to repatriate to the United States in a tax-efficient manner. Our foreign operations are also subject to other risks and challenges, such as the need to staff and manage diverse workforces, respond to the needs of multiple national and international marketplaces, and differing business climates and cultures in various countries.

We may not successfully integrate businesses we acquire, which could have an adverse impact on our business, financial condition, results of operations and cash flows.

The pursuit of growth through acquisitions, including participation in joint ventures, involves significant risks that could have a material adverse effect on our business, financial condition, results of operations and cash flows. These risks include:

- Loss of the acquired businesses' customers;
- Inability to integrate successfully the acquired businesses' operations;
- Inability to coordinate management and integrate and retain employees of the acquired businesses;
- Unforeseen or contingent liabilities of the acquired businesses;
- Large write-offs or write-downs, or the impairment of goodwill or other intangible assets;
- Difficulties in implementing and maintaining consistent standards, controls, procedures, policies and information systems;
- Failure to realize anticipated synergies, economies of scale or other anticipated benefits, or to maintain operating margins;
- Strain on our personnel, systems and resources, and diversion of attention from other priorities;
- Incurrence of additional debt and related interest expense; and
- The dilutive effect in the event of the issuance of additional equity securities.

The recognition of impairment charges on goodwill or other intangible assets would adversely impact our future financial condition and results of operations.

We have a substantial amount of goodwill and purchased intangible assets, almost all of which are booked in the Commercial & Industrial Group and in the Repair Systems & Information Group. We are required to perform

impairment tests on our goodwill and other intangibles annually or at any time when events occur that could impact the value of our business segments. Our determination of whether impairment has occurred is based on a comparison of each of our reporting units' fair market value with its carrying value.

Significant and unanticipated changes in circumstances, such as significant and long-term adverse changes in business climate, adverse actions by regulators, unanticipated competition, the loss of key customers, and/or changes in technology or markets, could require a provision for impairment in a future period that could substantially impact our reported earnings and reduce our consolidated net worth and shareholders' equity. Should the economic environment in these markets deteriorate, our results of operations and financial position could be materially impacted, including as a result of the effects of potential impairment write-downs of goodwill and/or other intangible assets related to these businesses.

Our operations expose us to the risk of environmental liabilities, costs, litigation and violations that could adversely affect our financial condition, results of operations and reputation.

Certain of our operations are subject to environmental laws and regulations in the jurisdictions in which they operate, which impose limitations on the discharge of pollutants into the ground, air and water and establish standards for the generation, treatment, use, storage and disposal of hazardous wastes. We must also comply with various health and safety regulations in the United States and abroad in connection with our operations. Failure to comply with any of these laws could result in civil and criminal, monetary and non-monetary penalties and damage to our reputation. In addition, we may incur costs related to remedial efforts or alleged environmental damage associated with past or current waste disposal practices. We cannot provide assurance that our costs of complying with current or future environmental protection and health and safety laws will not exceed our estimates.

The inability to successfully defend claims from taxing authorities could adversely affect our financial condition, results of operations and cash flows.

We conduct business in many countries, which requires us to interpret the income tax laws and rulings in each of those taxing jurisdictions. Due to the subjectivity of tax laws between those jurisdictions, as well as the subjectivity of factual interpretations, our estimates of income tax liabilities may differ from actual payments or assessments. Claims from taxing authorities related to these differences could have an adverse impact on our financial condition, results of operations and cash flows.

Failure to attract and retain qualified personnel could lead to a loss of revenue and/or profitability.

Snap-on's success depends, in part, on the efforts and abilities of its senior management team and other key employees. Their skills, experience and industry contacts significantly benefit our operations and administration. The failure to attract and retain members of our senior management team and other key employees could have a negative effect on our operating results. In addition, transitions of important responsibilities to new individuals inherently include the possibility of disruptions to our business and operations, which could negatively affect our business, financial condition, results of operations and cash flows.

The steps taken to restructure operations, rationalize operating footprint, lower operating expenses and achieve greater efficiencies in the supply chain could disrupt business.

We have taken steps in the past, and expect to take additional steps in the future, intended to improve customer service and drive further efficiencies and reduce costs, some of which could be disruptive to our business. These actions, collectively across our operating groups, are focused on the following:

- Continuing to invest in initiatives focused on building a strong sales and operating presence in emerging growth markets;
- Continuing to enhance service and value to our franchisees and customers;
- Continuing to implement efficiency and productivity initiatives throughout the company to drive further efficiencies and reduce costs;
- Continuing on the company's existing path to improve and transform global manufacturing and the supply chain into a market-demand-based replenishment system with lower costs;
- Continuing to invest in developing and marketing new, innovative, higher-value-added products and advanced technologies;
- Extending our products and services into additional and/or adjacent markets or to new customers; and
- Continuing to provide financing for, and grow our portfolio of, receivables within our financial services businesses.

A failure to succeed in the implementation of any or all of these actions could result in an inability to achieve our financial goals and could be disruptive to the business.

In addition, any future reductions to headcount and other cost reduction measures may result in the loss of technical expertise and could adversely affect our research and development efforts as well as our ability to meet product development schedules. Efforts to reduce components of expense could result in the recording of charges for inventory and technology-related write-offs, workforce reduction costs or other charges relating to the consolidation or closure of facilities. If we were to incur a substantial charge to further these efforts, our earnings per share would be adversely affected in such period. If we are unable to effectively manage our cost reduction and restructuring efforts, our business, financial condition, results of operations and cash flows could be negatively affected.

Item 1B: Unresolved Staff Comments

None.

Item 2: Properties

Snap-on maintains leased and owned manufacturing, software development, warehouse, distribution, research and development and office facilities throughout the world. Snap-on believes that its facilities currently in use are suitable and have adequate capacity to meet its present and foreseeable future demand. Snap-on's facilities in the United States occupy approximately 3.5 million square feet, of which 71% is owned, including its corporate and general office facility located in Kenosha, Wisconsin. Snap-on's facilities outside the United States occupy approximately 4.6 million square feet, of which approximately 72% is owned. Certain Snap-on facilities are leased through operating and capital lease agreements. See Note 16 to the Consolidated Financial Statements for information on the company's operating and capital leases. Snap-on management continually monitors the company's capacity needs and makes adjustments as dictated by market and other conditions.

The following table provides information about our corporate headquarters and financial services operations, and each of Snap-on's principal active manufacturing locations, distribution centers and software development locations (exceeding 50,000 square feet) as of 2018 year end:

Location	Principal Property Use	Owned/Leased	Segment*
U.S. Locations:			
Elkmont, Alabama	Manufacturing	Owned	SOT
Conway, Arkansas	Manufacturing and distribution	Owned	RS&I
City of Industry, California	Manufacturing	Leased	C&I
Poway, California	Software development	Leased	RS&I
San Jose, California	Software development	Leased	RS&I
Columbus, Georgia	Distribution	Owned	C&I
Crystal Lake, Illinois	Distribution	Owned and leased	SOT
Libertyville, Illinois	Financial services	Leased	FS
Algona, Iowa	Manufacturing and distribution	Owned and leased	SOT
Louisville, Kentucky	Manufacturing and distribution	Leased	RS&I
Olive Branch, Mississippi	Distribution	Owned	SOT
Carson City, Nevada	Distribution	Owned and leased	SOT
Murphy, North Carolina	Manufacturing and distribution	Owned	C&I
Richfield, Ohio	Software development	Owned	RS&I
Robesonia, Pennsylvania	Distribution	Owned	SOT
Elizabethton, Tennessee	Manufacturing	Owned	SOT
Kenosha, Wisconsin	Distribution and corporate	Owned	SOT, C&I, RS&I
Milwaukee, Wisconsin	Manufacturing	Owned	SOT
Non-U.S. Locations:			
Santo Tome, Argentina	Manufacturing	Owned	C&I
New South Wales, Australia	Distribution and financial services	Leased	SOT, FS
Minsk, Belarus	Manufacturing	Owned	C&I
Santa Bárbara d'Oeste, Brazil	Manufacturing and distribution	Owned	RS&I
Calgary, Canada	Distribution	Leased	SOT
Mississauga, Canada	Distribution	Leased	SOT, RS&I
Beijing, China	Manufacturing and distribution	Leased	C&I
Kunshan, China	Manufacturing	Owned	C&I
Xiaoshan, China	Manufacturing	Owned	C&I
Banbury, England	Manufacturing and distribution	Owned	C&I
Bramley, England	Manufacturing	Owned	C&I
Kettering, England	Distribution and financial services	Owned and leased	SOT, C&I, FS
Sopron, Hungary	Manufacturing	Owned	RS&I
Correggio, Italy	Manufacturing	Owned	RS&I
Tokyo, Japan	Distribution	Leased	C&I
Helmond, Netherlands	Distribution	Owned	C&I
Vila do Conde, Portugal	Manufacturing	Owned	C&I
Irun, Spain	Manufacturing	Owned	C&I
Placencia, Spain	Manufacturing	Owned	C&I
Vitoria, Spain	Manufacturing and distribution	Owned	C&I
Bollnäs, Sweden	Manufacturing	Owned	C&I
Edsbyn, Sweden	Manufacturing	Owned	C&I

Kungsör, Sweden	Manufacturing and distribution	Owned	RS&I
Lidköping, Sweden	Manufacturing	Owned	C&I

* Segment abbreviations:

C&I – Commercial & Industrial Group
SOT – Snap-on Tools Group
RS&I – Repair Systems & Information Group
FS – Financial Services

Item 3: Legal Proceedings

Snap-on is involved in various legal matters that are being litigated and/or settled in the ordinary course of business. Although it is not possible to predict the outcome of these legal matters, management believes that the results of these legal matters will not have a material impact on Snap-on's consolidated financial position, results of operations or cash flows.

Item 4: Mine Safety Disclosures

Not applicable.

PART II

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

Snap-on had 55,610,781 shares of common stock outstanding as of 2018 year end. Snap-on's stock is listed on the New York Stock Exchange under the ticker symbol "SNA." At February 8, 2019, there were 4,704 registered holders of Snap-on common stock.

Issuer Purchases of Equity Securities

The following chart discloses information regarding the shares of Snap-on's common stock repurchased by the company during the fourth quarter of fiscal 2018, all of which were purchased pursuant to the Board's authorizations that the company has publicly announced. Snap-on has undertaken stock repurchases from time to time to offset dilution created by shares issued for employee and franchisee stock purchase plans, and equity plans, and for other corporate purposes, as well as when the company believes market conditions are favorable. The repurchase of Snap-on common stock is at the company's discretion, subject to prevailing financial and market conditions.

Period	Shares purchased	Average price per share	Shares purchased as part of publicly announced plans or programs	Approximate value of shares that may yet be purchased under publicly announced plans or programs*
09/30/18 to 10/27/18	90,000	$149.28	90,000	$292.4 million
10/28/18 to 11/24/18	335,000	$159.35	335,000	$239.1 million
11/25/18 to 12/29/18	205,000	$160.20	205,000	$215.7 million
Total/Average	630,000	$158.19	630,000	N/A

N/A: Not applicable

* Subject to further adjustment pursuant to the 1996 Authorization described below, as of December 29, 2018, the approximate value of shares that may yet be purchased pursuant to the outstanding Board authorizations discussed below is $215.7 million.

- In 1996, the Board authorized the company to repurchase shares of the company's common stock from time to time in the open market or in privately negotiated transactions ("the 1996 Authorization"). The 1996 Authorization allows the repurchase of up to the number of shares issued or delivered from treasury from time to time under the various plans the company has in place that call for the issuance of the company's common stock. Because the number of shares that are purchased pursuant to the 1996 Authorization will change from time to time as (i) the company issues shares under its various plans; and (ii) shares are repurchased pursuant to this authorization, the number of shares authorized to be repurchased will vary from time to time. The 1996 Authorization will expire when terminated by the Board. When calculating the approximate value of shares that the company may yet purchase under the 1996 Authorization,

the company assumed a price of $148.71, $161.00 and $144.25 per share of common stock as of the end of the fiscal 2018 months ended October 27, 2018, November 24, 2018, and December 29, 2018, respectively.

- In 2017, the Board authorized the repurchase of an aggregate of up to $500 million of the company's common stock ("the 2017 Authorization"). The 2017 Authorization will expire when the aggregate repurchase price limit is met, unless terminated earlier by the Board.

Other Purchases or Sales of Equity Securities

The following chart discloses information regarding transactions in shares of Snap-on's common stock by Citibank, N.A. ("Citibank") during the fourth quarter of 2018 pursuant to a prepaid equity forward agreement (the "Agreement") with Citibank that is intended to reduce the impact of market risk associated with the stock-based portion of the company's deferred compensation plans. The company's stock-based deferred compensation liabilities, which are impacted by changes in the company's stock price, increase as the company's stock price rises and decrease as the company's stock price declines. Pursuant to the Agreement, Citibank may purchase or sell shares of the company's common stock (for Citibank's account) in the market or in privately negotiated transactions. The Agreement has no stated expiration date and does not provide for Snap-on to purchase or repurchase its shares.

Citibank Purchases of Snap-on Stock

Period	Shares purchased	Average price per share
09/30/18 to 10/27/18	2,800	$149.19
10/28/18 to 11/24/18	—	—
11/25/18 to 12/29/18	1,000	$152.45
Total/Average	3,800	$150.05

Five-year Stock Performance Graph

The graph below illustrates the cumulative total shareholder return on Snap-on common stock since December 31, 2013, of a $100 investment, assuming that dividends were reinvested quarterly. The graph compares Snap-on's performance to that of the Standard & Poor's 500 Industrials Index ("S&P 500 Industrials") and Standard & Poor's 500 Stock Index ("S&P 500").

Fiscal Year Ended [1]	Snap-on Incorporated	S&P 500 Industrials	S&P 500
December 31, 2013	$100.00	$100.00	$100.00
December 31, 2014	126.77	109.83	113.69
December 31, 2015	161.15	107.04	115.26
December 31, 2016	163.63	127.23	129.05
December 31, 2017	169.61	153.99	157.22
December 31, 2018	144.41	133.53	150.33

(1) The company's fiscal year ends on the Saturday that is on or nearest to December 31 of each year; for ease of calculation, the fiscal year end is assumed to be December 31.

Item 6: Selected Financial Data

The selected financial data presented below has been derived from, and should be read in conjunction with, the respective historical consolidated financial statements of the company, including the notes thereto, and “Part II, Item 7, Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

Impact of Accounting Standards Update (“ASU”) No. 2017-07

At the beginning of fiscal 2018, Snap-on adopted ASU No. 2017-07, Compensation - Retirement Benefits (Topic 715) - Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost. The ASU requires changes to be applied retrospectively; as such, prior periods have been adjusted to reflect this adoption and conform to the 2018 presentation. See Note 1 to the Consolidated Financial Statements for further information on the effect of adoption of this ASU.

Five-year Data (Amounts in millions, except per share data)	2018	2017	2016	2015	2014
Results of Operations					
Net sales	$3,740.7	$3,686.9	$3,430.4	$3,352.8	$3,277.7
Gross profit	1,870.0	1,825.9	1,710.4	1,649.3	1,585.3
Operating expenses	1,144.0	1,161.3	1,048.0	1,041.3	1,042.3
Operating earnings before financial services	726.0	664.6	662.4	608.0	543.0
Financial services revenue	329.7	313.4	281.4	240.3	214.9
Financial services expenses	99.6	95.9	82.7	70.1	65.8
Operating earnings from financial services	230.1	217.5	198.7	170.2	149.1
Operating earnings	956.1	882.1	861.1	778.2	692.1
Interest expense	50.4	52.4	52.2	51.9	52.9
Earnings before income taxes and equity earnings	909.9	821.9	801.4	710.5	630.9
Income tax expense	214.4	250.9	244.3	221.2	199.5
Earnings before equity earnings	695.5	571.0	557.1	489.3	431.4
Equity earnings, net of tax	0.7	1.2	2.5	1.3	0.7
Net earnings	696.2	572.2	559.6	490.6	432.1
Net earnings attributable to noncontrolling interests	(16.3)	(14.5)	(13.2)	(11.9)	(10.2)
Net earnings attributable to Snap-on	679.9	557.7	546.4	478.7	421.9
Financial Position					
Cash and cash equivalents	$140.9	$92.0	$77.6	$92.8	$132.9
Trade and other accounts receivable – net	692.6	675.6	598.8	562.5	550.8
Finance receivables – net (current)	518.5	505.4	472.5	447.3	402.4
Contract receivables – net (current)	98.3	96.8	88.1	82.1	74.5
Inventories – net	673.8	638.8	530.5	497.8	475.5
Property and equipment – net	495.1	484.4	425.2	413.5	404.5
Long-term finance receivables – net	1,074.4	1,039.2	934.5	772.7	650.5
Long-term contract receivables – net	344.9	322.6	286.7	266.6	242.0
Total assets	5,373.1	5,249.1	4,723.2	4,331.1	4,162.0
Notes payable and current maturities of long-term debt	186.3	433.2	301.4	18.4	56.6
Accounts payable	201.1	178.2	170.9	148.3	145.0
Long-term debt	946.0	753.6	708.8	861.7	862.7
Total debt	1,132.3	1,186.8	1,010.2	880.1	919.3
Total shareholders' equity attributable to Snap-on	3,098.8	2,953.9	2,617.2	2,412.7	2,207.8
Common Share Summary					
Weighted-average shares outstanding – diluted	57.3	58.6	59.4	59.1	59.1
Net earnings per share attributable to Snap-on:					
Basic	$12.08	$9.72	$9.40	$8.24	$7.26
Diluted	11.87	9.52	9.20	8.10	7.14
Cash dividends paid per share	3.41	2.95	2.54	2.20	1.85
Shareholders' equity per basic share	55.04	51.46	45.05	41.53	38.00

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

Item 7: Management's Discussion and Analysis of Financial Condition and Results of Operations

Management Overview

References in this Management's Discussion and Analysis of Financial Condition and Results of Operations to "organic sales" refer to sales from continuing operations calculated in accordance with generally accepted accounting principles in the United States of America ("GAAP"), excluding acquisition-related sales and the impact of foreign currency translation. Management evaluates the company's sales performance based on organic sales growth, which primarily reflects growth from the company's existing businesses as a result of increased output, customer base and geographic expansion, new product development and/or pricing, and excludes sales contributions from acquired operations the company did not own as of the comparable prior-year reporting period. The company's organic sales disclosures also exclude the effects of foreign currency translation as foreign currency translation is subject to volatility that can obscure underlying business trends. Management believes that the non-GAAP financial measure of organic sales is meaningful to investors as it provides them with useful information to aid in identifying underlying growth trends in our businesses and facilitating comparisons of our sales performance with prior periods.

We believe our 2018 operating results demonstrate our commitment in providing repeatability and reliability to a wide range of professional customers performing critical tasks in workplaces of consequence. Leveraging capabilities already demonstrated in the automotive repair arena, our "coherent growth" strategy focuses on developing and expanding our professional customer base, not only in automotive repair, but in adjacent markets, additional geographies and other areas, including in critical industries, where the cost and penalties for failure can be high. Snap-on's value proposition of making work easier for serious professionals in workplaces of consequence is an ongoing strength as we move forward along our runways for coherent growth:

- Enhancing the franchise network, where we continued to focus on helping our franchisees extend their reach through innovative selling processes and productivity initiatives that break the traditional time and space barriers inherent in a mobile van;
- Expanding in the vehicle repair garage, where we continued to make progress in connecting with customers and translating the resulting insights into innovation that solves specific challenges in the repair facility;
- Further extending in critical industries, where we continued to grow our lines of products customized for specific industries, including through acquisitions; and
- Building in emerging markets, where we continued to build manufacturing capacity, focused product lines and distribution capability.

Our strategic priorities and plans for 2019 will continue to build on our Snap-on Value Creation Processes – our suite of strategic principles and processes we employ every day designed to create value, and employed in the areas of safety, quality, customer connection, innovation and rapid continuous improvement ("Rapid Continuous Improvement" or "RCI"). We expect to continue to deploy these processes in our existing operations as well as into our recently acquired businesses.

Snap-on's RCI initiatives employ a structured set of tools and processes across multiple businesses and geographies intended to eliminate waste and improve operations. Savings from Snap-on's RCI initiatives reflect benefits from a wide variety of ongoing efficiency, productivity and process improvements, including savings generated from product

design cost reductions, improved manufacturing line set-up and change-over practices, lower-cost sourcing initiatives and facility consolidations. Unless individually significant, it is not practicable to disclose each RCI activity that generated savings and/or segregate RCI savings embedded in sales volume increases.

Our global financial services operations continue to serve a significant strategic role in offering financing options to our franchisees, to their customers, and to customers in other parts of our business. We expect that our global financial services business, which includes both Snap-on Credit LLC ("SOC") in the United States and our other international finance subsidiaries, will continue to be a meaningful contributor to our operating earnings going forward.

Snap-on has significant international operations and is subject to risks inherent with foreign operations, including foreign currency translation fluctuations.

Recent Acquisitions

On January 31, 2018, Snap-on acquired substantially all of the assets of George A. Sturdevant, Inc. (d/b/a Fastorq) for a cash purchase price of $3.0 million. Fastorq, based in New Caney, Texas, designs, assembles and distributes hydraulic torque and hydraulic tensioning products for use in critical industries. The acquisition of the Fastorq product line complemented and increased Snap-on's existing torque product offering and broadened its established capabilities in serving in critical industries. For segment reporting purposes, the results of operations and assets of Fastorq have been included in the Commercial & Industrial Group since the acquisition date.

On July 28, 2017, Snap-on acquired Torque Control Specialists Pty Ltd ("TCS") for a cash purchase price of $3.6 million (or $3.5 million, net of cash acquired). TCS, based in Adelaide, Australia, distributes a full range of torque products, including wrenches, multipliers and calibrators, for use in critical industries. The acquisition of TCS enhanced and expanded Snap-on's capabilities in providing solutions that address torque requirements, which are increasingly essential to critical mechanical performance. For segment reporting purposes, the results of operations and assets of TCS have been included in the Commercial & Industrial Group since the acquisition date.

On May 4, 2017, Snap-on acquired Norbar Torque Tools Holdings Limited, along with its U.S. and Chinese joint ventures ("Norbar"), for a cash purchase price of $71.6 million (or $69.9 million, net of cash acquired). Norbar, based in Banbury, U.K., designs and manufactures a full range of torque products, including wrenches, multipliers and calibrators, for use in critical industries. The acquisition of Norbar enhanced and expanded Snap-on's capabilities in providing solutions that address torque requirements. For segment reporting purposes, the results of operations and assets of Norbar have been included in the Commercial & Industrial Group since the acquisition date.

On January 30, 2017, Snap-on acquired BTC Global Limited ("BTC") for a cash purchase price of $9.2 million. BTC, based in Crewe, U.K., designs and implements automotive vehicle inspection and management software for original equipment manufacturer ("OEM") franchise repair shops. The acquisition of BTC enhanced Snap-on's capabilities to grow enterprise revenues and add increased productivity for repair workshops. For segment reporting purposes, the results of operations and assets of BTC have been included in the Repair Systems & Information Group since the acquisition date.

On November 16, 2016, Snap-on acquired Ryeson Corporation (d/b/a Sturtevant Richmont) for a cash purchase price of $13.0 million (or $12.6 million, net of cash acquired). Sturtevant Richmont, based in Carol Stream, Illinois, designs, manufactures and distributes mechanical and electronic torque wrenches as well as wireless torque error proofing systems for a variety of industrial applications. The acquisition of Sturtevant Richmont enhanced and expanded Snap-on's capabilities in providing solutions that address torque requirements. For segment reporting purposes, the results of operations and assets of Sturtevant Richmont have been included in the Commercial & Industrial Group since the acquisition date.

On October 31, 2016, Snap-on acquired Car-O-Liner Holding AB ("Car-O-Liner") for a cash purchase price of $152.0 million (or $148.1 million, net of cash acquired). Car-O-Liner, based in Gothenburg, Sweden, designs and manufactures collision repair equipment, and information and truck alignment systems. The acquisition of Car-O-Liner complemented and increased Snap-on's existing equipment and repair and service information product offerings, broadened its established capabilities in serving vehicle repair facilities and further expanded the company's presence with repair shop owners and managers. For segment reporting purposes, substantially all of Car-O-Liner's results of operations and assets have been included in the Repair Systems & Information Group since the acquisition date, with the remaining portions included in the Commercial & Industrial Group.

Pro forma financial information has not been presented for any of these acquisitions as the net effects, individually and collectively, were neither significant nor material to Snap-on's results of operations or financial position.

Impact of Accounting Standards Update No. 2017-07

At the beginning of fiscal 2018, Snap-on adopted ASU No. 2017-07, Compensation - Retirement Benefits (Topic 715) - Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost. The ASU requires changes to be applied retrospectively; as such, prior periods have been adjusted to reflect this adoption and conform to the 2018 presentation. See Note 1 to the Consolidated Financial Statements for further information on the effect of adoption of this ASU.

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

Summary of Consolidated Performance

Consolidated net sales of $3,740.7 million in 2018 increased $53.8 million, or 1.5%, from 2017 levels, reflecting a $19.3 million, or 0.5%, increase in organic sales (a non-GAAP financial measure that excludes acquisition-related sales and the impact of foreign currency translation), $24.2 million of acquisition-related sales and $10.3 million of favorable foreign currency translation.

Operating earnings before financial services of $726.0 million in 2018, including $4.4 million of favorable foreign currency effects, increased $61.4 million, or 9.2%, as compared to $664.6 million last year. Fiscal 2018 results included a $4.3 million benefit related to a settlement in an employment-related litigation matter that was being appealed (the "legal settlement"). Fiscal 2017 results included $45.9 million of charges related to the judgment that was the subject of the legal settlement and a judgment in a patent-related litigation matter that is being appealed (collectively the "legal charges"). The company can provide no assurance as to the result of the appeal. As a percentage of net sales, operating earnings before financial services of 19.4% in 2018 compared to 18.0% last year.

Operating earnings of $956.1 million in 2018, including the $4.3 million benefit for the legal settlement and $4.7 million of favorable foreign currency effects, increased $74.0 million, or 8.4% from $882.1 million last year. In 2017, operating earnings included $45.9 million of expense for the legal charges. As a percentage of revenues, operating earnings of 23.5% compared to 22.1% last year.

In 2018, net earnings attributable to Snap-on were $679.9 million, or $11.87 per diluted share, increased $122.2 million, or $2.35 per diluted share, from $557.7 million, or $9.52 per diluted share, in 2017. In 2018, net earnings attributable to Snap-on included a $4.1 million, or $0.07 per diluted share, benefit from an after-tax net gain of $4.1 million associated with a treasury lock settlement of $10.0 million related to the issuance of debt, partially offset by $5.9 million of expense related to the early extinguishment of debt (collectively, the "net debt items"), as well as $3.2 million, or $0.06 per diluted share, for the after-tax benefit related to the legal settlement, partially offset by $3.9 million, or $0.07 per diluted share, of tax expense for newly issued guidance associated with the U.S. Tax Cuts and Jobs Act (the "Tax Act") or ("tax charge"). Net earnings attributable to Snap-on in 2017 included $28.4 million, or $0.48 per diluted share, for the after-tax expense related to the legal charges, and $7.0 million, or $0.12 per diluted share, of tax expense as a result of the implementation of the Tax Act.

Impact of the Tax Act

On December 22, 2017, the U.S. government passed the Tax Act. The Tax Act makes broad and complex changes to the U.S. tax code, including, but not limited to: (i) reducing the future U.S. federal corporate tax rate from 35 percent to 21 percent; (ii) requiring companies to pay a one-time transition tax on certain unremitted earnings of foreign subsidiaries; and (iii) bonus depreciation that will allow for full expensing of qualified property.

The Tax Act also established new tax laws that affected 2018, including, but not limited to: (i) the reduction of the U.S. federal corporate tax rate discussed above; (ii) a general elimination of U.S. federal income taxes on dividends from foreign subsidiaries; (iii) a new provision designed to tax global intangible low-taxed income ("GILTI"); (iv) the repeal of the domestic production activity deductions; (v) limitations on the deductibility of certain executive compensation; (vi) limitations on the use of foreign tax credits to reduce the U.S. income tax liability; and (vii) a new

provision that allows a domestic corporation an immediate deduction for a portion of its foreign derived intangible income ("FDII").

The Securities and Exchange Commission staff issued Staff Accounting Bulletin ("SAB") 118, which provides guidance on accounting for the tax effects of the Tax Act, for the company's year ended December 30, 2017. SAB 118 provides a measurement period that should not extend beyond one year from the Tax Act enactment date for companies to complete the related accounting under Accounting Standards Codification ("ASC") 740, Accounting for Income Taxes. In accordance with SAB 118, a company must reflect the income tax effects of those aspects of the Tax Act for which the accounting under ASC 740 is complete. To the extent that a company's accounting for a certain income tax effect of the Tax Act is incomplete, but it is able to determine a reasonable estimate, it must record a provisional estimate in the financial statements. If a company cannot determine a provisional estimate to be included in the financial statements, it should continue to apply ASC 740 on the basis of the provisions of the tax laws that were in effect immediately before the enactment of the Tax Act.

The company's accounting for certain elements of the Tax Act was incomplete as of December 30, 2017. However, the company was able to make reasonable estimates of the effects and, therefore, recorded provisional estimates for these items. In connection with its initial analysis of the impact of the Tax Act, the company recorded a provisional discrete net tax expense of $7.0 million in the fiscal year ended December 29, 2017. This provisional estimate consists of a net expense of $13.7 million for the one-time transition tax and a net benefit of $6.7 million related to revaluation of deferred tax assets and liabilities, caused by the new lower corporate tax rate. To determine the transition tax, the company must determine the amount of post-1986 accumulated earnings and profits of the relevant subsidiaries, as well as the amount of non-U.S. income taxes paid on such earnings. While the company was able to make a reasonable estimate of the transition tax for 2017, it continued to gather additional information to more precisely compute the final amount reported on its 2017 U.S. federal tax return which was filed in October 2018. The actual transition tax reported was $8.3 million greater than the company's initial estimate and was included in income tax expense for 2018. Likewise, while the company was able to make a reasonable estimate of the impact of the reduction to the corporate tax rate, it was affected by other analyses related to the Tax Act, including, but not limited to, the state tax effect of adjustments made to federal temporary differences. During 2018, the company recorded additional net tax benefits of $4.4 million attributable to pension contributions made in 2018 that were deductible for 2017 at the higher 35% federal tax rate and other changes to the 2017 tax provision related to the Tax Act and subsequently issued tax guidance. Due to the complexity of the new GILTI tax rules, the company continued to evaluate this provision of the Tax Act and the application of ASC 740 throughout 2018. Under GAAP, the company is allowed to make an accounting policy choice to either: (i) treat taxes due on future U.S. inclusions in taxable income related to GILTI as a current-period expense when incurred (the "period cost method"); or (ii) factor in such amounts into a company's measurement of its deferred taxes (the "deferred method"). The company selected to apply the "period cost method" to account for the new GILTI tax, and treated it as a current-period expense for 2018. The company will continue to analyze the full effects of the Tax Act on its financial statements in 2019 as additional guidance is issued and interpretations evolve.

Summary of Segment Performance

The Commercial & Industrial Group consists of business operations serving a broad range of industrial and commercial customers worldwide, including customers in the aerospace, natural resources, government, power generation, transportation and technical education market segments (collectively, "critical industries"), primarily through direct and distributor channels. Segment net sales of $1,343.3 million in 2018 increased $78.3 million, or 6.2%, from 2017 levels, reflecting a $52.1 million, or 4.1%, organic sales gain, $23.5 million of acquisition-related sales and $2.7 million of favorable foreign currency translation. The organic sales increase includes higher sales to customers in critical industries, in the Asia Pacific operations, in power tools operations and in the European-based hand tools business. Operating earnings of $199.3 million in 2018, increased $12.8 million, or 6.9%, from 2017 levels, primarily due to increased organic sales volume and acquisitions, partially offset by $2.5 million of unfavorable foreign currency effects.

The Commercial & Industrial Group intends to continue building on the following strategic priorities in 2019:

- Continuing to invest in emerging market growth initiatives;
- Expanding our business with existing customers and reaching new customers in critical industries and other market segments;
- Broadening our product offering designed particularly for critical industry segments;
- Increasing our customer-connection-driven understanding of work across multiple industries;
- Investing in innovation that, guided by that understanding of work, delivers an ongoing stream of productivity-enhancing custom engineered solutions; and
- Continuing to reduce structural and operating costs, as well as improve efficiencies, through RCI initiatives.

The Snap-on Tools Group consists of business operations primarily serving vehicle service and repair technicians through the company's worldwide mobile tool distribution channel. Segment net sales of $1,613.8 million in 2018 decreased $11.3 million, or 0.7%, from 2017 levels, reflecting a $15.6 million, or 1.0%, organic sales decrease, partially offset by $4.3 million of favorable foreign currency translation. The organic sales decrease includes a decline in the company's international franchise operations while sales in the U.S. franchise operations were essentially flat. Operating earnings of $264.2 million in 2018 decreased $10.5 million, or 3.8%, from 2017 levels primarily due to the impact of lower sales volumes and higher costs, partially offset by $7.7 million of favorable foreign currency effects and benefits from the company's RCI initiatives.

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

Despite the sales challenges in 2018, the Snap-on Tools Group remained focused on its fundamental, strategic initiatives to strengthen the franchise network and enhance franchisee profitability. In 2019, the Snap-on Tools Group intends to continue these initiatives, with specific focus on the following:

- Continuing to improve franchisee satisfaction, productivity, profitability and commercial health;
- Developing new programs and products to expand market coverage, reaching new technician customers and increasing penetration with existing customers;
- Increasing investment in new product innovation and development; and
- Increasing customer service levels and productivity in back office support functions, manufacturing and the supply chain through RCI initiatives and investment.

By focusing on these areas, we believe that Snap-on, as well as its franchisees, will have the opportunity to continue to serve customers more effectively, more profitably and with improved satisfaction.

The Repair Systems & Information Group consists of business operations serving other professional vehicle repair customers worldwide, primarily owners and managers of independent repair shops and OEM dealerships through direct and distributor channels. Segment net sales of $1,334.4 million in 2018 decreased $12.8 million, or 1.0%, from 2017 levels, reflecting a $19.6 million, or 1.4%, organic sales decline, partially offset by $0.7 million of acquisition-related sales and $6.1 million of favorable foreign currency translation. The organic sales decrease primarily reflects lower sales to OEM dealerships and in sales of undercar equipment, partially offset by increased sales of diagnostic and repair information products to independent repair shop owners and managers. Operating earnings of $342.6 million in 2018 increased $7.3 million, or 2.2%, from 2017 levels, primarily due to benefits from the company's RCI initiatives, partially offset by $0.8 million of unfavorable foreign currency effects.

The Repair Systems & Information Group intends to focus on the following strategic priorities in 2019:

- Expanding the product offering with new products and services, thereby providing more to sell to repair shop owners and managers;
- Continuing software and hardware upgrades to further improve functionality, performance and efficiency;
- Leveraging integration of software solutions;
- Continuing productivity advancements through RCI initiatives and leveraging of resources; and
- Increasing penetration in geographic markets, including emerging markets.

Financial Services revenue was $329.7 million in 2018 and $313.4 million in 2017; originations of $1,057.5 million in 2018 decreased $14.5 million, or 1.4%, from 2017 levels. In 2018, operating earnings from financial services of $230.1 million, including $0.3 million of favorable foreign currency effects, increased $12.6 million, or 5.8%, from $217.5 million last year. In recent years, Snap-on has steadily grown its financial services portfolio by providing financing for new finance and contract receivables originated by our global financial services operations.

Financial Services intends to focus on the following strategic priorities in 2019:

- Delivering financial products and services that attract and sustain profitable franchisees and support Snap-on's strategies for expanding market coverage and penetration;
- Improving productivity levels and ensuring high quality in all financial products and processes through the use of RCI initiatives; and
- Maintaining healthy portfolio performance levels.

Cash Flows

Net cash provided by operating activities of $764.5 million in 2018 increased $156.0 million from $608.5 million in 2017. The $156.0 million increase is primarily due to $124.0 million of higher net earnings and $34.0 million from net changes in operating assets and liabilities. Net cash provided by operating activities was $576.1 million in 2016.

Net cash used by investing activities of $210.2 million in 2018 included additions to finance receivables of $865.6 million, partially offset by collections of $747.7 million, as well as $3.0 million for the acquisition of Fastorq. Net cash used by investing activities of $341.4 million in 2017 included additions to finance receivables of $892.0 million, partially offset by collections of $712.7 million, as well as a total of $82.9 million (net of $1.8 million of cash acquired) for the acquisitions of BTC, Norbar, and TCS, and working capital adjustments for the Car-O-Liner and Sturtevant Richmont acquisitions. Net cash used by investing activities of $473.4 million in 2016 included additions to finance receivables of $915.0 million, partially offset by collections of $671.7 million, as well as, on a preliminary basis, $160.4 million (net of $4.3 million of cash acquired) for the acquisitions of Car-O-Liner and Sturtevant Richmont. Capital expenditures in 2018, 2017 and 2016 totaled $90.9 million, $82.0 million and $74.3 million, respectively. Capital expenditures in all three years included investments to support the company's execution of its strategic growth initiatives and Value Creation Processes around safety, quality, customer connection, innovation and RCI.

Net cash used by financing activities of $502.2 million in 2018 included repayments of $250 million of the unsecured 4.25% notes, due January 16, 2018 (the "2018 Notes"), at maturity, and $200 million of the unsecured 6.70% notes that were scheduled to mature on March 1, 2019 (the "2019 Notes"), and a $7.8 million loss on early extinguishment of debt. These amounts were partially offset by Snap-on's sale, on February 20, 2018, of $400 million of unsecured 4.10% notes that mature on March 1, 2048 (the "2048 Notes") at a discount, from which Snap-on received $395.4 million of net proceeds, reflecting $3.5 million of transaction costs. Net cash used by financing activities in 2018 also included $284.1 million for the repurchase of 1,769,000 shares of Snap-on's common stock and $192.0 million for dividend payments to shareholders, partially offset by $55.5 million of proceeds from stock purchase and option plan exercises and $4.9 million of proceeds from a net increase in notes payable and other short-term borrowings. Net cash used by financing activities of $256.1 million in 2017 included the January 2017 repayment of $150 million of 5.5% unsecured notes upon maturity (the "2017 Notes"). These amounts were partially offset by Snap-on's sale, on February 15, 2017, of $300 million of unsecured 3.25% notes that mature on March 1, 2027 (the "2027 Notes") at a discount, from which Snap-on received $297.8 million of net proceeds, reflecting $1.9 million of transaction costs. Net cash used by financing activities in 2017 also included $287.9 million for the repurchase of 1,820,000 shares of Snap-on's common stock, and $169.4 million for dividend payments to shareholders, partially offset by $46.2 million of proceeds from stock purchase and option plan exercises and $30.6 million of proceeds from a net increase in notes payable and other short-term borrowings. Net cash used by financing activities of $116.0 million in 2016 included $147.5 million for dividend payments to shareholders and $120.4 million for the repurchase of 758,000 shares of Snap-on's common stock, partially offset by $134.2 million of proceeds from a net increase in notes payable and other short-term borrowings and $41.8 million of proceeds from stock purchase and option plan exercises.

Fiscal Year

Snap-on's fiscal year ends on the Saturday that is on or nearest to December 31. Unless otherwise indicated, references in this Management's Discussion and Analysis of Financial Condition and Results of Operations to "fiscal 2018" or "2018" refer to the fiscal year ended December 29, 2018; references to "fiscal 2017" or "2017" refer to the fiscal year ended December 30, 2017; and references to "fiscal 2016" or "2016" refer to the fiscal year ended December 31, 2016. References in this document to 2018, 2017 and 2016 year end refer to December 29, 2018, December 30, 2017, and December 31, 2016, respectively.

Snap-on's 2018, 2017 and 2016 fiscal years each contained 52 weeks of operating results.

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

Results of Operations
2018 vs. 2017
Results of operations for 2018 and 2017 are as follows:

(Amounts in millions)	2018		2017		Change	
Net sales	$3,740.7	100.0 %	$3,686.9	100.0 %	$53.8	1.5 %
Cost of goods sold	(1,870.7)	(50.0)%	(1,861.0)	(50.5)%	(9.7)	(0.5)%
Gross profit	1,870.0	50.0 %	1,825.9	49.5 %	44.1	2.4 %
Operating expenses	(1,144.0)	(30.6)%	(1,161.3)	(31.5)%	17.3	1.5 %
Operating earnings before financial services	726.0	19.4 %	664.6	18.0 %	61.4	9.2 %
Financial services revenue	329.7	100.0 %	313.4	100.0 %	16.3	5.2 %
Financial services expenses	(99.6)	(30.2)%	(95.9)	(30.6)%	(3.7)	(3.9)%
Operating earnings from financial services	230.1	69.8 %	217.5	69.4 %	12.6	5.8 %
Operating earnings	956.1	23.5 %	882.1	22.1 %	74.0	8.4 %
Interest expense	(50.4)	(1.2)%	(52.4)	(1.3)%	2.0	3.8 %
Other income (expense) – net	4.2	0.1 %	(7.8)	(0.3)%	12.0	NM
Earnings before income taxes and equity earnings	909.9	22.4 %	821.9	20.5 %	88.0	10.7 %
Income tax expense	(214.4)	(5.3)%	(250.9)	(6.2)%	36.5	14.5 %
Earnings before equity earnings	695.5	17.1 %	571.0	14.3 %	124.5	21.8 %
Equity earnings, net of tax	0.7	—	1.2	—	(0.5)	(41.7)%
Net earnings	696.2	17.1 %	572.2	14.3 %	124.0	21.7 %
Net earnings attributable to noncontrolling interests	(16.3)	(0.4)%	(14.5)	(0.4)%	(1.8)	(12.4)%
Net earnings attributable to Snap-on Inc.	$679.9	16.7 %	$557.7	13.9 %	$122.2	21.9 %

NM: Not meaningful

Percentage Disclosure: All income statement line item percentages below "Operating earnings from financial services" are calculated as a percentage of the sum of Net sales and

Financial services
revenue.

Net sales of $3,740.7 million in 2018 increased $53.8 million, or 1.5%, from 2017 levels, reflecting a $19.3 million, or 0.5%, organic sales gain, $24.2 million of acquisition-related sales and $10.3 million of favorable foreign currency translation.

Gross profit of $1,870.0 million in 2018 compared to $1,825.9 million last year. Gross margin (gross profit as a percentage of net sales) of 50.0% in 2018 improved 50 basis points (100 basis points (“bps”) equals 1.0 percent) from 49.5% last year primarily due to a shift in sales that included increased volumes of higher gross margin products and savings from the company’s RCI initiatives, partially offset by higher material and other costs.

Operating expenses of $1,144.0 million in 2018, including a $4.3 million benefit for the legal settlement, compared to $1,161.3 million, including $45.9 million for the legal charges, in 2017. The operating expense margin (operating expenses as a percentage of net sales) of 30.6% in 2018 improved 90 bps from 31.5% last year primarily due to 130 bps for the legal charges that occurred in 2017 and 10 bps for the legal settlement, partially offset by 10 bps of operating expenses from acquisitions and higher costs.

Operating earnings before financial services of $726.0 million in 2018, including $4.4 million of favorable foreign currency effects, increased $61.4 million, or 9.2%, as compared to $664.6 million last year. Fiscal 2018 results included a $4.3 million benefit for the legal settlement. Fiscal 2017 results included $45.9 million for the legal charges. As a percentage of net sales, operating earnings before financial services, including the legal settlement, of 19.4% compared to 18.0% last year, which included the legal charges.

Financial services revenue of $329.7 million in 2018 compared to revenue of $313.4 million last year. Financial services operating earnings of $230.1 million, including $0.3 million of favorable foreign currency effects in 2018, increased $12.6 million, or 5.8%, as compared to $217.5 million last year. The year-over-year increases in both revenue and operating earnings primarily reflect continued growth of the company's financial services portfolio.
Operating earnings of $956.1 million in 2018, including $4.7 million of favorable foreign currency effects, increased $74.0 million, or 8.4%, from $882.1 million last year. Fiscal 2018 results included a $4.3 million benefit for the legal settlement. Fiscal 2017 included $45.9 million of expense for the legal charges. As a percentage of revenues, operating earnings of 23.5% compared to 22.1% last year.
Interest expense of $50.4 million in 2018 decreased $2.0 million from $52.4 million last year. See Note 10 to the Consolidated Financial Statements for information on Snap-on's debt and credit facilities.
Other income (expense) – net was income of $4.2 million in 2018 and expense of $7.8 million in 2017. Other income (expense) – net in fiscal 2018 includes a net gain of $5.5 million for the net debt items. Other income (expense) - net also includes net gains and losses associated with hedging and currency exchange rate transactions, non-service components of net periodic benefit costs, and interest income. See Note 17 to the Consolidated Financial Statements for information on other income (expense) – net.
Snap-on's effective income tax rate on earnings attributable to Snap-on was 24.0% in 2018, including a 50 bps charge related to the newly issued guidance associated with the Tax Act, as compared to 31.1% in 2017, which included a 40 bps benefit from the legal charges, and a net $7.0 million charge, or 90 bps impact, from the implementation of the Tax Act. See Note 9 to the Consolidated Financial Statements for information on income taxes.
Net earnings attributable to Snap-on in 2018 of $679.9 million, or $11.87 per diluted share, increased $122.2 million, or $2.35 per diluted share, from $557.7 million, or $9.52 per diluted share, in 2017. In 2018, net earnings attributable to Snap-on included a $4.1 million, or $0.07 per diluted share, benefit from the after-tax net debt items, as well as a $3.2 million, or $0.06 per diluted share, after-tax benefit related to the legal settlement, and $3.9 million, or $0.07 per diluted share, for the tax charge. Net earnings attributable to Snap-on in 2017 included $28.4 million, or $0.48 per diluted share, of after-tax legal charges, and $7.0 million, or $0.12 per diluted share, of tax expense as a result of the implementation of the Tax Act.
Segment Results
Snap-on's business segments are based on the organization structure used by management for making operating and investment decisions and for assessing performance. Snap-on's reportable business segments are: (i) the Commercial & Industrial Group; (ii) the Snap-on Tools Group; (iii) the Repair Systems & Information Group; and (iv) Financial Services. The Commercial & Industrial Group consists of business operations serving a broad range of industrial and commercial customers worldwide, including customers in the aerospace, natural resources, government, power generation, transportation and technical education market segments, primarily through direct and distributor channels. The Snap-on Tools Group consists of business operations primarily serving vehicle service and repair technicians through the company's worldwide mobile tool distribution channel. The Repair Systems & Information Group consists of business operations serving other professional vehicle repair customers worldwide, primarily owners and managers of independent repair shops and OEM dealerships through direct and distributor channels. Financial Services consists of the business operations of Snap-on's finance subsidiaries.
Snap-on evaluates the performance of its operating segments based on segment revenues, including both external and intersegment net sales, and segment operating earnings. Snap-on accounts for intersegment sales and transfers based primarily on standard costs with reasonable mark-ups established between the segments. Identifiable assets by segment are those assets used in the respective reportable segment's operations. Corporate assets consist of cash and cash equivalents (excluding cash held at Financial Services), deferred income taxes and certain other assets. All significant intersegment amounts are eliminated to arrive at Snap-on's consolidated financial results.

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

Commercial & Industrial Group

(Amounts in millions)	2018		2017		Change	
External net sales	$1,051.6	78.3 %	$986.1	78.0 %	$65.5	6.6 %
Intersegment net sales	291.7	21.7 %	278.9	22.0 %	12.8	4.6 %
Segment net sales	1,343.3	100.0 %	1,265.0	100.0 %	78.3	6.2 %
Cost of goods sold	(817.7)	(60.9)%	(766.4)	(60.6)%	(51.3)	(6.7)%
Gross profit	525.6	39.1 %	498.6	39.4 %	27.0	5.4 %
Operating expenses	(326.3)	(24.3)%	(312.1)	(24.7)%	(14.2)	(4.5)%
Segment operating earnings	$199.3	14.8 %	$186.5	14.7 %	$12.8	6.9 %

Segment net sales of $1,343.3 million in 2018 increased $78.3 million, or 6.2%, from 2017 levels, reflecting a $52.1 million or 4.1%, organic sales gain, $23.5 million of acquisition-related sales and $2.7 million of favorable foreign currency translation. The organic sales increase primarily includes mid single-digit gains in sales to customers in both critical industries and in the segment's Asia Pacific operations, as well as low single-digit gains in sales in the power tools operations and in the European-based hand tools business.

Segment gross profit of $525.6 million in 2018 compared to $498.6 million last year. Gross margin of 39.1% in 2018 declined 30 bps from 39.4% last year primarily due to 10 bps of unfavorable foreign currency effects and higher material and other costs, partially offset by benefits from the company's RCI initiatives.

Segment operating expenses of $326.3 million in 2018 compared to $312.1 million last year. The operating expense margin of 24.3% in 2018 improved 40 bps from 24.7% last year as benefits from higher sales volumes were partially offset by 10 bps of unfavorable foreign currency effects.

As a result of these factors, segment operating earnings of $199.3 million in 2018, including $2.5 million of unfavorable foreign currency effects, increased $12.8 million from 2017 levels. Operating margin (segment operating earnings as a percentage of segment net sales) for the Commercial & Industrial Group was 14.8% and 14.7%, in 2018 and 2017, respectively.

Snap-on Tools Group

(Amounts in millions)	2018		2017		Change	
Segment net sales	$1,613.8	100.0 %	$1,625.1	100.0 %	$(11.3)	(0.7)%
Cost of goods sold	(910.8)	(56.4)%	(930.9)	(57.3)%	20.1	2.2 %
Gross profit	703.0	43.6 %	694.2	42.7 %	8.8	1.3 %
Operating expenses	(438.8)	(27.2)%	(419.5)	(25.8)%	(19.3)	(4.6)%
Segment operating earnings	$264.2	16.4 %	$274.7	16.9 %	$(10.5)	(3.8)%

Segment net sales of $1,613.8 million in 2018 decreased $11.3 million, or 0.7%, from 2017 levels, reflecting a $15.6 million, or 1.0% organic sales decrease, partially offset by $4.3 million of favorable foreign currency translation. The organic sales decline reflects a low single-digit decline in the company's international franchise operations while sales in the U.S. operations were essentially flat.

Segment gross profit of $703.0 million in 2018 compared to $694.2 million last year. Gross margin of 43.6% in 2018 improved from 42.7% last year primarily due to increased sales of higher gross margin products, benefits from the

company’s RCI initiatives and 40 bps of favorable foreign currency effects.

Segment operating expenses of $438.8 million in 2018 compared to $419.5 million last year. The operating expense margin of 27.2% in 2018 increased 140 bps from 25.8% last year primarily due to higher costs.

As a result of these factors, segment operating earnings of $264.2 million in 2018, including $7.7 million of favorable foreign currency effects, decreased $10.5 million from 2017 levels. Operating margin for the Snap-on Tools Group of 16.4% in 2018 compared to 16.9% last year.

Repair Systems & Information Group

(Amounts in millions)	2018		2017		Change	
External net sales	$1,075.3	80.6 %	$1,075.7	79.8 %	$(0.4)	—
Intersegment net sales	259.1	19.4 %	271.5	20.2 %	(12.4)	(4.6)%
Segment net sales	1,334.4	100.0 %	1,347.2	100.0 %	(12.8)	(1.0)%
Cost of goods sold	(693.0)	(51.9)%	(714.1)	(53.0)%	21.1	3.0 %
Gross profit	641.4	48.1 %	633.1	47.0 %	8.3	1.3 %
Operating expenses	(298.8)	(22.4)%	(297.8)	(22.1)%	(1.0)	(0.3)%
Segment operating earnings	$342.6	25.7 %	$335.3	24.9 %	$7.3	2.2 %

Segment net sales of $1,334.4 million in 2018 decreased $12.8 million, or 1.0%, from 2017 levels, reflecting a $19.6 million, or 1.4%, organic sales decline, partially offset by $0.7 million of acquisition-related sales and $6.1 million of favorable foreign currency translation. The organic sales decrease includes low single-digit decreases in sales to OEM dealerships and in sales of undercar equipment, partially offset by a low single-digit increase in sales of diagnostic and repair information products to independent repair shop owners and managers.

Segment gross profit of $641.4 million in 2018 compared to $633.1 million last year. Gross margin of 48.1% in 2018 improved 110 bps from 47.0% last year, primarily as a result of a shift in sales that included lower volumes of lower gross margin products and savings from the company's RCI initiatives, partially offset by 20 bps of unfavorable foreign currency effects.

Segment operating expenses of $298.8 million in 2018 compared to $297.8 million last year. The operating expense margin of 22.4% in 2018 increased 30 bps from 22.1% last year primarily due to the effect of lower sales volumes, partially offset by benefits from the company's RCI initiatives.

As a result of these factors, segment operating earnings of $342.6 million in 2018, including $0.8 million of unfavorable foreign currency effects, increased $7.3 million from 2017 levels. Operating margin for the Repair Systems & Information Group of 25.7% in 2018 compared to 24.9% last year.

Financial Services

(Amounts in millions)	2018		2017		Change	
Financial services revenue	$329.7	100.0 %	$313.4	100.0 %	$16.3	5.2 %
Financial services expenses	(99.6)	(30.2)%	(95.9)	(30.6)%	(3.7)	(3.9)%
Segment operating earnings	$230.1	69.8 %	$217.5	69.4 %	$12.6	5.8 %

Financial services revenue of $329.7 million in 2018 increased $16.3 million, or 5.2%, from $313.4 million last year primarily reflecting $18.9 million of higher revenue as a result of continued growth of the company's financial services portfolio, partially offset by $2.6 million of decreased revenue from lower average yields on finance receivables. In 2018 and 2017, the respective average yields on finance receivables were 17.7% and 17.9%, and the average yield on contract receivables was 9.2% in both years. Originations of $1,057.5 million in 2018 decreased $14.5 million, or 1.4%, from 2017 levels.

Financial services expenses primarily include personnel-related and other general and administrative costs, as well as provisions for credit losses. These expenses are generally more dependent on changes in the financial services portfolio than they are on the revenue of the segment. Financial services expenses of $99.6 million in 2018 increased from $95.9 million last year primarily due to increases in both the provisions for credit losses and in the size of the portfolio. As a percentage of the average financial services portfolio, financial services expenses were 4.9% and 5.0% in 2018 and 2017, respectively.

Financial services operating earnings of $230.1 million in 2018, including $0.3 million of favorable foreign currency effects, increased $12.6 million, or 5.8%, from 2017 levels.

See Note 1 and Note 4 to the Consolidated Financial Statements for further information on financial services.

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

Corporate

Snap-on's general corporate expenses in 2018 of $80.1 million decreased $51.8 million from $131.9 million last year. The year-over-year decrease in general corporate expenses primarily reflects a $4.3 million benefit in 2018 from the legal settlement and $45.9 million in 2017 for the legal charges.

Fourth Quarter

Results of operations for the fourth quarters of 2018 and 2017 are as follows:

	Fourth Quarter					
(Amounts in millions)	2018		2017		Change	
Net sales	$952.5	100.0 %	$974.6	100.0 %	$(22.1)	(2.3)%
Cost of goods sold	(495.1)	(52.0)%	(509.0)	(52.2)%	13.9	2.7 %
Gross profit	457.4	48.0 %	465.6	47.8 %	(8.2)	(1.8)%
Operating expenses	(275.3)	(28.9)%	(307.6)	(31.6)%	32.3	10.5 %
Operating earnings before financial services	182.1	19.1 %	158.0	16.2 %	24.1	15.3 %
Financial services revenue	82.7	100.0 %	79.9	100.0 %	2.8	3.5 %
Financial services expenses	(26.6)	(32.2)%	(25.5)	(31.9)%	(1.1)	(4.3)%
Operating earnings from financial services	56.1	67.8 %	54.4	68.1 %	1.7	3.1 %
Operating earnings	238.2	23.0 %	212.4	20.1 %	25.8	12.1 %
Interest expense	(12.4)	(1.2)%	(13.6)	(1.3)%	1.2	8.8 %
Other income (expense) – net	3.0	0.3 %	(1.8)	(0.1)%	4.8	NM
Earnings before income taxes and equity earnings	228.8	22.1 %	197.0	18.7 %	31.8	16.1 %
Income tax expense	(49.5)	(4.8)%	(63.8)	(6.1)%	14.3	22.4 %
Earnings before equity earnings	179.3	17.3 %	133.2	12.6 %	46.1	34.6 %
Equity earnings, net of tax	—	—	—	—	—	—
Net earnings	179.3	17.3 %	133.2	12.6 %	46.1	34.6 %
Net earnings attributable to noncontrolling interests	(4.3)	(0.4)%	(3.7)	(0.3)%	(0.6)	(16.2)%
Net earnings attributable to Snap-on Inc.	$175.0	16.9 %	$129.5	12.3 %	$45.5	35.1 %

NM: Not meaningful

Percentage Disclosure: All income statement line item percentages below "Operating

earnings from financial services" are calculated as a percentage of the sum of Net sales and Financial services revenue.

Net sales of $952.5 million in the fourth quarter of 2018 decreased $22.1 million, or 2.3%, from 2017 levels, reflecting a $5.4 million, or 0.6%, organic sales decrease and $17.1 million of unfavorable foreign currency translation, partially offset by $0.4 million of acquisition-related sales.

Gross profit of $457.4 million in the fourth quarter of 2018 compared to $465.6 million last year. Gross margin of 48.0% in the quarter improved 20 bps from 47.8% last year primarily due to savings from the company's RCI initiatives, partially offset by higher material and other costs.

Operating expenses of $275.3 million in the fourth quarter of 2018 compared to $307.6 million last year, as 2018 included a $4.3 million benefit for the legal settlement, while 2017 included a $30.9 million legal charge. The operating expense margin of 28.9% in the quarter improved 270 bps from 31.6% last year primarily due to 320 bps related to the legal charge occurring in fiscal 2017 and 40 bps for the 2018 legal settlement, partially offset by 10 bps of unfavorable foreign currency effects and higher costs.

Operating earnings before financial services of $182.1 million in the fourth quarter of 2018, including a $4.3 million benefit for the legal settlement and $4.2 million of unfavorable foreign currency effects, increased $24.1 million, or 15.3%, as compared to $158.0 million last year, which included $30.9 million for the legal charge. As a percentage of net sales, operating earnings before financial services of 19.1% in the quarter, including the legal settlement, compared to 16.2% last year, including the legal charge.

Financial services revenue of $82.7 million in the fourth quarter of 2018 compared to revenue of $79.9 million last year. Financial services operating earnings of $56.1 million in the fourth quarter of 2018, including $0.3 million of unfavorable foreign currency effects, increased $1.7 million, or 3.1%, as compared to $54.4 million last year. The year-over-year increases in both revenue and operating earnings primarily reflect continued growth of the company's financial services portfolio.

Operating earnings of $238.2 million in the fourth quarter of 2018, including a $4.3 million benefit for the legal settlement and $4.5 million of unfavorable foreign currency effects, increased $25.8 million, or 12.1%, from $212.4 million last year, which included $30.9 million of expense for the legal charge. As a percentage of revenues, operating earnings of 23.0% in the quarter compared to 20.1% last year.

Interest expense of $12.4 million in the fourth quarter of 2018 decreased $1.2 million from $13.6 million last year. See Note 10 to the Consolidated Financial Statements for information on Snap-on's debt and credit facilities.

Other income (expense) – net was income of $3.0 million and expense of $1.8 million in the respective fourth quarters of 2018 and 2017. See Note 17 to the Consolidated Financial Statements for information on other income (expense) – net.

Snap-on's fourth quarter effective income tax rate on earnings attributable to Snap-on was 22.0% in 2018 compared to 33.0% in 2017, which included a 120 bps benefit from the legal charge, and $7.0 million, or 360 bps impact, related to the implementation of the Tax Act. See Note 9 to the Consolidated Financial Statements for information on income taxes.

Net earnings attributable to Snap-on in the fourth quarter of 2018 of $175.0 million, or $3.09 per diluted share, increased $45.5 million, or $0.85 per diluted share, from $129.5 million or $2.24 per diluted share in 2017. The fourth quarter of 2018, included $3.2 million, or $0.06 per diluted share, for the after-tax benefit from the legal settlement, while the fourth quarter of 2017 included $19.1 million, or $0.33 per diluted share, for the after-tax expense associated with the legal charge, and a $7.0 million, or $0.12 per diluted share, charge related to the Tax Act.

Segment Results

Commercial & Industrial Group

	Fourth Quarter					
(Amounts in millions)	2018		2017		Change	
External net sales	$270.0	78.6 %	$273.2	80.0 %	$(3.2)	(1.2)%
Intersegment net sales	73.7	21.4 %	68.5	20.0 %	5.2	7.6 %
Segment net sales	343.7	100.0 %	341.7	100.0 %	2.0	0.6 %
Cost of goods sold	(211.3)	(61.5)%	(207.5)	(60.7)%	(3.8)	(1.8)%
Gross profit	132.4	38.5 %	134.2	39.3 %	(1.8)	(1.3)%
Operating expenses	(81.6)	(23.7)%	(82.9)	(24.3)%	1.3	1.6 %
Segment operating earnings	$50.8	14.8 %	$51.3	15.0 %	$(0.5)	(1.0)%

Segment net sales of $343.7 million in the fourth quarter of 2018 increased $2.0 million, or 0.6%, from 2017 levels, reflecting an $11.5 million, or 3.5%, organic sales gain and $0.4 million of acquisition-related sales, partially offset by $9.9 million of unfavorable foreign currency translation. The organic sales increase primarily includes double-digit gains in both the segment's Asia Pacific operations and specialty tools business, as well as low single-digit gains in sales in the European-based hand tools business and in sales to customers in critical industries.

Segment gross profit of $132.4 million in the fourth quarter of 2018 compared to $134.2 million last year. Gross margin of 38.5% in the quarter declined 80 bps from 39.3% last year primarily due to higher sales volumes of lower gross margin products and higher material and other costs, partially offset by benefits from the company's RCI initiatives.

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

Segment operating expenses of $81.6 million in the fourth quarter of 2018 compared to $82.9 million last year. The operating expense margin of 23.7% in the quarter, improved 60 bps from 24.3% last year primarily due to the benefits of sales volume leverage.

As a result of these factors, segment operating earnings of $50.8 million in the fourth quarter of 2018, including $1.5 million of unfavorable foreign currency effects, decreased $0.5 million from 2017 levels. Operating margin for the Commercial & Industrial Group of 14.8% in the fourth quarter of 2018 compared to 15.0% last year.

Snap-on Tools Group

	Fourth Quarter					
(Amounts in millions)	2018		2017		Change	
Segment net sales	$407.4	100.0 %	$409.2	100.0 %	$(1.8)	(0.4)%
Cost of goods sold	(243.7)	(59.8)%	(239.9)	(58.6)%	(3.8)	(1.6)%
Gross profit	163.7	40.2 %	169.3	41.4 %	(5.6)	(3.3)%
Operating expenses	(106.7)	(26.2)%	(102.0)	(25.0)%	(4.7)	(4.6)%
Segment operating earnings	$57.0	14.0 %	$67.3	16.4 %	$(10.3)	(15.3)%

Segment net sales of $407.4 million in the fourth quarter of 2018 decreased $1.8 million, or 0.4%, from 2017 levels, reflecting a $1.6 million, or 0.4%, organic sales increase, which was more than offset by $3.4 million of unfavorable foreign currency translation. The organic sales increase reflects a low single-digit increase in the company's U.S. franchise operations, partially offset by a low single-digit decline in the segments international operations.

Segment gross profit of $163.7 million in the fourth quarter of 2018 compared to $169.3 million last year. Gross margin of 40.2%, in the quarter declined 120 bps from 41.4% primarily due to 20 bps of unfavorable foreign currency effects, increased sales of lower gross margin products, and higher material and other costs.

Segment operating expenses of $106.7 million in the fourth quarter of 2018 increased from $102.0 million last year. The operating expense margin of 26.2% in the quarter increased 120 bps from 25.0% last year primarily due to efforts to provide increased levels of field and technical support to franchisees.

As a result of these factors, segment operating earnings of $57.0 million in the fourth quarter of 2018, including $1.4 million of unfavorable foreign currency effects, decreased $10.3 million from 2017 levels. Operating margin for the Snap-on Tools Group of 14.0% in the fourth quarter of 2018 compared to 16.4% last year.

Repair Systems & Information Group

	Fourth Quarter					
(Amounts in millions)	2018		2017		Change	
External net sales	$275.1	80.9 %	$292.2	81.9 %	$(17.1)	(5.9)%
Intersegment net sales	64.8	19.1 %	64.6	18.1 %	0.2	0.3 %
Segment net sales	339.9	100.0 %	356.8	100.0 %	(16.9)	(4.7)%
Cost of goods sold	(178.6)	(52.5)%	(194.7)	(54.6)%	16.1	8.3 %
Gross profit	161.3	47.5 %	162.1	45.4 %	(0.8)	(0.5)%
Operating expenses	(73.9)	(21.8)%	(71.9)	(20.1)%	(2.0)	(2.8)%

Segment operating earnings	$87.4	25.7	%	$90.2	25.3	%	$(2.8) (3.1)%

Segment net sales of $339.9 million in the fourth quarter of 2018 decreased $16.9 million, or 4.7%, from 2017 levels, reflecting a $12.2 million, or 3.5%, organic sales decline and $4.7 million of unfavorable foreign currency translation. The organic sales decrease includes a high single-digit decline in sales to OEM dealerships and a low single-digit decline in sales of undercar equipment.

Segment gross profit of $161.3 million in the fourth quarter of 2018 compared to $162.1 million last year. Gross margin of 47.5% in the quarter improved 210 bps from 45.4% last year as a result of a shift in sales that included decreased volumes of lower gross margin products and savings from the company's RCI initiatives.

Segment operating expenses of $73.9 million in the fourth quarter of 2018 compared to $71.9 million last year. The operating expense margin of 21.8% increased 170 bps from 20.1% last year primarily due to the effect of lower sales volume and higher costs.

As a result of these factors, segment operating earnings of $87.4 million in the fourth quarter of 2018, including $1.3 million of unfavorable foreign currency effects, decreased $2.8 million from 2017 levels. Operating margin for the Repair Systems & Information Group of 25.7% in the fourth quarter of 2018 compared to 25.3% last year.

Financial Services

	Fourth Quarter					
(Amounts in millions)	2018		2017		Change	
Financial services revenue	$82.7	100.0 %	$79.9	100.0 %	$2.8	3.5 %
Financial services expenses	(26.6)	(32.2)%	(25.5)	(31.9)%	(1.1)	(4.3)%
Segment operating earnings	$56.1	67.8 %	$54.4	68.1 %	$1.7	3.1 %

Financial services revenue of $82.7 million in the fourth quarter of 2018 increased $2.8 million, or 3.5%, from $79.9 million last year primarily reflecting $3.1 million of higher revenue as a result of continued growth of the company's financial services portfolio, partially offset by $0.3 million of decreased revenue from lower average yields on finance receivables. In the fourth quarters of 2018 and 2017, the respective average yields on finance receivables were 17.7% and 17.8%, and the average yields on contract receivables were 9.2% in both periods. Originations of $267.1 million in the fourth quarter of 2018 increased $2.1 million, or 0.8%, from 2017 levels.

Financial services expenses primarily include personnel-related and other general and administrative costs, as well as provisions for credit losses. These expenses are generally more dependent on changes in the financial services portfolio than they are on the revenue of the segment. Financial services expenses of $26.6 million in the fourth quarter of 2018 increased from $25.5 million last year primarily due to increases in both the provisions for credit losses and in the size of the portfolio. As a percentage of the average financial services portfolio, financial services expenses were 1.3% for both the fourth quarters of 2018 and 2017.

Financial services operating earnings of $56.1 million in the fourth quarter of 2018, including $0.3 million of unfavorable foreign currency effects, increased $1.7 million, or 3.1%, from 2017 levels.

See Note 1 and Note 4 to the Consolidated Financial Statements for further information on financial services.

Corporate

Snap-on's fourth quarter 2018 general corporate expenses of $13.1 million decreased $37.7 million from $50.8 million last year. The year-over-year decrease in general corporate expenses primarily reflects a $4.3 million benefit in 2018 from the legal settlement and a $30.9 million legal charge in 2017.

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

2017 vs. 2016

Results of operations for 2017 and 2016 are as follows:

(Amounts in millions)	2017		2016		Change	
Net sales	$3,686.9	100.0 %	$3,430.4	100.0 %	$256.5	7.5 %
Cost of goods sold	(1,861.0)	(50.5)%	(1,720.0)	(50.1)%	(141.0)	(8.2)%
Gross profit	1,825.9	49.5 %	1,710.4	49.9 %	115.5	6.8 %
Operating expenses	(1,161.3)	(31.5)%	(1,048.0)	(30.6)%	(113.3)	(10.8)%
Operating earnings before financial services	664.6	18.0 %	662.4	19.3 %	2.2	0.3 %
Financial services revenue	313.4	100.0 %	281.4	100.0 %	32.0	11.4 %
Financial services expenses	(95.9)	(30.6)%	(82.7)	(29.4)%	(13.2)	(16.0)%
Operating earnings from financial services	217.5	69.4 %	198.7	70.6 %	18.8	9.5 %
Operating earnings	882.1	22.1 %	861.1	23.2 %	21.0	2.4 %
Interest expense	(52.4)	(1.3)%	(52.2)	(1.4)%	(0.2)	(0.4)%
Other income (expense) – net	(7.8)	(0.3)%	(7.5)	(0.2)%	(0.3)	(4.0)%
Earnings before income taxes and equity earnings	821.9	20.5 %	801.4	21.6 %	20.5	2.6 %
Income tax expense	(250.9)	(6.2)%	(244.3)	(6.6)%	(6.6)	(2.7)%
Earnings before equity earnings	571.0	14.3 %	557.1	15.0 %	13.9	2.5 %
Equity earnings, net of tax	1.2	—	2.5	0.1 %	(1.3)	NM
Net earnings	572.2	14.3 %	559.6	15.1 %	12.6	2.3 %
Net earnings attributable to noncontrolling interests	(14.5)	(0.4)%	(13.2)	(0.4)%	(1.3)	(9.8)%
Net earnings attributable to Snap-on Inc.	$557.7	13.9 %	$546.4	14.7 %	$11.3	2.1 %

NM: Not meaningful

Percentage Disclosure: All income statement line item percentages below "Operating earnings from financial services" are calculated as a percentage of the sum of Net sales and Financial services revenue.

Net sales of $3,686.9 million in 2017 increased $256.5 million, or 7.5%, from 2016 levels, reflecting a $115.0 million, or 3.4%, organic sales gain and $141.5 million of acquisition-related sales. Foreign currency translation had no effect on net sales in 2017.

Gross profit of $1,825.9 million in 2017 compared to $1,710.4 million in 2016. Gross margin of 49.5% in 2017 decreased 40 basis points from 49.9% in 2016 due to 20 bps of unfavorable foreign currency effects and a 20 bps impact from acquisitions. Restructuring costs included in gross profit were $0.8 million in 2016.

Operating expenses of $1,161.3 million in 2017 compared to $1,048.0 million in 2016, as 2017 included $45.9 million for the legal charges. The operating expense margin (operating expenses as a percentage of net sales) of 31.5% in 2017 increased 90 bps from 30.6% in 2016 as 130 bps for the legal charges and 30 bps of operating expenses from acquisitions were partially offset by benefits from sales volume leverage. Restructuring costs included in operating expenses were $0.1 million in 2016.

Operating earnings before financial services of $664.6 million in 2017, including $45.9 million of expense for the legal charges and $8.6 million of unfavorable foreign currency effects, increased $2.2 million, or 0.3%, as compared to $662.4 million in 2016. As a percentage of net sales, operating earnings before financial services of 18.0%, including 130 bps impact from the legal charges, compared to 19.3% in 2016.

Financial services revenue of $313.4 million in 2017 compared to revenue of $281.4 million in 2016. Financial services operating earnings of $217.5 million in 2017 increased $18.8 million, or 9.5%, as compared to $198.7 million in 2016, including $0.4 million of unfavorable foreign currency effects. The year-over-year increases in both revenue and operating earnings primarily reflect continued growth of the company’s financial services portfolio.

Operating earnings of $882.1 million in 2017, including $45.9 million of expense related to the legal charges and $9.0 million of unfavorable foreign currency effects, increased $21.0 million, or 2.4%, from $861.1 million in 2016. As a percentage of revenues, operating earnings of 22.1% compared to 23.2% in 2016.

Interest expense of $52.4 million in 2017 increased $0.2 million from $52.2 million in 2016. See Note 10 to the Consolidated Financial Statements for information on Snap-on's debt and credit facilities.

Other income (expense) - net was expense of $7.8 million and $7.5 million in 2017 and 2016, respectively. Other income (expense) - net reflects net losses and gains associated with hedging and currency exchange rate transactions, non-service cost components of net periodic pension and postretirement costs, and interest income. See Note 17 to the Consolidated Financial Statements for information on other income (expense) - net.

Snap-on's effective income tax rate on earnings attributable to Snap-on was 31.1% in 2017, including a 0.4% benefit from the legal charges, compared to 31.0% in 2016. The 2017 tax rate includes a net $7.0 million charge, or 90 bps impact, from the implementation of the Tax Act, including the estimated transition tax of $13.7 million on previously unremitted foreign earnings, partially offset by a $6.7 million estimated tax benefit related to revaluation of deferred tax assets and liabilities. See Note 9 to the Consolidated Financial Statements for information on income taxes.

Net earnings attributable to Snap-on of $557.7 million, or $9.52 per diluted share, in 2017, including $28.4 million, or $0.48 per diluted share, for the after-tax expense related to the legal charges, and $7.0 million, or $0.12 per diluted share related to the Tax Act, increased $11.3 million, or $0.32 per diluted share, from 2016 levels. Net earnings attributable to Snap-on in 2016 were $546.4 million or $9.20 per diluted share.

Segment Results

Commercial & Industrial Group

(Amounts in millions)	2017		2016		Change	
External net sales	$986.1	78.0 %	$863.0	75.2 %	$123.1	14.3 %
Intersegment net sales	278.9	22.0 %	285.3	24.8 %	(6.4)	(2.2)%
Segment net sales	1,265.0	100.0 %	1,148.3	100.0 %	116.7	10.2 %
Cost of goods sold	(766.4)	(60.6)%	(697.8)	(60.8)%	(68.6)	(9.8)%
Gross profit	498.6	39.4 %	450.5	39.2 %	48.1	10.7 %
Operating expenses	(312.1)	(24.7)%	(281.7)	(24.5)%	(30.4)	(10.8)%
Segment operating earnings	$186.5	14.7 %	$168.8	14.7 %	$17.7	10.5 %

Segment net sales of $1,265.0 million in 2017 increased $116.7 million, or 10.2%, from 2016 levels, reflecting a $52.0 million or 4.5%, organic sales gain and $65.5 million of acquisition-related sales, partially offset by $0.8 million of unfavorable foreign currency translation. The organic sales increase primarily includes a high single-digit gain in sales to customers in critical industries, and a mid single-digit gain in the segment's European-based hand tools business. These organic sales gains were partially offset by a low single-digit decline in sales in the segment's power tools operations.

Segment gross profit of $498.6 million in 2017 compared to $450.5 million in 2016. Gross margin of 39.4% in 2017 improved 20 bps from 39.2% in 2016 primarily due to savings from RCI and other cost reduction initiatives.

Segment operating expenses of $312.1 million in 2017 compared to $281.7 million in 2016. The operating expense margin of 24.7% in 2017 increased 20 bps from 24.5% in 2016 as 40 bps of operating expenses from acquisitions and increased costs for research and engineering activities were partially offset by benefits from sales volume leverage.

As a result of these factors, segment operating earnings of $186.5 million in 2017, including $0.4 million of favorable foreign currency effects, increased $17.7 million from 2016 levels. Operating margin (segment operating earnings as a percentage of segment net sales) for the Commercial & Industrial Group was 14.7% in both years.

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

Snap-on Tools Group

(Amounts in millions)	2017		2016		Change	
Segment net sales	$1,625.1	100.0 %	$1,633.9	100.0 %	$(8.8)	(0.5)%
Cost of goods sold	(930.9)	(57.3)%	(929.9)	(56.9)%	(1.0)	(0.1)%
Gross profit	694.2	42.7 %	704.0	43.1 %	(9.8)	(1.4)%
Operating expenses	(419.5)	(25.8)%	(423.6)	(25.9)%	4.1	1.0 %
Segment operating earnings	$274.7	16.9 %	$280.4	17.2 %	$(5.7)	(2.0)%

Segment net sales of $1,625.1 million in 2017 decreased $8.8 million, or 0.5%, from 2016 levels, reflecting a $6.9 million, or 0.4%, organic sales decrease and $1.9 million of unfavorable foreign currency translation. The organic sales decrease reflects a low single-digit decline in the company's U.S. franchise operations partially offset by a high single-digit gain in the international franchise operations.

Segment gross profit of $694.2 million in 2017 compared to $704.0 million in 2016. Gross margin of 42.7% in 2017 decreased from 43.1% in 2016 due to 40 bps of unfavorable foreign currency effects.

Segment operating expenses of $419.5 million in 2017 compared to $423.6 million in 2016. The operating expense margin of 25.8% in 2017 improved 10 bps from 25.9% in 2016.

As a result of these factors, segment operating earnings of $274.7 million in 2017, including $7.9 million of unfavorable foreign currency effects, decreased $5.7 million from 2016 levels. Operating margin for the Snap-on Tools Group of 16.9% in 2017 compared to 17.2% in 2016.

Repair Systems & Information Group

(Amounts in millions)	2017		2016		Change	
External net sales	$1,075.7	79.8 %	$933.5	79.1 %	$142.2	15.2 %
Intersegment net sales	271.5	20.2 %	246.4	20.9 %	25.1	10.2 %
Segment net sales	1,347.2	100.0 %	1,179.9	100.0 %	167.3	14.2 %
Cost of goods sold	(714.1)	(53.0)%	(624.0)	(52.9)%	(90.1)	(14.4)%
Gross profit	633.1	47.0 %	555.9	47.1 %	77.2	13.9 %
Operating expenses	(297.8)	(22.1)%	(257.3)	(21.8)%	(40.5)	(15.7)%
Segment operating earnings	$335.3	24.9 %	$298.6	25.3 %	$36.7	12.3 %

Segment net sales of $1,347.2 million in 2017 increased $167.3 million, or 14.2%, from 2016 levels, reflecting an $89.6 million, or 7.6%, organic sales gain, $76.0 million of acquisition-related sales and $1.7 million of favorable foreign currency translation. The organic sales increase includes a double-digit gain in sales to OEM dealerships, a high single-digit gain in sales of diagnostic and repair information products to independent repair shop owners and managers, and mid single-digit increases in sales of undercar equipment.

Segment gross profit of $633.1 million in 2017 compared to $555.9 million in 2016. Gross margin of 47.0% in 2017 decreased 10 bps from 47.1% in 2016, as the impact from higher sales of lower gross margin products were partially offset by savings from RCI initiatives and 20 bps of benefits from acquisitions. Restructuring costs included in gross profit were $0.8 million in 2016.

Segment operating expenses of $297.8 million in 2017 compared to $257.3 million in 2016. The operating expense margin of 22.1% in 2017 increased 30 bps from 21.8% in 2016 primarily due to a 120 bps impact from acquisitions, partially offset by benefits from sales volume leverage. Restructuring costs included in operating expenses were $0.1 million in 2016.

As a result of these factors, segment operating earnings of $335.3 million in 2017, including $1.1 million of unfavorable foreign currency effects, increased $36.7 million from 2016 levels. Operating margin for the Repair Systems & Information Group of 24.9% in 2017 compared to 25.3% in 2016.

Financial Services

(Amounts in millions)	2017		2016		Change	
Financial services revenue	$313.4	100.0 %	$281.4	100.0 %	$32.0	11.4 %
Financial services expenses	(95.9)	(30.6)%	(82.7)	(29.4)%	(13.2)	(16.0)%
Segment operating earnings	$217.5	69.4 %	$198.7	70.6 %	$18.8	9.5 %

Financial services revenue of $313.4 million in 2017 increased $32.0 million, or 11.4%, from $281.4 million in 2016 primarily reflecting $34.9 million of higher revenue as a result of continued growth of the company's financial services portfolio, partially offset by $2.9 million of decreased revenue from lower average yields on finance and contract receivables. In 2017 and 2016, the respective average yields on finance receivables were 17.9% and 18.0%, and the respective average yield on contract receivables were 9.2% and 9.4%. Originations of $1,072.0 million in 2017 decreased $3.7 million, or 0.3%, from 2016 levels.

Financial services expenses primarily include personnel-related and other general and administrative costs, as well as provisions for credit losses. These expenses are generally more dependent on changes in the financial services portfolio than they are on the revenue of the segment. Financial services expenses of $95.9 million in 2017 increased from $82.7 million in 2016 primarily due to changes in both the provisions for credit losses and in the size of the portfolio. As a percentage of the average financial services portfolio, financial services expenses were 5.0% and 4.9% in 2017 and 2016, respectively.

Financial services operating earnings of $217.5 million in 2017, including $0.4 million of unfavorable foreign currency effects, increased $18.8 million, or 9.5%, from 2016 levels.

See Note 1 and Note 4 to the Consolidated Financial Statements for further information on financial services.

Corporate

Snap-on's general corporate expenses in 2017 of $131.9 million increased $46.5 million from $85.4 million in 2016. The year-over-year increase in general corporate expenses primarily reflects $45.9 million of expense for the legal charges.

Non-GAAP Supplemental Data

The following non-GAAP supplemental data is presented for informational purposes to provide readers with insight into the information used by management for assessing the operating performance of Snap-on Incorporated's ("Snap-on") non-financial services ("Operations") and "Financial Services" businesses.

The supplemental Operations data reflects the results of operations and financial position of Snap-on's tools, diagnostic and equipment products, software and other non-financial services operations with Financial Services on the equity method. The supplemental Financial Services data reflects the results of operations and financial position of Snap-on's U.S. and international financial services operations. The financing needs of Financial Services are met through intersegment borrowings and cash generated from Operations; Financial Services is charged interest expense on intersegment borrowings at market rates. Income taxes are charged to Financial Services on the basis of the specific tax attributes generated by the U.S. and international financial services businesses. Transactions between the Operations and Financial Services businesses were eliminated to arrive at the Consolidated Financial Statements.

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

Non-GAAP Supplemental Consolidating Data – Supplemental Statements of Earnings information for 2018, 2017 and 2016 is as follows:

	Operations*			Financial Services		
(Amounts in millions)	2018	2017	2016	2018	2017	2016
Net sales	$3,740.7	$3,686.9	$3,430.4	$—	$—	$—
Cost of goods sold	(1,870.7)	(1,861.0)	(1,720.0)	—	—	—
Gross profit	1,870.0	1,825.9	1,710.4	—	—	—
Operating expenses	(1,144.0)	(1,161.3)	(1,048.0)	—	—	—
Operating earnings before financial services	726.0	664.6	662.4	—	—	—
Financial services revenue	—	—	—	329.7	313.4	281.4
Financial services expenses	—	—	—	(99.6)	(95.9)	(82.7)
Operating earnings from financial services	—	—	—	230.1	217.5	198.7
Operating earnings	726.0	664.6	662.4	230.1	217.5	198.7
Interest expense	(50.1)	(52.1)	(51.9)	(0.3)	(0.3)	(0.3)
Intersegment interest income (expense) – net	69.7	70.8	72.2	(69.7)	(70.8)	(72.2)
Other income (expense) – net	4.1	(7.8)	(7.6)	0.1	—	0.1
Earnings before income taxes and equity earnings	749.7	675.5	675.1	160.2	146.4	126.3
Income tax expense	(173.1)	(196.8)	(197.7)	(41.3)	(54.1)	(46.6)
Earnings before equity earnings	576.6	478.7	477.4	118.9	92.3	79.7
Financial services – net earnings attributable to Snap-on	118.9	92.3	79.7	—	—	—
Equity earnings, net of tax	0.7	1.2	2.5	—	—	—
Net earnings	696.2	572.2	559.6	118.9	92.3	79.7
Net earnings attributable to noncontrolling interests	(16.3)	(14.5)	(13.2)	—	—	—
Net earnings attributable to Snap-on	$679.9	$557.7	$546.4	$118.9	$92.3	$79.7

* Snap-on with Financial Services on the equity method.

Non-GAAP Supplemental Consolidating Data – Supplemental Balance Sheet Information as of 2018 and 2017 year end is as follows:

	Operations*		Financial Services	
(Amounts in millions)	2018	2017	2018	2017
ASSETS				
Current assets:				
Cash and cash equivalents	$140.5	$91.8	$0.4	$0.2
Intersegment receivables	15.1	17.1	—	—
Trade and other accounts receivable – net	692.1	674.9	0.5	0.7
Finance receivables – net	—	—	518.5	505.4
Contract receivables – net	6.6	9.4	91.7	87.4
Inventories – net	673.8	638.8	—	—
Prepaid expenses and other assets	100.2	117.6	0.5	0.7
Total current assets	1,628.3	1,549.6	611.6	594.4
Property and equipment – net	493.5	482.4	1.6	2.0
Investment in Financial Services	329.5	317.4	—	—
Deferred income tax assets	45.8	25.2	18.9	26.8
Intersegment long-term notes receivable	701.3	583.7	—	—
Long-term finance receivables – net	—	—	1,074.4	1,039.2
Long-term contract receivables – net	11.9	13.2	333.0	309.4
Goodwill	902.2	924.1	—	—
Other intangibles – net	232.9	253.7	—	—
Other assets	51.9	63.1	0.1	—
Total assets	$4,397.3	$4,212.4	$2,039.6	$1,971.8

* Snap-on with Financial Services on the equity method.

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

Non-GAAP Supplemental Consolidating Data – Supplemental Balance Sheet Information (continued):

	Operations*		Financial Services	
(Amounts in millions)	2018	2017	2018	2017
LIABILITIES AND EQUITY				
Current liabilities:				
Notes payable and current maturities of long-term debt	$186.3	$183.2	$—	$250.0
Accounts payable	199.6	177.1	1.5	1.1
Intersegment payables	—	—	15.1	17.1
Accrued benefits	52.0	55.8	—	—
Accrued compensation	66.8	67.8	4.7	3.7
Franchisee deposits	67.5	66.5	—	—
Other accrued liabilities	355.4	366.0	26.1	29.7
Total current liabilities	927.6	916.4	47.4	301.6
Long-term debt and intersegment long-term debt	—	—	1,647.3	1,337.3
Deferred income tax liabilities	41.4	28.4	—	—
Retiree health care benefits	31.8	36.0	—	—
Pension liabilities	171.3	158.9	—	—
Other long-term liabilities	106.6	100.4	15.4	15.5
Total liabilities	1,278.7	1,240.1	1,710.1	1,654.4
Total shareholders' equity attributable to Snap-on	3,098.8	2,953.9	329.5	317.4
Noncontrolling interests	19.8	18.4	—	—
Total equity	3,118.6	2,972.3	329.5	317.4
Total liabilities and equity	$4,397.3	$4,212.4	$2,039.6	$1,971.8

* Snap-on with Financial Services on the equity method.

Liquidity and Capital Resources

Snap-on's growth has historically been funded by a combination of cash provided by operating activities and debt financing. On February 20, 2018, the company issued $400 million (with net proceeds of $395.4 million) of the 2048 Notes; the company used the proceeds from the offering to repay, prior to maturity, $200 million of the 2019 Notes, as well as to reduce outstanding commercial paper borrowings. In addition, on January 16, 2018, Snap-on repaid $250 million of the 2018 Notes upon maturity with available cash and cash generated from issuances of commercial paper. Snap-on believes that its cash from operations and collections of finance receivables, coupled with its sources of borrowings and available cash on hand, are sufficient to fund its currently anticipated requirements for scheduled debt repayments, payments of interest and dividends, new receivables originated by our financial services businesses, capital expenditures, working capital, the funding of pension plans, and funding for share repurchases and acquisitions, if and as they arise.

Due to Snap-on's credit rating over the years, external funds have been available at an acceptable cost. As of the close of business on February 8, 2019, Snap-on's long-term debt and commercial paper were rated, respectively, A2 and P-1 by Moody's Investors Service; A- and A-2 by Standard & Poor's; and A and F1 by Fitch Ratings. Snap-on believes that its current credit arrangements are sound and that the strength of its balance sheet affords the company the financial flexibility, including through access to financial markets for potential new financing, to respond to both internal growth opportunities and those available through acquisitions. However, Snap-on cannot provide any assurances of the availability of future financing or the terms on which it might be available, or that its debt ratings may not decrease.

The following discussion focuses on information included in the accompanying Consolidated Balance Sheets.

As of 2018 year end, working capital (current assets less current liabilities) of $1,264.9 million increased $338.9 million from $926.0 million as of 2017 year end primarily as a result of other net changes in working capital discussed below.

The following represents the company's working capital position as of 2018 and 2017 year end:

(Amounts in millions)	2018	2017
Cash and cash equivalents	$140.9	$92.0
Trade and other accounts receivable – net	692.6	675.6
Finance receivables – net	518.5	505.4
Contract receivables – net	98.3	96.8
Inventories – net	673.8	638.8
Prepaid expenses and other assets	92.8	110.7
Total current assets	2,216.9	2,119.3
Notes payable and current maturities of long-term debt	(186.3)	(433.2)
Accounts payable	(201.1)	(178.2)
Other current liabilities	(564.6)	(581.9)
Total current liabilities	(952.0)	(1,193.3)
Working capital	$1,264.9	$926.0

Cash and cash equivalents of $140.9 million as of 2018 year end increased $48.9 million from 2017 year-end levels primarily due to: (i) $764.5 million of cash generated from operations, net of $50.0 million of discretionary cash contributions to the company's domestic pension plans; (ii) $747.7 million of cash from collections of finance receivables; (iii) $395.4 million of net proceeds from the 2048 Notes; (iv) $55.5 million of cash proceeds from stock purchase and option plan exercises; and (v) $4.9 million of net proceeds from notes payable and other short-term borrowings. These increases in cash and cash equivalents were partially offset by: (i) the funding of $865.6 million of new finance receivables; (ii) the repurchase of 1,769,000 shares of the company's common stock for $284.1 million; (iii) the repayment of $250 million of the 2018 Notes; (iv) the repayment of $200 million of the 2019 Notes; (v) dividend payments to shareholders of $192.0 million; (vi) the funding of $90.9 million of capital expenditures; and (vii) the funding of $3.0 million for acquisitions.

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

Of the $140.9 million of cash and cash equivalents as of 2018 year end, $121.4 million was held outside of the United States. Snap-on maintains non-U.S. funds in its foreign operations to: (i) provide adequate working capital; (ii) satisfy various regulatory requirements; and/or (iii) take advantage of business expansion opportunities as they arise. Although the Tax Act generally eliminates U.S. federal taxation on dividends from foreign subsidiaries, such dividends may still be subject to state income taxation and foreign withholding taxes. Snap-on periodically evaluates its cash held outside the United States and may pursue opportunities to repatriate certain foreign cash amounts to the extent that it can be accomplished in a tax efficient manner.

Trade and other accounts receivable – net of $692.6 million as of 2018 year end increased $17.0 million from 2017 year-end levels primarily due to an increase in days sales outstanding and $0.2 million of receivables related to the Fastorq acquisition, partially offset by $20.8 million of unfavorable foreign currency translation. Days sales outstanding (trade and other accounts receivable – net as of the respective period end, divided by the respective trailing 12 months sales, times 360 days) was 67 days at 2018 year end and 66 days at 2017 year end.

The current portions of net finance and contract receivables of $616.8 million as of 2018 year end compared to $602.2 million at 2017 year end. The long-term portions of net finance and contract receivables of $1,419.3 million as of 2018 year end compared to $1,361.8 million at 2017 year end. The combined $72.1 million increase in net current and long-term finance and contract receivables over 2017 year-end levels is primarily due to continued growth of the company's financial services portfolio, partially offset by $16.8 million of unfavorable foreign currency translation.

Inventories – net of $673.8 million as of 2018 year end increased $35.0 million from 2017 year-end levels primarily due to $20.9 million related to the adoption of ASU No. 2014-09, Revenue from Contracts with Customers (Topic 606), continued support for new product introductions, as well as $0.7 million of inventories related to the Fastorq acquisition, partially offset by $23.2 million of foreign currency translation. As of 2018 and 2017 year end, inventory turns (trailing 12 months of cost of goods sold, divided by the average of the beginning and ending inventory balance for the trailing 12 months) were 2.9 turns and 3.2 turns, respectively. Inventories accounted for using the first-in, first-out ("FIFO") method as of both 2018 and 2017 year end approximated 61% of total inventories. All other inventories are accounted for using the last-in, first-out ("LIFO") method. The company's LIFO reserve was $78.4 million and $75.1 million at 2018 and 2017 year end, respectively.

Notes payable and current maturities of long-term debt of $186.3 million as of 2018 year end included $177.1 million of commercial paper borrowings and $9.2 million of other notes. Notes payable and current maturities of long-term debt of $433.2 million as of 2017 year end consisted of $250 million of the 2018 Notes (which were subsequently repaid), $151 million of commercial paper borrowings and $32.2 million of other notes.

Average notes payable outstanding, including commercial paper borrowings, were $167.7 million and $126.8 million in 2018 and 2017, respectively. The weighted-average interest rate of 2.84% in 2018 increased from 2.45% last year primarily due to the impact of higher rates on commercial paper borrowings. Average commercial paper borrowings were $154.9 million and $103.3 million in 2018 and 2017, respectively, and the weighted-average interest rate of 2.03% in 2018 increased from 1.14% last year. At 2018 year end, the weighted-average interest rate on outstanding notes payable of 3.21% compared with 2.34% at 2017 year end. The 2018 year-end rate increased primarily due to higher rates on commercial borrowings.

Accounts payable of $201.1 million as of 2018 year end increased $22.9 million from 2017 year-end levels primarily due to the timing of payments, partially offset by $5.0 million of foreign currency translation.
Other accrued liabilities of $373.6 million as of 2018 year end decreased $14.5 million from 2017 year-end levels primarily due to lower income tax accruals, the settlement of an employment-related litigation matter and $8.7 million of foreign currency translation.

Long-term debt of $946.0 million as of 2018 year end consisted of: (i) $250.0 million of unsecured 6.125% notes that mature in 2021; (ii) $300.0 million of the 2027 Notes; (iii) $400 million of the 2048 Notes, partially offset by $4.0 million of fair value adjustments related to interest rate swaps.

Snap-on has a five-year, $700 million multi-currency revolving credit facility that terminates on December 15, 2020 (the "Credit Facility"); no amounts were outstanding under the Credit Facility as of December 29, 2018. Borrowings under the Credit Facility bear interest at varying rates based on Snap-on's then-current, long-term debt ratings. The Credit Facility's financial covenant requires that Snap-on maintain, as of each fiscal quarter end, either (i) a ratio not greater than 0.60 to 1.00 of consolidated net debt (consolidated debt net of certain cash adjustments) to the sum of such consolidated net debt plus total equity and less accumulated other comprehensive income or loss (the "Debt Ratio"); or (ii) a ratio not greater than 3.50 to 1.00 of such consolidated net debt to earnings before interest, taxes, depreciation, amortization and certain other adjustments for the preceding four fiscal quarters then ended (the "Debt to EBITDA Ratio"). Snap-on may, up to two times during any five-year period during the term of the Credit Facility (including any extensions thereof), increase the maximum Debt Ratio to 0.65 to 1.00 and/or increase the maximum Debt to EBITDA Ratio to 3.75 to 1.00 for four consecutive fiscal quarters in connection with certain material acquisitions (as defined in the related credit agreement). As of 2018 year end, the company's actual ratios of 0.23 and 0.99, respectively, were both within the permitted ranges set forth in this financial covenant. Snap-on generally issues commercial paper to fund its financing needs on a short-term basis and uses the Credit Facility as back-up liquidity to support such commercial paper issuances.

Snap-on's Credit Facility and other debt agreements also contain certain usual and customary borrowing, affirmative, negative and maintenance covenants. As of 2018 year end, Snap-on was in compliance with all covenants of its Credit Facility and other debt agreements.

Snap-on believes it has sufficient available cash and access to both committed and uncommitted credit facilities to cover its expected funding needs on both a short-term and long-term basis. Snap-on manages its aggregate short-term borrowings so as not to exceed its availability under the revolving Credit Facility. Snap-on believes that it can access short-term debt markets, predominantly through commercial paper issuances and existing lines of credit, to fund its short-term requirements and to ensure near-term liquidity. Snap-on regularly monitors the credit and financial markets and may take advantage of what it believes are favorable market conditions to issue long-term debt to further improve its liquidity and capital resources. Near-term liquidity requirements for Snap-on include scheduled debt payments, payments of interest and dividends, funding to support new receivables originated by our financial services businesses, capital expenditures, working capital, the funding of pension plans, and funding for share repurchases and acquisitions, if and as they arise. Snap-on intends to make contributions of $9.4 million to its foreign pension plans and $1.9 million to its domestic pension plans in 2019, as required by law. Depending on market and other conditions, Snap-on may make additional discretionary cash contributions to its pension plans in 2019.

Snap-on's long-term financing strategy is to maintain continuous access to the debt markets to accommodate its liquidity needs, including the use of commercial paper, additional fixed-term debt and/or securitizations.

The following discussion focuses on information included in the accompanying Consolidated Statements of Cash Flows.

Operating Activities

Net cash provided by operating activities of $764.5 million in 2018 increased $156.0 million from $608.5 million in 2017. The $156.0 million increase is primarily due to $124.0 million of higher net earnings and $34.0 million from net changes in operating assets and liabilities. Net cash provided by operating activities was $576.1 million in 2016. Depreciation expense was $68.8 million in 2018, $65.6 million in 2017 and $61.4 million in 2016. Amortization expense was $25.3 million in 2018, $27.6 million in 2017 and $24.2 million in 2016. See Note 7 to the Consolidated Financial Statements for information on goodwill and other intangible assets.

Investing Activities

Net cash used by investing activities of $210.2 million in 2018 included additions to finance receivables of $865.6 million, partially offset by collections of $747.7 million. Net cash used by investing activities of $341.4 million in 2017 included additions to finance receivables of $892.0 million, partially offset by collections of $712.7 million. Net cash used by investing activities of $473.4 million in 2016 included additions to finance receivables of $915.0 million, partially offset by collections of $671.7 million. Finance receivables are comprised of extended-term installment

payment contracts to both technicians and independent shop owners (i.e., franchisees' customers) to enable them to purchase tools and diagnostic and equipment products on an extended-term payment plan, generally with average payment terms of approximately four years.

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

Net cash used by investing activities in 2018 also included a total of $3.0 million for the acquisition of Fastorq. Net cash used by investing activities in 2017 included, a total of $82.9 million (net of $1.8 million of cash acquired) for the acquisitions of BTC, Norbar and TCS, as well as working capital adjustments for the Car-O-Liner and Sturtevant Richmont acquisitions. Net cash used by investing activities in 2016 included, on a preliminary basis, $160.4 million (net of $4.3 million of cash acquired) for the acquisitions of Car-O-Liner and Sturtevant Richmont. See Note 3 to the Consolidated Financial Statements for information on acquisitions.

Capital expenditures in 2018, 2017 and 2016 totaled $90.9 million, $82.0 million and $74.3 million, respectively. Capital expenditures in all three years included continued investments related to the company's execution of its strategic Value Creation Processes and strategic growth initiatives. The company also invested in: (i) new product, efficiency, safety and cost reduction initiatives that are intended to expand and improve its manufacturing and distribution capabilities worldwide; (ii) new production and machine tooling to enhance manufacturing operations, as well as ongoing replacements of manufacturing and distribution equipment, particularly in the United States; (iii) the ongoing replacement and enhancement of the company's global enterprise resource planning (ERP) management information systems; and (iv) improvements to the company's research and development facilities and corporate headquarters in Kenosha, Wisconsin. Snap-on believes that its cash generated from operations, as well as its available cash on hand and funds available from its credit facilities will be sufficient to fund the company's capital expenditure requirements in 2019.

Financing Activities

Net cash used by financing activities of $502.2 million in 2018 included repayments of $250 million of the 2018 Notes at maturity and $200 million of the 2019 Notes prior to maturity, as well as a $7.8 million loss on early extinguishment of debt. These amounts were partially offset by Snap-on's sale, on February 20, 2018, of $400 million of the 2048 Notes at a discount, from which Snap-on received $395.4 million of net proceeds, reflecting $3.5 million of transaction costs, and $4.9 million of proceeds from the net increase in notes payable and other short-term borrowings. Net cash used by financing activities of $256.1 million in 2017 included the January 2017 repayment of $150 million of the 2017 Notes. These amounts were partially offset by Snap-on's sale, on February 15, 2017, of $300 million of the 2027 Notes sold at a discount, from which Snap-on received $297.8 million of net proceeds, reflecting $1.9 million of transaction costs, and $30.6 million of proceeds from a net increase in notes payable and other short-term borrowings. Net cash used by financing activities of $116.0 million in 2016 included $134.2 million of proceeds from a net increase in notes payable and other short-term borrowings.

Proceeds from stock purchase and option plan exercises totaled $55.5 million in 2018, $46.2 million in 2017 and $41.8 million in 2016. Snap-on has undertaken stock repurchases from time to time to offset dilution created by shares issued for employee and franchisee stock purchase plans, stock options and other corporate purposes. In 2018, Snap-on repurchased 1,769,000 shares of its common stock for $284.1 million under its previously announced share repurchase programs. As of 2018 year end, Snap-on had remaining availability to repurchase up to an additional $215.7 million in common stock pursuant to its Board of Directors' (the "Board") authorizations. The purchase of Snap-on common stock is at the company's discretion, subject to prevailing financial and market conditions. Snap-on repurchased 1,820,000 shares of its common stock for $287.9 million in 2017 and Snap-on repurchased 758,000

shares of its common stock for $120.4 million in 2016. Snap-on believes that its cash generated from operations, available cash on hand, and funds available from its credit facilities, will be sufficient to fund the company's share repurchases, if any, in 2019.

Snap-on has paid consecutive quarterly cash dividends, without interruption or reduction, since 1939. Cash dividends paid in 2018, 2017 and 2016 totaled $192.0 million, $169.4 million and $147.5 million, respectively. On November 8, 2018, the company announced that its Board increased the quarterly cash dividend by 15.9% to $0.95 per share ($3.80 per share annualized). Quarterly dividends in 2018 were $0.95 per share in the fourth quarter and $0.82 per share in the first three quarters ($3.41 per share for the year). Quarterly dividends in 2017 were $0.82 per share in the fourth quarter and $0.71 per share in the first three quarters ($2.95 per share for the year). Quarterly dividends in 2016 were $0.71 per share in the fourth quarter and $0.61 per share in the first three quarters ($2.54 per share for the year).

	2018	2017	2016
Cash dividends paid per common share	$3.41	$2.95	$2.54
Cash dividends paid as a percent of prior-year retained earnings	5.1 %	5.0 %	4.9 %

Snap-on believes that its cash generated from operations, available cash on hand and funds available from its credit facilities will be sufficient to pay dividends in 2019.

Off-Balance-Sheet Arrangements

Except as included below in the section labeled “Contractual Obligations and Commitments” and Note 16 to the Consolidated Financial Statements, the company had no off-balance-sheet arrangements as of 2018 year end.

Contractual Obligations and Commitments

A summary of Snap-on’s future contractual obligations and commitments as of 2018 year end are as follows:

(Amounts in millions)	Total	2019	2020-2021	2022-2023	2024 and thereafter
Contractual obligations:					
Notes payable and current maturities of long-term debt	$186.3	$186.3	$ —	$ —	$—
Long-term debt	946.0	—	254.0	—	692.0
Interest on fixed rate debt	598.7	41.5	77.8	52.3	427.1
Operating leases	77.0	25.6	32.3	14.7	4.4
Capital leases	16.0	3.3	6.1	4.7	1.9
Purchase obligations	72.5	65.2	7.1	—	0.2
Total	$1,896.5	$321.9	$ 377.3	$ 71.7	$1,125.6

Snap-on intends to make contributions of $9.4 million to its foreign pension plans and $1.9 million to its domestic pension plans in 2019, as required by law. Depending on market and other conditions, Snap-on may make additional discretionary cash contributions to its pension plans in 2019. Snap-on has not presented estimated pension and postretirement funding contributions in the table above as the funding can vary from year to year based on changes in the fair value of the plan assets and actuarial assumptions; see Note 12 and Note 13 to the Consolidated Financial Statements for information on the company’s benefit plans and payments.

Due to the uncertainty of the timing of settlements with taxing authorities, Snap-on is unable to make reasonably reliable estimates of the period of cash settlement of unrecognized tax benefits for its remaining uncertain tax liabilities. As a result, $11.1 million of unrecognized tax benefits have been excluded from the table above; see Note 9 to the Consolidated Financial Statements for information on income taxes.

Environmental Matters

Snap-on is subject to various federal, state and local government requirements regulating the discharge of materials into the environment or otherwise relating to the protection of the environment. Snap-on’s policy is to comply with these requirements and the company believes that, as a general matter, its policies, practices and procedures are properly designed to prevent unreasonable risk of environmental damage, and of resulting financial liability, in connection with its business. Some risk of environmental damage is, however, inherent in some of Snap-on’s operations and products, as it is with other companies engaged in similar businesses.

Snap-on is and has been engaged in the handling, manufacture, use and disposal of many substances classified as hazardous or toxic by one or more regulatory agencies. Snap-on believes that, as a general matter, its handling, manufacture, use and disposal of these substances are in accordance with environmental laws and regulations. It is possible, however, that future knowledge or other developments, such as improved capability to detect substances in the environment or increasingly strict environmental laws and standards and enforcement policies, could bring into question the company’s handling, manufacture, use or disposal of these substances.

New Accounting Standards

See Note 1 to the Consolidated Financial Statements for information on new accounting standards.

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

Critical Accounting Policies and Estimates

The Consolidated Financial Statements and related notes contain information that is pertinent to management's discussion and analysis. The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America ("GAAP") requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. These estimates are generally based on historical experience, current conditions and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily available from other sources, as well as identifying and assessing our accounting treatment with respect to commitments and contingencies. Actual results could differ from those estimates.

In addition to the company's significant accounting policies described in Note 1 to the Consolidated Financial Statements, Snap-on considers the following policies and estimates to be the most critical in understanding the judgments that are involved in the preparation of the company's consolidated financial statements and the uncertainties that could impact the company's financial position, results of operations and cash flows.

Impairment of Goodwill and Other Indefinite-lived Intangible Assets: Goodwill and other indefinite-lived intangible assets are tested for impairment annually or more frequently if events or changes in circumstances indicate that the assets might be impaired. Annual impairment tests are performed by the company in the second quarter of each year using information available as of fiscal April month end.

Snap-on evaluates the recoverability of goodwill by estimating the future discounted cash flows of the businesses to which the goodwill relates. Estimated cash flows and related goodwill are grouped at the reporting unit level. The company has determined that its reporting units for testing goodwill impairment are its operating segments or components of an operating segment that constitute a business for which discrete financial information is available and for which segment management regularly reviews the operating results. Within its four reportable operating segments, the company has identified 11 reporting units.

Snap-on evaluates the recoverability of goodwill by utilizing an income approach that estimates the fair value of the future discounted cash flows of the reporting units to which the goodwill relates. The future projections, which are based on both past performance and the projections and assumptions used in the company's operating plans, are subject to change as a result of changing economic and competitive conditions. This approach reflects management's internal outlook at the reporting units, which management believes provides the best determination of value due to management's insight and experience with the reporting units. Significant estimates used by management in the discounted cash flows methodology include estimates of future cash flows based on expected growth rates, price increases, working capital levels, expected benefits from RCI initiatives, and a weighted-average cost of capital that reflects the specific risk profile of the reporting unit being tested. The company's methodologies for valuing goodwill are applied consistently on a year-over-year basis; the assumptions used in performing the second quarter 2018 impairment calculations were evaluated in light of then-current market and business conditions. Snap-on continues to

believe that the future discounted cash flow valuation model provides the most reasonable and meaningful fair value estimate based upon the reporting units' projections of future operating results and cash flows and replicates how market participants would value the company's reporting units in an orderly transaction.

In the event the fair value of a reporting unit is less than the carrying value, including goodwill, the company would then record an impairment charge based on the excess of a reporting units carrying amount over its fair value.

Snap-on also evaluates the recoverability of its indefinite-lived trademarks by utilizing an income approach that estimates the fair value of the future discounted cash flows of each of its trademarks. The future projections, which are based on both past performance and the projections and assumptions used in the company's operating plans, are subject to change as a result of changing economic and competitive conditions. Significant estimates used by management in the discounted cash flows methodology include estimates of future cash flows based on expected growth and royalty rates, expected synergies, and a weighted-average cost of capital that reflects the specific risk profile of the trademark being tested. The company's methodologies for valuing trademarks are applied consistently on a year-over-year basis; the assumptions used in performing the second quarter 2018 impairment calculations were evaluated in light of then-current market and business conditions. Snap-on continues to believe that the future discounted cash flow valuation model provides the most reasonable and meaningful fair value estimate based upon the trademarks' projected future cash flows and replicates how market participants would value the company's trademarks in an orderly transaction.

Inherent in fair value determinations are significant judgments and estimates, including material assumptions about future revenue, profitability and cash flows, the company's operational plans and its interpretation of current economic indicators. Should the operations of the businesses with which goodwill or other indefinite-lived intangible assets are associated incur significant declines in profitability and cash flow due to significant and long-term deterioration in macroeconomic, industry and market conditions, the loss of key customers, changes in technology or markets, significant changes in key personnel or litigation, a significant and sustained decrease in share price and/or other events, including effects from the sale or disposal of a reporting unit, some or all of the recorded goodwill or other indefinite-lived intangible assets could be subject to impairment and could result in a material adverse effect on Snap-on's financial position or results of operations.

Snap-on completed its annual impairment testing of goodwill and other indefinite-lived intangible assets in the second quarter of 2018, which did not result in any impairment. As of 2018 year end, the company has no accumulated impairment losses. Although the company consistently uses the same methods in developing the assumptions and estimates underlying the fair value calculations, such estimates are uncertain by nature and can vary from actual results. In performing its annual impairment testing the company performed a sensitivity analysis on the material assumptions used in the discounted cash flow valuation models for each of its 11 reporting units. Based on the company's second quarter 2018 impairment testing and assuming a hypothetical 10% decrease in the estimated fair values of each of its 11 reporting units, the hypothetical fair value of each of the company's 11 reporting units would have been greater than its carrying value. See Note 7 to the Consolidated Financial Statements for further information about goodwill and other intangible assets.

Pension Benefits: The pension benefit obligation and related pension expense are calculated in accordance with GAAP and are impacted by certain actuarial assumptions. Changes in these assumptions are primarily influenced by factors outside of Snap-on's control, such as changes in economic conditions, and can have a significant effect on the amounts reported in the financial statements. Snap-on believes that the two most critical assumptions are (i) the expected return on plan assets; and (ii) the assumed discount rate.

Snap-on's domestic pension plans have a long-term investment horizon and a total return strategy that emphasizes a capital growth objective. In 2018, the long-term investment performance objective for Snap-on's domestic plans' assets was to achieve net of expense returns that met or exceeded the 7.45% domestic expected return on plan assets assumption. Snap-on uses a three-year, market-related value asset method of amortizing the difference between actual and expected returns on its domestic plans' assets. As of 2018 year end, Snap-on's domestic pension plans' assets comprised approximately 86% of the company's worldwide pension plan assets.

Based on forward-looking capital market expectations, Snap-on selected an expected return on plan assets assumption for its U.S. pension plans of 7.45%, the same as 2018, to be used in determining pension expense for 2019. In estimating the domestic expected return on plan assets, Snap-on utilizes a nominal returns forecasting method. For each asset class, future returns are estimated by identifying the premium of riskier asset classes over lower risk alternatives. The methodology constructs expected returns using a "building block" approach to the individual components of total return. These forecasts are stated in both nominal and real (after inflation) terms. This process first considers the long-term historical return premium based on the longest set of data available for each asset class. These premiums, calculated using the geometric mean, are then adjusted based on current relative valuation levels, macro-economic conditions, and the expected alpha related to active investment management. The asset return assumption is also adjusted by an implicit expense load for estimated administrative and investment-related expenses. Since asset allocation is a key determinant of expected investment returns, the current and expected mix of plan assets are also considered when setting the assumption.

Pension expense increases as the expected rate of return on plan assets decreases. Lowering the expected rate of return assumption for Snap-on's domestic pension plans' assets by 50 bps would have increased Snap-on's 2018 domestic pension expense by approximately $5.3 million.

The objective of Snap-on's discount rate assumption is to reflect the rate at which the pension benefits could be effectively settled. In making this determination, the company takes into account the timing and amount of benefits

that would be available under the plans. The domestic discount rate as of 2018 and 2017 year end was selected based on a cash flow matching methodology developed by the company's outside actuaries and which incorporates a review of current economic conditions. This methodology matches the plans' yearly projected cash flows for benefits and service costs to those of hypothetical bond portfolios using high-quality, AA rated or better, corporate bonds from either Moody's Investors Service or Standard & Poor's credit rating agencies available at the measurement date. This technique calculates bond portfolios that produce adequate cash flows to pay the plans' projected yearly benefits and then selects the portfolio with the highest yield and uses that yield as the recommended discount rate.

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

The selection of the 4.4% weighted-average discount rate for Snap-on's domestic pension plans as of 2018 year end (compared to 3.9% as of 2017 year end) represents the single rate that produces the same present value of cash flows as the estimated benefit plan payments. Lowering Snap-on's domestic discount rate assumption by 50 bps would have increased Snap-on's 2018 domestic pension expense and projected benefit obligation by approximately $3.7 million and $62.9 million, respectively. As of 2018 year end, Snap-on's domestic projected benefit obligation comprised approximately 83% of Snap-on's worldwide projected benefit obligation. The weighted-average discount rate for Snap-on's foreign pension plans of 3.0% (compared to 2.7% as of 2017 year end) represents the single rate that produces the same present value of cash flows as the estimated benefit plan payments. Lowering Snap-on's foreign discount rate assumption by 50 bps would have increased Snap-on's 2018 foreign pension expense and projected benefit obligation by approximately $1.9 million and $21.0 million, respectively.

Actuarial gains and losses in excess of 10 percent of the greater of the projected benefit obligation or market-related value of assets are amortized on a straight-line basis over the average remaining service period of active participants or over the average remaining life expectancy for plans with primarily inactive participants. Prior service costs and credits resulting from plan amendments are amortized in equal annual amounts over the average remaining service period of active participants or over the average remaining life expectancy for plans with primarily inactive participants.

To determine the 2019 net periodic benefit cost, Snap-on is using weighted-average discount rates for its domestic and foreign pension plans of 4.4% and 3.0%, respectively, and an expected return on plan assets for its domestic pension plans of 7.45%. The expected returns on plan assets for foreign pension plans ranged from 2.0% and 6.1% as of 2018 year end. The net change in these two key assumptions from those used in 2018 is expected to decrease pension expense in 2019. Other factors, such as changes in plan demographics and discretionary contributions, may further increase or decrease pension expense in 2019. See Note 12 to the Consolidated Financial Statements for further information on pension plans.

Allowance for Doubtful Accounts on Finance Receivables: The allowance for doubtful accounts on finance receivables is maintained at a level management believes is adequate to cover probable losses inherent in Snap-on's finance receivables portfolio as of the measurement date. The allowance represents management's estimate of the losses inherent in the company's receivables portfolio based on ongoing assessments and evaluations of collectability and historical loss experience. Determination of the proper level of the allowance requires management to exercise judgment about the timing, frequency and severity of credit losses that could materially affect the provision for credit losses and, as a result, net earnings. The allowance takes into consideration numerous quantitative and qualitative factors that include receivable type, historical loss experience, loss migration, delinquency trends, collection experience, current economic conditions and credit risk characteristics. Some of these factors are influenced by items such as the customers' financial condition, debt-servicing ability, past payment experience, and credit bureau and proprietary Snap-on credit model information, as well as the value of the underlying collateral. Changes in economic conditions and assumptions, including the resulting credit quality metrics relative to the performance of the finance receivable portfolio create uncertainty and could result in a change to both the allowance for doubtful accounts and

provision for credit losses.

Management utilizes established policies and procedures in an effort to ensure the estimates and assumptions are well controlled, reviewed and consistently applied. As of December 29, 2018, the ratio of the allowance for doubtful accounts for finance receivables was 3.71%. As of December 30, 2017, the allowance ratio was 3.53%. While management believes it exercises prudent judgment and applies reasonable assumptions in establishing its estimate for the allowance for finance receivables, there can be no assurance that changes in economic conditions or other factors would not adversely impact the financial health of our customers and result in changes to the estimates used in the allowance calculation. For reference, a 100 bps increase in the allowance ratio for finance receivables as of December 29, 2018, would have increased Snap-on's 2018 provision expense and related allowance for doubtful accounts by approximately $16.5 million.

For additional information on Snap-on's allowances for doubtful accounts, see Note 1 and Note 4 to the Consolidated Financial Statements.

Outlook

Snap-on expects to make continued progress in 2019 along its defined runways for coherent growth, leveraging capabilities already demonstrated in the automotive repair arena and developing and expanding its professional customer base, not only in automotive repair, but in adjacent markets, additional geographies and other areas, including extending in critical industries, where the cost and penalties for failure can be high. In pursuit of these initiatives, Snap-on expects that capital expenditures in 2019 will be in a range of $90 million to $100 million.

Snap-on currently anticipates that its full year 2019 effective income tax rate will be comparable to its full year 2018 effective tax rate of 24.0%.

Item 7A: Quantitative and Qualitative Disclosures About Market Risk

Market, Credit and Economic Risks

Market risk is the potential economic loss that may result from adverse changes in the fair value of financial instruments. Snap-on is exposed to market risk from changes in interest rates and foreign currency exchange rates. Snap-on is also exposed to market risk associated with the stock-based portion of its deferred compensation plans. Snap-on monitors its exposure to these risks and attempts to manage the underlying economic exposures through the use of financial instruments such as foreign currency forward contracts, interest rate swap agreements, treasury lock agreements and prepaid equity forward agreements ("equity forwards"). Snap-on does not use derivative instruments for speculative or trading purposes. Snap-on's broad-based business activities help to reduce the impact that volatility in any particular area or related areas may have on its operating earnings as a whole. Snap-on's management takes an active role in the risk management process and has developed policies and procedures that require specific administrative and business functions to assist in the identification, assessment and control of various risks.

Foreign Currency Risk Management

Snap-on has significant international operations and is subject to certain risks inherent with foreign operations that include currency fluctuations. Foreign currency exchange risk exists to the extent that Snap-on has payment obligations or receipts denominated in currencies other than the functional currency, including intercompany loans denominated in foreign currencies. To manage these exposures, Snap-on identifies naturally offsetting positions and then purchases hedging instruments to protect the residual net exposures. See Note 11 to the Consolidated Financial Statements for information on foreign currency risk management.

Interest Rate Risk Management

Snap-on aims to control funding costs by managing the exposure created by the differing maturities and interest rate structures of Snap-on's borrowings through the use of interest rate swap agreements. Treasury lock agreements are used from time to time to manage the potential change in interest rates in anticipation of the possible issuance of fixed rate debt. See Note 11 to the Consolidated Financial Statements for information on interest rate risk management.

Snap-on utilizes a Value-at-Risk ("VAR") model to determine the potential one-day loss in the fair value of its interest rate and foreign exchange-sensitive financial instruments from adverse changes in market factors. The VAR model estimates were made assuming normal market conditions and a 95% confidence level. Snap-on's computations are based on the inter-relationships among movements in various currencies and interest rates (variance/co-variance technique). These inter-relationships were determined by observing interest rate and foreign currency market changes over the preceding quarter.

The estimated maximum potential one-day loss in fair value, calculated using the VAR model, as of 2018 and 2017 year end was $7.7 million and $1.5 million, respectively, on interest rate-sensitive financial instruments, and zero and $0.1 million, respectively, on foreign currency-sensitive financial instruments. The VAR model is a risk management tool and does not purport to represent actual losses in fair value that will be incurred by Snap-on, nor does it consider the potential effect of favorable changes in market factors.

Stock-based Deferred Compensation Risk Management

Snap-on aims to manage market risk associated with the stock-based portion of its deferred compensation plans through the use of equity forwards. Equity forwards are used to aid in offsetting the potential mark-to-market effect on stock-based deferred compensation from changes in Snap-on's stock price. Since stock-based deferred compensation liabilities increase as the company's stock price rises and decrease as the company's stock price declines, the equity forwards are intended to mitigate the potential impact on compensation expense that may result from such mark-to-market changes. See Note 11 to the Consolidated Financial Statements for additional information on stock-based deferred compensation risk management.

Credit Risk

Credit risk is the possibility of loss from a customer's failure to make payments according to contract terms. Prior to extending credit, each customer is evaluated, taking into consideration various factors, including the customer's financial condition, debt-servicing ability, past payment experience, credit bureau information, and other financial and

qualitative factors that may affect the customer's ability to repay, as well as the value of the underlying collateral. Financial receivable credit risk is also monitored regularly through the use of internal proprietary custom scoring models to evaluate each transaction at the time of the application for credit. Snap-on evaluates credit quality through the use of an internal proprietary measuring system that provides a framework to analyze finance receivables on the basis of risk factors of the individual obligor as well as transaction specific risk. The finance receivables are typically monitored through an asset quality review process that closely monitors past due accounts and initiates a progressive collection action process when appropriate.

Counterparty Risk

Snap-on is exposed to credit losses in the event of non-performance by the counterparties to its various financial agreements, including its foreign currency forward contracts, interest rate swap agreements, treasury lock agreements and prepaid equity forward agreements. Snap-on does not obtain collateral or other security to support financial instruments subject to credit risk, but monitors the credit standing of the counterparties and generally enters into agreements with financial institution counterparties with a credit rating of A- or better. Snap-on does not anticipate non-performance by its counterparties, but cannot provide assurances.

Economic Risk

Economic risk is the possibility of loss resulting from economic instability in certain areas of the world. Snap-on continually monitors its exposure in these markets; for example, the company is monitoring the potential effects of the United Kingdom's pending exit from the European Union, although it is too soon to know what effects this might have on the world economy or the company. Inflation has not had a significant impact on the company.

As a result of the above market, credit and economic risks, net earnings and revenues in any particular period may not be representative of full-year results and may vary significantly from year to year.

Commodity Risk

Snap-on is a purchaser of certain commodities such as steel, natural gas and electricity. The company is also a purchaser of components and parts that are integrated into the company's end products, as well as the purchaser of certain finished goods, all of which may contain various commodities including steel, aluminum, nickel, copper and others. Snap-on's supply of raw materials and purchased components are generally and readily available from numerous suppliers.

The principal raw material used in the manufacture of the company's products is steel, which the company purchases in competitive, price-sensitive markets. To meet Snap-on's high quality standards, the company's steel needs range from specialized alloys, which are available only from a limited group of approved suppliers, to common alloys, which are available from multiple suppliers. These raw materials have historically exhibited price and demand cyclicality. Some of these materials have been, and in the future may be, in short supply, particularly in the event of mill shutdowns or production cut backs. As some steel alloys require specialized manufacturing procedures, Snap-on could experience inventory shortages if it were required to use an alternative manufacturer on short notice. Additionally, price increases for raw materials, including as a result of tariffs and other trade protection measures put in place by the United States or other countries, such as those the company experienced in fiscal 2018 and expects to continue to experience in fiscal 2019, could result in higher prices to Snap-on's customers or an erosion of the margins on its products.

Snap-on believes its ability to sell product is also dependent on the number of vehicles on the road, the number of miles driven and the general aging of vehicles. These factors affect the frequency, type and amount of service and repair performed on vehicles by technicians, and therefore affect the demand for the number of technicians, the prosperity of the technicians and, consequently, the demand technicians have for the company's tools, other products and services, and the value technicians place on those products and services. The use of other methods of transportation, including more frequent use of public transportation, could result in a decrease in the use of privately operated vehicles. A decrease in the use of privately operated vehicles may lead to fewer repairs and less demand for the company's products.

To the extent that commodity prices increase and the company does not have firm pricing agreements with its suppliers, the company may experience margin declines to the extent that it is not able to increase the selling prices of its products.

Item 8: Financial Statements and Supplementary Data

The financial statements and schedules are listed in Part IV, Item 15(a) and are incorporated by reference into this Item 8.

Item 9: Changes in and Disagreements With Accountants on Accounting and Financial Disclosure

None.

Item 9A: Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Snap-on maintains a system of disclosure controls and procedures that is designed to provide reasonable assurance that material information relating to the company and its consolidated subsidiaries is timely communicated to the officers who certify Snap-on's financial reports and to other members of senior management and the Board, as appropriate.

In accordance with Rule 13a-15(b) of the Securities Exchange Act of 1934 (the "Exchange Act"), the company's management evaluated, with the participation of the Chief Executive Officer and Chief Financial Officer, the effectiveness of the design and operation of the company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of December 29, 2018. Based upon their evaluation of these disclosure controls and procedures, the Chief Executive Officer and Chief Financial Officer concluded that the disclosure controls and procedures were effective as of December 29, 2018, to ensure that information required to be disclosed by the company in the reports it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time period specified in the Securities and Exchange Commission rules and forms, and to ensure that information required to be disclosed by the company in the reports it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, or persons performing similar functions, as appropriate, to allow timely decisions regarding required disclosure.

Changes in Internal Control

During the quarter ended December 29, 2018, the company implemented a plan that calls for modifications and additions to internal control over financial reporting related to the accounting for leases as a result of the new lease standard, ASC 842. The modified and new controls have been designed to address risks associated with gathering the lease information for recognizing a "right-of- use" asset and the related liability required by the new standard. The company has added additional controls over financial reporting by implementing a company-wide lease system to gather lessee information required for financial statement presentation, as well as to provide for the additional disclosure information required by the new standard. There were no other changes in internal controls during the quarter ended December 29, 2018, that have materially affected, or are reasonably likely to materially affect, the company's internal control over financial reporting (as such term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f)).

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934, as amended). Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we evaluated the effectiveness of our internal control over financial reporting based on the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control - Integrated Framework (2013). Based on this assessment, the company's management believes that, as of December 29, 2018, our internal control over financial reporting was effective at a reasonable assurance level. The company's internal control over financial reporting as of December 29, 2018, has been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in its attestation report, which is included herein.

Our management, including the Chief Executive Officer and Chief Financial Officer, does not expect that our internal control over financial reporting will prevent all error or fraud. Because of inherent limitations, a system of internal control over financial reporting can provide only reasonable assurance and may not prevent or detect misstatements. Further, because of changes in conditions, the effectiveness of internal control over financial reporting may vary over time.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of Snap-on Incorporated:

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Snap-on Incorporated and subsidiaries (the "Company") as of December 29, 2018, based on criteria established in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 29, 2018, based on criteria established in Internal Control — Integrated Framework (2013) issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated financial statements as of and for the year ended December 29, 2018, of the Company and our report dated February 14, 2019, expressed an unqualified opinion on those financial statements.

Basis for Opinion

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

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

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

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

/s/ DELOITTE & TOUCHE LLP
Milwaukee, Wisconsin
February 14, 2019

Item 9B: Other Information

None.

PART III

Item 10: Directors, Executive Officers and Corporate Governance

Incorporated by reference to sections entitled “Item 1: Election of Directors,” “Corporate Governance Practices and Board Information” and “Other Information” in Snap-on’s 2019 Annual Meeting Proxy Statement, which is expected to be mailed to shareholders on or about March 11, 2019 (the “2019 Proxy Statement”).

The Section 16(a) filing compliance disclosure pursuant to Item 405 of Regulation S-K is contained in Snap-on’s 2019 Proxy Statement in the section entitled “Other Information – Section 16(a) Beneficial Ownership Reporting Compliance,” and is incorporated herein by reference.

Information regarding Snap-on’s executive officers, including their ages, business experience (for at least the last five years) and titles as of December 29, 2018, is presented below:

Nicholas T. Pinchuk (72) – Chairman of the Board of Directors since 2009, President and Chief Executive Officer since December 2007, and President and Chief Operating Officer during 2007. Senior Vice President and President – Worldwide Commercial & Industrial Group from 2002 to 2007. Prior to joining Snap-on, Mr. Pinchuk held various positions, including President of Global Refrigeration Operations and President of Asia Pacific Operations, at Carrier Corporation, a producer of air conditioning, heating and refrigeration systems, and a subsidiary of United Technologies Corporation. Mr. Pinchuk serves on the board of directors of Columbus McKinnon Corporation.

Aldo J. Pagliari (64) – Senior Vice President – Finance and Chief Financial Officer since 2010.

Anup R. Banerjee (68) – Senior Vice President, Human Resources and Chief Development Officer since 2015, and President, Commercial Group from 2011 to 2015.

Iain Boyd (56) – Vice President, Operations Development since 2015. Vice President – Human Resources from 2007 to 2015.

Thomas L. Kassouf (66) – Senior Vice President and President – Snap-on Tools Group since 2010.

June C. Lemerand (56) – Vice President and Chief Information Officer since 2017. Vice President of Information Technology Services from 2015 to 2017, and Senior Director, Information Technology Sales and Marketing Applications from 2005 to 2015.

Richard T. Miller (48) – Vice President, General Counsel and Secretary since July 2018. Associate General Counsel from 2012 to 2018.

Richard K. Strege (61) – Vice President and Controller since 2017. Vice President, Internal Audit, Controls and Compliance from 2007 to 2017.

Thomas J. Ward (66) – Senior Vice President and President – Repair Systems & Information Group since 2010.

There is no family relationship among the executive officers and there has been no involvement in legal proceedings during the past ten years that would be material to the evaluation of the ability or integrity of any of the executive officers. Executive officers may either be elected by the Board or may be appointed by the Chief Executive Officer at the regular meeting of the Board that follows the Annual Shareholders’ Meeting, which is ordinarily held in April each year, or at such other times as new positions are created or vacancies must be filled.

Code of Ethics and Website Disclosure

Snap-on has adopted a written code of ethics that applies to its Chief Executive Officer, Chief Financial Officer, Vice President and Controller, and all other financial officers and executives performing similar functions. Snap-on has posted a copy of the code of ethics in the Investors/Corporate Governance section on the company’s website at www.snapon.com. Snap-on will also post any amendments to these documents, or information about any waivers granted to directors or executive officers with respect to the Code of Business Conduct and Ethics, on the company’s website at www.snapon.com.

Snap-on intends to satisfy the disclosure requirements under Item 10 of Form 8-K regarding amendments to, or waivers from, the code of ethics by posting such information in the “Investors” section of its corporate website at www.snapon.com.

Item 11: Executive Compensation

The information required by Item 11 is contained in Snap-on's 2019 Proxy Statement in the sections entitled "Executive Compensation," "Board Compensation," "Compensation Committee Report," and "Other Information" and is incorporated herein by reference.

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

The following table sets forth information about Snap-on's equity compensation plans at 2018 year end:

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted-average exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by security holders	3,539,442 (1)	$ 129.68 (2)	3,561,642 (3)
Equity compensation plans not approved by security holders	70,657 (4)	Not Applicable	– (5)
Total	3,610,099	$ 129.68 (2)	3,561,642 (5)

(1) Includes (i) options to acquire 306,839 shares granted under the 2001 Incentive Stock and Awards Plan (the "2001 Plan"); (ii) options and stock appreciation rights to acquire 3,195,879 shares granted under the 2011 Incentive Stock and Awards Plan (the "2011 Plan," and collectively with the 2001 Plan, the "Incentive Plans"); and (iii) 36,724 shares represented by deferred share units under the Directors' Fee Plan. Excludes 50,528 shares issuable in connection with the vesting of restricted stock units and restricted stock under the 2001 Plan, and 170,673 shares issuable in connection with the vesting of performance share awards, restricted stock units and restricted stock under the 2011 Plan. Also excludes shares of common stock that may be issuable under the employee and franchisee stock purchase plans.

(2) Reflects only the weighted-average exercise price of outstanding stock options and stock appreciation rights granted under the Incentive Plans and does not include shares represented by deferred share units under the Directors' Fee Plan and shares issuable in connection with the vesting of restricted stock units or performance units under the Incentive Plans for which there are no exercise prices. Also excludes shares of common stock that may be issuable under the employee and franchisee stock purchase plans.

(3) Includes (i) 2,654,112 shares reserved for issuance under the 2011 Plan; (ii) 176,724 shares reserved for issuance under the Directors' Fee Plan; and (iii) 730,806 shares reserved for issuance under the employee stock purchase plan.

(4) Consists of deferred share units under Snap-on's Deferred Compensation Plan, which allows elected and appointed officers of Snap-on to defer all or a percentage of their respective annual salary and/or incentive compensation. The deferred share units are payable in shares of Snap-on common stock on a one-for-one basis and are calculated at fair market value. Shares of common stock delivered under the Deferred Compensation Plan are previously issued shares reacquired and held by Snap-on.

(5) The Deferred Compensation Plan provides that Snap-on will make available, as and when required, a sufficient number of shares of common stock to meet the needs of the plan. It further provides that such shares shall be previously issued shares reacquired and held by Snap-on.

The additional information required by Item 12 is contained in Snap-on's 2019 Proxy Statement in the sections entitled "Executive Compensation," "Security Ownership of Certain Beneficial Owners and Management," and "Other Information," and is incorporated herein by reference.

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

Incorporated by reference to the sections entitled “Corporate Governance Practices and Board Information – Board Information” and “Other Information – Transactions with the Company” in Snap-on’s 2019 Proxy Statement.

Item 14: Principal Accounting Fees and Services

Incorporated by reference to the section entitled “Deloitte & Touche LLP Fee Disclosure” in Snap-on’s 2019 Proxy Statement.

PART IV

Item 15: Exhibits, Financial Statement Schedules

Item 15(a): Documents Filed as Part of This Report:

1. List of Financial Statements

Unless otherwise indicated, references to “fiscal 2018” or “2018” refer to the fiscal year ended December 29, 2018; references to “fiscal 2017” or “2017” refer to the fiscal year ended December 30, 2017; and references to “fiscal 2016” or “2016” refer to the fiscal year ended December 31, 2016. References to 2018, 2017 and 2016 year end refer to December 29, 2018, December 30, 2017, and December 31, 2016, respectively.

The following consolidated financial statements of Snap-on and the Report of Independent Registered Public Accounting Firm thereon, are filed as part of this report:

- Report of Independent Registered Public Accounting Firm.
- Consolidated Statements of Earnings for the 2018, 2017 and 2016 fiscal years.
- Consolidated Statements of Comprehensive Income for the 2018, 2017 and 2016 fiscal years.
- Consolidated Balance Sheets as of 2018 and 2017 year end.
- Consolidated Statements of Equity for the 2018, 2017 and 2016 fiscal years.
- Consolidated Statements of Cash Flows for the 2018, 2017 and 2016 fiscal years.
- Notes to Consolidated Financial Statements.

2. Financial Statement Schedules

All schedules are omitted because they are not applicable, or the required information is included in the consolidated financial statements or notes thereto.

3. List of Exhibits(*)

(3)	(a)	Restated Certificate of Incorporation of Snap-on Incorporated, as amended through April 25, 2013 (incorporated by reference to Exhibit 3.1 to Snap-on’s Quarterly Report on Form 10-Q for the quarterly period ended September 28, 2013 (Commission File No. 1-7724))
	(b)	Bylaws of Snap-on Incorporated, as amended and restated as of April 26, 2018 (incorporated by reference to Exhibit 3.1 to Snap-on’s Current Report on Form 8-K dated April 26, 2018 (Commission File No. 1-7724))
(4)	(a)	Indenture, dated as of January 8, 2007, between Snap-on Incorporated and U.S. Bank National Association as trustee (incorporated by reference to Exhibit (4)(b) to Form S-3 Registration Statement (Registration No. 333-139863))
	(b)	Officer’s Certificate, dated as of August 14, 2009, providing for the $250,000,000 6.125% Notes due 2021 (incorporated by reference to Exhibit 4.1 to Snap-on’s Current Report on Form 8-K dated August 11, 2009 (Commission File No. 1-7724))
	(c)	Officer’s Certificate, dated as of February 21, 2017, providing for the $300,000,000 3.25% Notes due 2027 (incorporated by reference to Exhibit 4.2 to Snap-on’s Current Report on Form 8-K dated February 15, 2017 (Commission File No. 1-7724))
	(d)	Officer's Certificate, dated as of February 26, 2018, providing for the $400,000,000 4.10% Notes due 2048 (incorporated by reference to Exhibit 4.2 to Snap on's Current Report on Form 8 K dated February 20, 2018 (Commission File No. 1-7724))

Except for the foregoing, Snap-on and its subsidiaries have no unregistered long-term debt agreement for which the related outstanding debt exceeds 10% of consolidated total assets as of December 29, 2018. Copies of debt instruments for which the related debt is less than 10% of consolidated total assets will be furnished to the Commission upon request.

(10) Material Contracts

(a)	Amended and Restated Snap-on Incorporated 2001 Incentive Stock and Awards Plan (Amended and Restated as of April 27, 2006, as further amended on August 6, 2009) (incorporated by reference to Exhibit 10.1 to Snap-on's Quarterly Report on Form 10-Q for the quarterly period ended October 3, 2009 (Commission File No. 1-7724))** (superseded except as to outstanding awards)
(b)	Snap-on Incorporated 2011 Incentive Stock and Awards Plan (As Amended and Restated) (incorporated by reference to Exhibit 10(b) to Snap-on's Annual Report on Form 10-K for the fiscal year ended December 30, 2017 (Commission File No. 1-7724))**
(c)	Form of Restated Executive Agreement between Snap-on Incorporated and each of its executive officers** (incorporated by reference to Exhibit 10(c) to Snap-on's Annual Report on Form 10-K for the fiscal year ended December 30, 2017 (Commission File No. 1-7724))**
(d)(1)	Form of Indemnification Agreement between Snap-on Incorporated and certain executive officers (incorporated by reference to Exhibit 10.1 to Snap-on's Annual Report on Form 10-K for the fiscal year ended January 1, 2011 (Commission File No. 1-7724))**
(d)(2)	Form of Indemnification Agreement between Snap-on Incorporated and directors (incorporated by reference to Exhibit 10.1 to Snap-on's Annual Report on Form 10-K for the fiscal year ended January 1, 2011 (Commission File No. 1-7724))**
(e)(1)	Amended and Restated Snap-on Incorporated Directors' 1993 Fee Plan (as amended through August 5, 2010) (incorporated by reference to Exhibit 10.1 to Snap-on's Quarterly Report on Form 10-Q for the quarterly period ended October 2, 2010 (Commission File No. 1-7724))**
(e)(2)	Amendment to Amended and Restated Snap-on Incorporated Directors' 1993 Fee Plan (incorporated by reference to Exhibit 10(e)(2) to Snap-on's Annual Report on Form 10-K for the fiscal year ended December 28, 2013 (Commission File No. 1-7724))**
(f)(1)	Snap-on Incorporated Deferred Compensation Plan (as amended and restated as of September 1, 2011) (incorporated by reference to Exhibit 10(g) to Snap-on's Annual Report on Form 10-K for the fiscal year ended December 31, 2011 (Commission File No. 1-7724))**
(f)(2)	Amendment to Snap-on Incorporated Deferred Compensation Plan (incorporated by reference to Exhibit 10(f)(2) to Snap-on's Annual Report on Form 10-K for the fiscal year ended December 28, 2013 (Commission File No. 1-7724))**
(g)	Snap-on Incorporated Supplemental Retirement Plan for Officers (as amended through June 11, 2010) (incorporated by reference to Exhibit 10.2 to Snap-on's Quarterly Report on Form 10-Q for the quarterly period ended July 3, 2010 (Commission File No. 1-7724))**
(h)	

	Form of Non-Qualified Stock Option Agreement under the 2001 Incentive Stock and Awards Plan (and accompanying Non-Qualified Stock Option Grant Offer Letter) (incorporated by reference to Exhibit 10.1 to Snap-on's Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2007 (Commission File No. 1-7724))** (superseded except as to outstanding awards)
(i)	Form of Restricted Stock Unit Agreement for Directors under the 2001 Incentive Stock and Awards Plan (and accompanying Restricted Stock Unit Offer Letter) (incorporated by reference to Exhibit 10.2 to Snap-on's Quarterly Report on Form 10-Q for the quarterly period ended October 3, 2009 (Commission File No. 1-7724))** (superseded except as to outstanding awards)

(j)	Form of Non-Qualified Stock Option Agreement under the 2011 Incentive Stock and Awards Plan (and accompanying Non-Qualified Stock Option Grant Offer Letter) (incorporated by reference to Exhibit 10.1 to Snap-on's Quarterly Report on Form 10-Q for the quarterly period ended October 1, 2011 (Commission File No. 1-7724))**
(k)	Form of Performance Share Unit Award Agreement under the 2011 Incentive Stock and Awards Plan (incorporated by reference to Exhibit 10.1 to Snap-on's Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2012 (Commission File No. 1-7724))**
(l)	Form of Restricted Unit Award Agreement for Executive Officers under the 2011 Incentive Stock and Awards Plan (incorporated by reference to Exhibit 10.1 to Snap-on's Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2012 (Commission File No. 1-7724))**
(m)	Form of Restricted Unit Award Agreement for Directors under the 2011 Incentive Stock and Awards Plan (incorporated by reference to Exhibit 10.1 to Snap-on's Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2012 (Commission File No. 1-7724))**
(n)	Form of Restricted Stock Award Agreement for Directors under the 2011 Incentive Stock and Awards Plan (incorporated by reference to Exhibit 10.1 to Snap-on's Quarterly Report on Form 10-Q for the quarterly period ended March 30, 2013 (Commission File No. 1-7724))**
(o)	Second Amended and Restated Five Year Credit Agreement, dated as of December 15, 2015, among Snap-on Incorporated and the lenders and agents listed on the signature pages thereof, and J.P. Morgan Securities LLC, Citigroup Global Markets Inc. and U.S. Bank National Association as joint lead arrangers and joint bookrunners (incorporated by reference to Exhibit 10.1 to Snap-on's Current Report on Form 8-K dated December 15, 2015 (Commission File No. 1-7724))
(p)	Underwriting Agreement, dated as of February 15, 2017, among Snap-on Incorporated, Citigroup Global Markets Inc. and J.P. Morgan Securities LLC, as representatives of the several underwriters named therein. (incorporated by reference to Exhibit 1.1 to Snap-on's Current Report on Form 8-K dated February 15, 2017 (Commission File No. 1-7724))
(q)	Underwriting Agreement, dated as of February 20, 2018, among Snap-on Incorporated, Citigroup Global Markets Inc., J.P. Morgan Securities LLC and U.S. Bancorp Investments, Inc., as representatives of the several underwriters named therein. (incorporated by reference to Exhibit 1.1 to Snap-on's Current Report on Form 8-K dated February 20, 2018 (Commission File No. 1-7724)
(14)	Snap-on Incorporated Section 406 of the Sarbanes-Oxley Act Code of Ethics (incorporated by reference to Exhibit 10(aa) to Snap-on's Annual Report on Form 10-K for the fiscal year ended January 3, 2004 (Commission File No. 1-7724))
(21)	Subsidiaries of the Corporation
(23)	Consent of Independent Registered Public Accounting Firm
(31.1)	Certification of the Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

(31.2)	Certification of the Principal Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
(32.1)	Certification of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
(32.2)	Certification of Principal 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***
(101.SCH)	XBRL Taxonomy Extension Schema Document***
(101.CAL)	XBRL Taxonomy Extension Calculation Linkbase Document***
(101.DEF)	XBRL Taxonomy Extension Definition Linkbase Document***
(101.LAB)	XBRL Taxonomy Extension Label Linkbase Document***
(101.PRE)	XBRL Taxonomy Extension Presentation

Linkbase
Document***

* Filed electronically or incorporated by reference as an exhibit to this Annual Report on Form 10-K. Copies of any materials the company files with the SEC can also be obtained free of charge through the SEC's website at www.sec.gov.

** Represents a management compensatory plan or agreement.

*** Attached as Exhibit 101 to this report are the following documents formatted in XBRL (Extensible Business Reporting Language): (i) Consolidated Statements of Earnings for the twelve months ended December 29, 2018, December 30, 2017, and December 31, 2016; (ii) Consolidated Statements of Comprehensive Income for the twelve months ended December 29, 2018, December 30, 2017, and December 31, 2016; (iii) Consolidated Balance Sheets as of December 29, 2018, and December 30, 2017; (iv) Consolidated Statements of Equity for the twelve months ended December 29, 2018, December 30, 2017, and December 31, 2016; (v) Consolidated Statements of Cash Flows for the twelve months ended December 29, 2018, December 30, 2017, and December 31, 2016; and (vi) Notes to Consolidated Financial Statements.

Item 16: Form 10-K Summary
None.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders and of Snap-on Incorporated:

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Snap-on Incorporated and subsidiaries (the "Company") as of December 29, 2018, and December 30, 2017, and the related consolidated statements of earnings, comprehensive income, equity, and cash flows for each of the three years in the period ended December 29, 2018, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 29, 2018, and December 30, 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 29, 2018, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the Company's internal control over financial reporting as of December 29, 2018, based on criteria established in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 14, 2019, expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ DELOITTE & TOUCHE LLP

Milwaukee, Wisconsin

February 14, 2019

We have served as the Company's auditor since 2002.

Snap-on Incorporated – Consolidated Statements of Earnings

(Amounts in millions, except per share data)	2018	2017	2016
Net sales	$3,740.7	$3,686.9	$3,430.4
Cost of goods sold	(1,870.7)	(1,861.0)	(1,720.0)
Gross profit	1,870.0	1,825.9	1,710.4
Operating expenses	(1,144.0)	(1,161.3)	(1,048.0)
Operating earnings before financial services	726.0	664.6	662.4
Financial services revenue	329.7	313.4	281.4
Financial services expenses	(99.6)	(95.9)	(82.7)
Operating earnings from financial services	230.1	217.5	198.7
Operating earnings	956.1	882.1	861.1
Interest expense	(50.4)	(52.4)	(52.2)
Other income (expense) – net	4.2	(7.8)	(7.5)
Earnings before income taxes and equity earnings	909.9	821.9	801.4
Income tax expense	(214.4)	(250.9)	(244.3)
Earnings before equity earnings	695.5	571.0	557.1
Equity earnings, net of tax	0.7	1.2	2.5
Net earnings	696.2	572.2	559.6
Net earnings attributable to noncontrolling interests	(16.3)	(14.5)	(13.2)
Net earnings attributable to Snap-on Incorporated	$679.9	$557.7	$546.4
Net earnings per share attributable to Snap-on Incorporated:			
Basic	$12.08	$9.72	$9.40
Diluted	11.87	9.52	9.20
Weighted-average shares outstanding:			
Basic	56.3	57.4	58.1
Effect of dilutive securities	1.0	1.2	1.3
Diluted	57.3	58.6	59.4

See Notes to Consolidated Financial Statements.

Snap-on Incorporated – Consolidated Statements of Comprehensive Income

(Amounts in millions)	2018	2017	2016
Comprehensive income (loss):			
Net earnings	$696.2	$572.2	$559.6
Other comprehensive income (loss):			
Foreign currency translation*	(95.4)	135.2	(99.2)
Unrealized cash flow hedges, net of tax:			
Other comprehensive income (loss) before reclassifications	(0.8)	6.9	8.8
Reclassification of cash flow hedges to net earnings	(1.5)	(1.6)	(0.3)
Defined benefit pension and postretirement plans:			
Net prior service costs and credits and unrecognized (loss) gain	(79.0)	15.9	(93.3)
Income tax (expense) benefit	20.0	(4.1)	30.7
Net of tax	(59.0)	11.8	(62.6)
Amortization of net prior service costs and credits and unrecognized loss included in net periodic benefit cost	31.1	26.6	30.1
Income tax benefit	(7.6)	(9.4)	(11.1)
Net of tax	23.5	17.2	19.0
Total comprehensive income	563.0	741.7	425.3
Comprehensive income attributable to noncontrolling interests	(16.3)	(14.5)	(13.2)
Comprehensive income attributable to Snap-on Incorporated	$546.7	$727.2	$412.1

* There is no reclassification adjustment as there was no sale or liquidation of any foreign entity during any period presented.

See Notes to Consolidated Financial Statements.

Snap-on Incorporated – Consolidated Balance Sheets

(Amounts in millions, except share data)	Fiscal Year End 2018	2017
ASSETS		
Current assets:		
Cash and cash equivalents	$140.9	$92.0
Trade and other accounts receivable – net	692.6	675.6
Finance receivables – net	518.5	505.4
Contract receivables – net	98.3	96.8
Inventories – net	673.8	638.8
Prepaid expenses and other assets	92.8	110.7
Total current assets	2,216.9	2,119.3
Property and equipment – net	495.1	484.4
Deferred income tax assets	64.7	52.0
Long-term finance receivables – net	1,074.4	1,039.2
Long-term contract receivables – net	344.9	322.6
Goodwill	902.2	924.1
Other intangibles – net	232.9	253.7
Other assets	42.0	53.8
Total assets	$5,373.1	$5,249.1
LIABILITIES AND EQUITY		
Current liabilities:		
Notes payable and current maturities of long-term debt	$186.3	$433.2
Accounts payable	201.1	178.2
Accrued benefits	52.0	55.8
Accrued compensation	71.5	71.5
Franchisee deposits	67.5	66.5
Other accrued liabilities	373.6	388.1
Total current liabilities	952.0	1,193.3
Long-term debt	946.0	753.6
Deferred income tax liabilities	41.4	28.4
Retiree health care benefits	31.8	36.0
Pension liabilities	171.3	158.9
Other long-term liabilities	112.0	106.6
Total liabilities	2,254.5	2,276.8
Commitments and contingencies (Note 16)		
Equity		
Shareholders' equity attributable to Snap-on Incorporated:		
Preferred stock (authorized 15,000,000 shares of $1 par value; none outstanding)	—	—
Common stock (authorized 250,000,000 shares of $1 par value; issued 67,415,091 and 67,407,704 shares, respectively)	67.4	67.4

Additional paid-in capital	359.4	343.2
Retained earnings	4,257.6	3,772.3
Accumulated other comprehensive loss	(462.2)	(329.0)
Treasury stock at cost (11,804,310 and 10,717,455 shares, respectively)	(1,123.4)	(900.0)
Total shareholders' equity attributable to Snap-on Incorporated	3,098.8	2,953.9
Noncontrolling interests	19.8	18.4
Total equity	3,118.6	2,972.3
Total liabilities and equity	$5,373.1	$5,249.1

See Notes to Consolidated Financial Statements.

Snap-on Incorporated – Consolidated Statements of Equity

	Shareholders' Equity Attributable to Snap-on Incorporated						
(Amounts in millions, except share data)	Common Stock	Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Noncontrolling Interests	Total Equity
Balance at January 2, 2016	$67.4	$ 296.3	$2,986.9	$ (364.2)	$(573.7)	$ 18.0	$2,430.7
Net earnings for 2016	—	—	546.4	—	—	13.2	559.6
Other comprehensive loss	—	—	—	(134.3)	—	—	(134.3)
Cash dividends – $2.54 per share	—	—	(147.5)	—	—	—	(147.5)
Stock compensation plans	—	21.0	—	—	40.2	—	61.2
Share repurchases – 758,000 shares	—	—	—	—	(120.4)	—	(120.4)
Other	—	—	(0.9)	—	—	(13.2)	(14.1)
Balance at December 31, 2016	67.4	317.3	3,384.9	(498.5)	(653.9)	18.0	2,635.2
Net earnings for 2017	—	—	557.7	—	—	14.5	572.2
Other comprehensive income	—	—	—	169.5	—	—	169.5
Cash dividends – $2.95 per share	—	—	(169.4)	—	—	—	(169.4)
Stock compensation plans	—	25.9	—	—	41.8	—	67.7
Share repurchases – 1,820,000 shares	—	—	—	—	(287.9)	—	(287.9)
Other	—	—	(0.9)	—	—	(14.1)	(15.0)
Balance at December 30, 2017	67.4	343.2	3,772.3	(329.0)	(900.0)	18.4	2,972.3
Net earnings for 2018	—	—	679.9	—	—	16.3	696.2
Other comprehensive loss	—	—	—	(133.2)	—	—	(133.2)
Cash dividends – $3.41 per share	—	—	(192.0)	—	—	—	(192.0)
Stock compensation plans	—	16.2	—	—	60.7	—	76.9
Share repurchases – 1,769,000 shares	—	—	—	—	(284.1)	—	(284.1)
Other	—	—	(2.6)	—	—	(14.9)	(17.5)
Balance at December 29, 2018	$67.4	$ 359.4	$4,257.6	$ (462.2)	$(1,123.4)	$ 19.8	$3,118.6

See Notes to Consolidated Financial Statements.

Snap-on Incorporated – Consolidated Statements of Cash Flows

(Amounts in millions)	2018	2017	2016
Operating activities:			
Net earnings	$696.2	$572.2	$559.6
Adjustments to reconcile net earnings to net cash provided (used) by operating activities:			
Depreciation	68.8	65.6	61.4
Amortization of other intangibles	25.3	27.6	24.2
Provision for losses on finance receivables	57.5	54.6	44.0
Provision for losses on non-finance receivables	12.8	10.5	7.5
Stock-based compensation expense	27.2	30.3	31.0
Deferred income tax provision	13.7	12.3	1.3
Loss (gain) on sales of assets	0.5	(0.2)	0.2
Settlement of treasury lock	—	14.9	—
Loss on early extinguishment of debt	7.8	—	—
Changes in operating assets and liabilities, net of effects of acquisitions:			
Increase in trade and other accounts receivable	(47.7)	(55.5)	(41.0)
Increase in contract receivables	(30.9)	(41.8)	(31.9)
Increase in inventories	(38.6)	(76.0)	(32.7)
(Increase) decrease in prepaid and other assets	10.4	(10.0)	(11.9)
Increase (decrease) in accounts payable	27.5	(2.2)	16.3
Increase (decrease) in accruals and other liabilities	(66.0)	6.2	(51.9)
Net cash provided by operating activities	764.5	608.5	576.1
Investing activities:			
Additions to finance receivables	(865.6)	(892.0)	(915.0)
Collections of finance receivables	747.7	712.7	671.7
Capital expenditures	(90.9)	(82.0)	(74.3)
Acquisitions of businesses, net of cash acquired	(3.0)	(82.9)	(160.4)
Disposals of property and equipment	0.7	1.5	2.2
Other	0.9	1.3	2.4
Net cash used by investing activities	(210.2)	(341.4)	(473.4)
Financing activities:			
Proceeds from issuance of long-term debt	395.4	297.8	—
Repayments of long-term debt	(457.8)	(150.0)	—
Proceeds from notes payable	—	16.8	4.5
Repayments of notes payable	(16.8)	(4.5)	(5.3)
Net increase in other short-term borrowings	21.7	18.3	135.0
Cash dividends paid	(192.0)	(169.4)	(147.5)
Purchases of treasury stock	(284.1)	(287.9)	(120.4)
Proceeds from stock purchase and option plans	55.5	46.2	41.8
Other	(24.1)	(23.4)	(24.1)
Net cash used by financing activities	(502.2)	(256.1)	(116.0)

Effect of exchange rate changes on cash and cash equivalents	(3.2)	3.4	(1.9)
Increase (decrease) in cash and cash equivalents	48.9	14.4	(15.2)
Cash and cash equivalents at beginning of year	92.0	77.6	92.8
Cash and cash equivalents at end of year	$140.9	$92.0	$77.6
Supplemental cash flow disclosures:			
Cash paid for interest	$(51.5)	$(51.2)	$(51.0)
Net cash paid for income taxes	(188.0)	(228.1)	(247.3)

See Notes to Consolidated Financial Statements.

Notes to Consolidated Financial Statements

Note 1: Summary of Accounting Policies

Principles of consolidation and presentation: The Consolidated Financial Statements include the accounts of Snap-on Incorporated and its wholly-owned and majority-owned subsidiaries (collectively, “Snap-on” or “the company”).

Certain prior year amounts have been reclassified on the Consolidated Statements of Earnings to conform to the 2018 presentation following the retrospective adoption of Accounting Standards Update (“ASU”) No. 2017-07, Compensation - Retirement Benefits (Topic 715) - Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost. The following items were reclassified to “Other income (expense) - net” in the indicated fiscal year: income of $1.0 million and $0.8 million for 2017 and 2016, respectively, that was previously included in “Cost of goods sold” and expense of $0.4 million for 2017 and income of $6.1 million for 2016, that were previously included in “Operating expenses.” As a result, previously reported “Cost of goods sold” of $1,862.0 million and $1,720.8 million are now $1,861.0 million and $1,720.0 million for 2017 and 2016, respectively, “Operating expenses” of $1,160.9 million and $1,054.1 million are now $1,161.3 million and $1,048.0 million for 2017 and 2016, respectively, and “Other income (expense) - net” of $7.2 million and $0.6 million of expense are now $7.8 million and $7.5 million of expense for 2017 and 2016, respectively. Additionally, prior year “Operating earnings” for certain reportable business segments have been restated to reflect these reclassifications. See Note 19 for information on Snap-on’s reportable business segments.

Snap-on accounts for investments in unconsolidated affiliates where Snap-on has a non-significant ownership interest under the equity method of accounting. Investments in unconsolidated affiliates of $18.5 million as of December 29, 2018, and $18.6 million as of December 30, 2017, are included in “Other assets” on the accompanying Consolidated Balance Sheets; no equity investment dividends were received in any period presented. In the normal course of business, the company may purchase products or services from, or sell products or services to, unconsolidated affiliates. Purchases from unconsolidated affiliates were $11.2 million, $11.6 million and $12.9 million in 2018, 2017 and 2016, respectively, and sales to unconsolidated affiliates were $0.8 million in 2018, $0.5 million in 2017 and $0.2 million in 2016. The Consolidated Financial Statements do not include the accounts of the company’s independent franchisees. Snap-on’s Consolidated Financial Statements are prepared in conformity with generally accepted accounting principles in the United States of America (“GAAP”). Intercompany accounts and transactions have been eliminated.

Fiscal year accounting period: Snap-on’s fiscal year ends on the Saturday that is on or nearest to December 31. The 2018 fiscal year ended on December 29, 2018 (“2018”). The 2017 fiscal year ended on December 30, 2017 (“2017”). The 2016 fiscal year ended on December 31, 2016 (“2016”). The 2018, 2017 and 2016 fiscal years each contained 52 weeks of operating results.

Use of estimates: The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Financial instruments: The fair value of the company’s derivative financial instruments is generally determined using quoted prices in active markets for similar assets and liabilities. The carrying value of the company’s non-derivative financial instruments either approximates fair value, due to their short-term nature, or the amount disclosed for fair value is based upon a discounted cash flow analysis or quoted market values. See Note 11 for further information on financial instruments.

Revenue recognition: Snap-on recognizes revenue from the sale of tools, diagnostic and equipment products and related services based on when control of the product passes to the customer or the service is provided and is recognized at an amount that reflects the consideration expected to be received in exchange for such goods or services. See Note 2 for information on revenue recognition.

Financial services revenue: Snap-on also generates revenue from various financing programs that include: (i) installment sales and lease contracts arising from franchisees’ customers and Snap-on customers who require

financing for the purchase or lease of tools and diagnostic and equipment products on an extended-term payment plan; and (ii) business loans and vehicle leases to franchisees. These financing programs are offered through Snap-on's wholly owned finance subsidiaries. Financial services revenue consists primarily of interest income on finance and contract receivables and is recognized over the life of the underlying contracts, with interest computed primarily on the average daily balances of the underlying contracts.

Notes to Consolidated Financial Statements (continued)

The decision to finance through Snap-on or another financing source is solely at the election of the customer. When assessing customers for potential financing, Snap-on considers various factors regarding ability to pay, including the customers' financial condition, debt-servicing ability, past payment experience, and credit bureau and proprietary Snap-on credit model information, as well as the value of the underlying collateral. For finance receivables, Snap-on assesses these factors through the use of credit quality indicators consisting primarily of customer credit risk scores combined with internal credit risk grades, collection experience, franchise input and other internal metrics. For contract receivables, Snap-on assesses these factors through the use of credit quality indicators consisting primarily of customer credit risk scores combined with internal credit risk grades, collection experience and other internal metrics.
Financial services lease arrangements: Snap-on accounts for its financial services leases as direct financing or sales-type leases. The company determines the gross investment in the lease as the present value of the minimum lease payments using the interest rate implicit in the lease, net of amounts, if any, included therein for executor costs to be paid by Snap-on, together with any profit thereon. The difference between the gross investment in the lease and the related undiscounted minimum lease payments for the leased property is reported as unearned finance charges. Unearned finance charges are amortized to income over the life of the contract. The default covenants included in the lease arrangements are usual and customary, consistent with industry practice, and do not impact the lease classification. Except in circumstances where the company has concluded that a lessee's financial condition has deteriorated, the other default covenants under Snap-on's lease arrangements are objectively determinable.
Research and engineering: Snap-on incurred research and engineering costs of $61.2 million, $60.9 million and $53.4 million in 2018, 2017 and 2016, respectively. Research and engineering costs are included in "Operating expenses" on the accompanying Consolidated Statements of Earnings.
Internally developed software: Costs incurred in the development of software that will ultimately be sold are capitalized from the time technological feasibility has been attained and capitalization ceases when the related product is ready for general release. During 2018, 2017 and 2016, Snap-on capitalized $9.7 million, $11.3 million and $10.8 million, respectively, of such costs. Amortization of capitalized software development costs, which is included in "Cost of goods sold" on the accompanying Consolidated Statements of Earnings, was $13.4 million in 2018, $14.7 million in 2017 and $13.8 million in 2016. Unamortized capitalized software development costs of $40.2 million as of 2018 year end and $43.6 million as of 2017 year end are included in "Other intangibles – net" on the accompanying Consolidated Balance Sheets.
Internal-use software: Costs that are incurred in creating software solutions and enhancements to those solutions are capitalized only for the application development stage of the project.
Shipping and handling: Amounts billed to customers for shipping and handling are included as a component of sales. Costs incurred by Snap-on for shipping and handling are included as a component of cost of goods sold when the costs relate to manufacturing activities. In 2018, 2017 and 2016, Snap-on incurred shipping and handling charges of $53.7 million, $49.7 million and $43.1 million, respectively, that were recorded in "Cost of goods sold" on the accompanying Consolidated Statements of Earnings. Shipping and handling costs incurred in conjunction with selling or distribution activities are included as a component of operating expenses. Shipping and handling charges were $84.3 million in 2018, $82.3 million in 2017 and $81.2 million in 2016; these charges were recorded in "Operating expenses" on the accompanying Consolidated Statements of Earnings.

Advertising and promotion: Production costs of future media advertising are deferred until the advertising occurs. All other advertising and promotion costs are expensed when incurred. For 2018, 2017 and 2016, advertising and promotion expenses totaled $55.6 million, $55.7 million and $52.6 million, respectively. Advertising and promotion costs are included in "Operating expenses" on the accompanying Consolidated Statements of Earnings.
Warranties: Snap-on provides product warranties for specific product lines and accrues for estimated future warranty costs in the period in which the sale is recorded. See Notes 2 and 16 for information on warranties.
Foreign currency: The financial statements of Snap-on's foreign subsidiaries are translated into U.S. dollars. Assets and liabilities of foreign subsidiaries are translated at current rates of exchange, and income and expense items are translated at the average exchange rates for the period. The resulting translation adjustments are recorded directly into

“Accumulated other comprehensive loss” on the accompanying Consolidated Balance Sheets. Foreign exchange transactions, net of foreign currency hedges, resulted in pretax losses of $3.9 million, $7.0 million and $1.3 million in 2018, 2017 and 2016, respectively. Foreign exchange transaction gains and losses are reported in “Other income (expense) – net” on the accompanying Consolidated Statements of Earnings.

Change in Functional Currency: Argentina's economy has been determined to be highly inflationary effective July 1, 2018. As a result the functional currency for the company's subsidiary in Argentina changed from the Argentinian Peso to the U.S. Dollar. The impact of the change in functional currency did not have a material impact on the company's consolidated financial statements.

Income taxes: Current tax assets and liabilities are based upon an estimate of taxes refundable or payable for each of the jurisdictions in which the company is subject to tax. In the ordinary course of business, there is inherent uncertainty in quantifying income tax positions. Snap-on assesses income tax positions and records tax benefits for all years subject to examination based upon management's evaluation of the facts, circumstances and information available at the reporting dates. For those tax positions where it is more-likely-than-not that a tax benefit will be sustained, Snap-on records the largest amount of tax benefit with a greater than 50% likelihood of being realized upon ultimate settlement with a taxing authority that has full knowledge of all relevant information. For those income tax positions where it is not more-likely-than-not that a tax benefit will be sustained, no tax benefit is recognized in the financial statements. When applicable, associated interest and penalties are recognized as a component of income tax expense. Accrued interest and penalties are included within the related tax asset or liability on the accompanying Consolidated Balance Sheets.

Deferred income taxes are provided for temporary differences arising from differences in bases of assets and liabilities for tax and financial reporting purposes. Deferred income taxes are recorded on temporary differences using enacted tax rates in effect for the year in which the temporary differences are expected to reverse. The effect of a change in tax rates on deferred tax assets and liabilities is recognized in income in the period that includes the enactment date. Deferred tax assets are reduced by a valuation allowance when, in the opinion of management, it is more-likely-than-not that some portion or all of the deferred tax assets will not be realized. See Note 9 for further information on income taxes.

Per share data: Basic earnings per share calculations were computed by dividing net earnings attributable to Snap-on Incorporated by the corresponding weighted-average number of common shares outstanding for the period. The dilutive effect of the potential exercise of outstanding options and stock-settled stock appreciation rights ("SARs") to purchase common shares is calculated using the treasury stock method. As of December 29, 2018, there were 685,533 awards outstanding that were anti-dilutive; as of December 30, 2017, there were 722,715 awards outstanding that were anti-dilutive; and as of December 31, 2016 there were 1,600 awards outstanding that were anti-dilutive. Performance-based equity awards are included in the diluted earnings per share calculation based on the attainment of the applicable performance metrics to date. Snap-on had dilutive securities totaling 986,984 shares, 1,207,285 shares and 1,307,914 shares, as of the end of 2018, 2017 and 2016, respectively. See Note 14 for further information on equity awards.

Stock-based compensation: Snap-on recognizes the cost of employee services in exchange for awards of equity instruments based on the grant date fair value of those awards. That cost, based on the estimated number of awards that are expected to vest, is recognized on a straight-line basis over the period during which the employee is required to provide the service in exchange for the award. No compensation cost is recognized for awards for which employees do not render the requisite service. The grant date fair value of employee stock options and similar instruments is estimated using the Black-Scholes valuation model.

The Black-Scholes valuation model requires the input of subjective assumptions, including the expected life of the stock-based award and stock price volatility. The assumptions used are management's best estimates, but the estimates involve inherent uncertainties and the application of management judgment. As a result, if other assumptions had been used, the recorded stock-based compensation expense could have been materially different from that depicted in the financial statements. See Note 14 for further information on stock-based compensation.

Derivatives: Snap-on utilizes derivative financial instruments, including foreign currency forward contracts, interest rate swap agreements, treasury lock agreements and prepaid equity forward agreements to manage its exposures to foreign currency exchange rate risks, interest rate risks, and market risk associated with the stock-based portion of its deferred compensation plans. Snap-on accounts for its derivative instruments at fair value. Snap-on does not hold or

issue financial instruments for speculative or trading purposes. See Note 11 for further information on derivatives.
Cash equivalents: Snap-on considers all highly liquid investments with an original maturity of three months or less to be cash equivalents. There were no cash equivalents as of 2018 and 2017 year ends.

Notes to Consolidated Financial Statements (continued)

Receivables and allowances for doubtful accounts: All trade, finance and contract receivables are reported on the Consolidated Balance Sheets at their outstanding principal balance adjusted for any charge-offs and net of allowances for doubtful accounts. Finance and contract receivables also include accrued interest and contract acquisition costs, net of contract acquisition fees.

Snap-on maintains allowances for doubtful accounts to absorb probable losses inherent in its portfolio of receivables. The allowances for doubtful accounts represent management's estimate of the losses inherent in the company's receivables portfolio based on ongoing assessments and evaluations of collectability and historical loss experience. In estimating losses inherent in each of its receivable portfolios (trade, finance and contract receivables), Snap-on uses historical loss experience rates by portfolio and applies them to a related aging analysis. Determination of the proper level of allowances by portfolio requires management to exercise judgment about the timing, frequency and severity of credit losses that could materially affect the provision for credit losses and, as a result, net earnings. The allowances take into consideration numerous quantitative and qualitative factors that include receivable type, historical loss experience, loss migration, delinquency trends, collection experience, current economic conditions and credit risk characteristics as follows:

- Snap-on evaluates the collectability of receivables based on a combination of various financial and qualitative factors that may affect its customers' ability to pay. These factors may include customers' financial condition, debt-servicing ability, past payment experience, and credit bureau and proprietary Snap-on credit model information, as well as the value of the underlying collateral.
- For finance and contract receivables, Snap-on assesses quantitative and qualitative factors through the use of credit quality indicators consisting primarily of collection experience and other internal metrics as follows:

Collection experience – Snap-on conducts monthly reviews of credit and collection performance for each of its finance and contract receivable portfolios focusing on data such as delinquency trends, non-performing assets, and charge-off and recovery activity. These reviews allow for the formulation of collection strategies and potential collection policy modifications in response to changing risk profiles in the finance and contract receivable portfolios.

Other internal metrics – Snap-on maintains a system that aggregates credit exposure by customer, risk classification and geographical area, among other factors, to further monitor changing risk profiles.

Management performs detailed reviews of its receivables on a monthly and/or quarterly basis to assess the adequacy of the allowances based on historical and current trends and other factors affecting credit losses and to determine if any impairment has occurred. A receivable is impaired when it is probable that all amounts related to the receivable will not be collected according to the contractual terms of the agreement. Additions to the allowances for doubtful accounts are maintained through adjustments to the provision for credit losses, which are charged to current period earnings; amounts determined to be uncollectable are charged directly against the allowances, while amounts recovered on previously charged-off accounts increase the allowances. Net charge-offs include the principal amount of losses charged-off as well as charged-off interest and fees. Recovered interest and fees previously charged-off are recorded through the allowances for doubtful accounts and increase the allowances. Finance receivables are assessed for charge-off when an account becomes 120 days past due and are charged-off typically within 60 days of asset repossession. Contract receivables related to equipment leases are generally charged-off when an account becomes 150 days past due, while contract receivables related to franchise finance and van leases are generally charged-off up to 180 days past the asset return date. For finance and contract receivables, customer bankruptcies are generally charged-off upon notification that the associated debt is not being reaffirmed or, in any event, no later than 180 days past due.

Snap-on does not believe that its trade accounts, finance or contract receivables represent significant concentrations of credit risk because of the diversified portfolio of individual customers and geographical areas. See Note 4 for further information on receivables and allowances for doubtful accounts.

Other accrued liabilities: Supplemental balance sheet information for “Other accrued liabilities” as of 2018 and 2017 year end is as follows:

(Amounts in millions)	2018	2017
Income taxes	$34.4	$41.6
Accrued warranty	17.1	17.2
Deferred subscription revenue	47.3	38.9
Accrued new tool return	43.7	23.9
Accrued property, payroll and other taxes	40.1	45.4
Accrued selling and promotion expense	28.7	28.6
Accrued legal charges	30.9	45.9
Other	131.4	146.6
Total other accrued liabilities	$373.6	$388.1

Inventories: Snap-on values its inventory at the lower of cost or market and adjusts for the value of inventory that is estimated to be excess, obsolete or otherwise unmarketable. Snap-on records allowances for excess and obsolete inventory based on historical and estimated future demand and market conditions. Allowances for raw materials are largely based on an analysis of raw material age and actual physical inspection of raw material for fitness for use. As part of evaluating the adequacy of allowances for work-in-progress and finished goods, management reviews individual product stock-keeping units (SKUs) by product category and product life cycle. Cost adjustments for each product category/product life-cycle state are generally established and maintained based on a combination of historical experience, forecasted sales and promotions, technological obsolescence, inventory age and other actual known conditions and circumstances. Should actual product marketability and raw material fitness for use be affected by conditions that are different from management estimates, further adjustments to inventory allowances may be required.

Snap-on adopted the “last-in, first-out” (“LIFO”) inventory valuation method in 1973 for its U.S. locations. Snap-on’s U.S. inventories accounted for on a LIFO basis consist of purchased product and inventory manufactured at the company’s heritage U.S. manufacturing facilities (primarily hand tools and tool storage). Since Snap-on began acquiring businesses in the 1990’s, the company has used the “first-in, first-out” (“FIFO”) inventory valuation methodology for acquisitions; the company does not adopt the LIFO inventory valuation methodology for new acquisitions. See Note 5 for further information on inventories.

Property and equipment: Property and equipment is stated at cost less accumulated depreciation and amortization. Depreciation and amortization are provided on a straight-line basis over estimated useful lives. Major repairs that extend the useful life of an asset are capitalized, while routine maintenance and repairs are expensed as incurred. Capitalized software included in property and equipment reflects costs related to internally developed or purchased software for internal use and is amortized on a straight-line basis over their estimated useful lives. Long-lived assets are evaluated for impairment when events or circumstances indicate that the carrying amount of the long-lived asset may not be recoverable. See Note 6 for further information on property and equipment.

Goodwill and other intangible assets: Goodwill and other indefinite-lived assets are tested for impairment annually or more frequently if events or changes in circumstances indicate that the assets might be impaired. Annual impairment tests are performed by the company in the second quarter of each year using information available as of fiscal April month end. Snap-on evaluates the existence of goodwill and indefinite-lived intangible asset impairment on the basis of whether the assets are fully recoverable from projected, discounted cash flows of the related reportable unit or asset. Intangible assets with finite lives are amortized over their estimated useful lives using straight-line and accelerated methods depending on the nature of the particular asset. See Note 7 for further information on goodwill and other intangible assets.

Notes to Consolidated Financial Statements (continued)

New accounting standards

The following new accounting pronouncements were adopted in fiscal year 2018:

In March 2017, the Financial Accounting Standards Board (the "FASB") issued ASU No. 2017-07, Compensation - Retirement Benefits (Topic 715) - Improving the Presentation of Net Periodic Pension Cost and Net Periodic Retirement Benefit Cost, which provides additional guidance on the presentation of net periodic pension and postretirement benefit costs in the income statement and on the components eligible for capitalization. The amendments in this ASU require that an employer report the service cost component of the net periodic benefit costs in the same income statement line item as other compensation costs arising from services rendered by employees during the period. The non-service-cost components of net periodic benefit costs are to be presented in the income statement separately from the service cost components and outside a subtotal of income from operations. The ASU also allows for the capitalization of the service cost components, when applicable (i.e., as a cost of internally manufactured inventory or a self-constructed asset).

Snap-on adopted this ASU at the beginning of its 2018 fiscal year, with the changes related to the presentation in the statements of earnings of the service cost and non-service-cost components of net periodic benefit costs applied retrospectively, using the practical expedient permitting the use of the amounts disclosed in pension and other postretirement benefit plan notes as the estimation basis for the presentation of the prior comparative periods. For fiscal 2018 and all comparative periods, the non-service cost components of net periodic benefit costs are included in "Other income (expense) - net" on the accompanying Consolidated Statements of Earnings. Beginning in fiscal 2018, changes related to the capitalization in assets of the service cost component of net periodic benefit costs were applied prospectively. The adoption of this ASU did not have a significant impact on the company's Consolidated Statements of Earnings.

In October 2016, the FASB issued ASU No. 2016-16, Income Taxes (Topic 740) - Intra-Entity Transfers of Assets Other Than Inventory. The ASU eliminates the requirement to defer the recognition of current and deferred income taxes for an intra-entity asset transfer until the asset has been sold to an outside party. Under the new guidance, an entity should recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. The ASU is effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. The amendments in this ASU were to be applied on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings at the time of adoption. The adoption of this ASU did not have an impact on the company's consolidated financial statements.

In August 2016, the FASB issued ASU No. 2016-15, Statement of Cash Flows (Topic 230), which adds and/or clarifies guidance on the classification of certain cash receipts and payments in the statement of cash flows. The new guidance is intended to reduce diversity in practice in how certain transactions are classified in the statement of cash flows. This ASU is effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. The adoption of this ASU did not have a significant impact to the designations of operating, investing and financing activities on the company's Consolidated Statements of Cash Flows.

On December 31, 2017, the beginning of Snap-on's 2018 fiscal year, Snap-on adopted ASU No. 2014-09, Revenue from Contracts with Customers (Topic 606), which outlines a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers and supersedes most current revenue recognition guidance, including industry-specific guidance. Topic 606 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. Topic 606 also requires additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including

significant judgments and changes in judgments and assets recognized from costs incurred to fulfill a contract. Snap-on adopted Topic 606 using the modified retrospective approach applied to those contracts that were not completed as of December 31, 2017, which means Topic 606 has been applied to the fiscal 2018 financial statements and disclosures going forward, but that prior period financial statements and disclosures reflect the prior revenue recognition standard. See Note 2 for additional information on revenue recognition.

Snap-on's revenues are primarily from the selling of products that are shipped and billed, services provided to customers and from subscriptions, including software subscriptions. Approximately 90% of net sales are earned at a point in time through ship-and bill performance obligations. The remaining performance obligations that are recorded over time relate primarily to software subscriptions and to a lesser extent extended warranty and other subscription agreements. Revenues are recognized when control is transferred to customers, in an amount that reflects the consideration Snap-on expects to be entitled to in exchange for those goods and services. Revenue recognition is evaluated through the following five steps: (i) identification of the contract, or contracts, with a customer; (ii) identification of the performance obligations in the contract; (iii) determination of the transaction price; (iv) allocation of the transaction price to the performance obligations in the contract; and (v) recognition of revenue when or as a performance obligation is satisfied.

Revenue related to software subscriptions, as well as extended warranty and other subscription agreements, is generally recognized over time on a ratable basis over the contract term beginning on the date that our service is made available to the customer. Contracts with customers may include multiple performance obligations related to sales of hardware, software and software-related services. For these contracts, individual performance obligations are recorded separately if they are distinct. The transaction price, including any discounts, is allocated to each separate performance obligation based on its relative standalone selling price. The standalone selling prices are determined based on the prices charged to customers or by using an expected cost plus margin approach. The amount assigned to the products or services is recognized when the product is delivered and/or when the services are performed. In instances where the product and/or services are performed over an extended period, as is the case with subscription agreements, revenue is generally recognized over time on a ratable basis using a time-based output method applied over the contract term beginning on the date that the service is made available to the customer. These contracts are generally for 12 months but can be for a term up to 60 months.

The following new accounting pronouncements, and related impacts on adoption, are being evaluated by the company:

In August 2018, the FASB issued ASU No. 2018-13, Fair Value Measurement (Topic 820) - Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement, which is designed to improve the effectiveness of disclosures by removing, modifying and adding disclosures related to fair value measurements. ASU No. 2018-13 is effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years; the ASU allows for early adoption in any interim period after issuance of the update. The adoption of this ASU is not expected to have a significant impact on the company's consolidated financial statements.
In August 2018, the FASB issued ASU No. 2018-14, Compensation - Retirement Benefits - Defined Benefit Plans - General Subtopic 715-20 - Disclosure Framework - Changes to the Disclosure Requirements for Defined Benefit Plans, which is designed to improve the effectiveness of disclosures by removing and adding disclosures related to defined benefit plans. ASU No. 2018-14 is effective for fiscal years ending after December 15, 2020; the ASU allows for early adoption in any year end after issuance of the update. The adoption of this ASU is not expected to have a significant impact on the company's consolidated financial statements.

In February 2018, the FASB issued ASU No. 2018-02, Income Statement - Reporting Comprehensive Income - Reclassification
of Certain Tax Effects from Accumulated Other Comprehensive Income (Topic 220), which allows for a reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the Tax Cuts and Jobs Act (the "Tax Act"). ASU No. 2018-02 is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. The adoption of this ASU will reclassify approximately $46 million from accumulated other comprehensive income to retained earnings on the company's consolidated financial statements.

In August 2017, the FASB issued ASU No. 2017-12, Derivatives and Hedging (Topic 815) – Targeted Improvements to Accounting for Hedging Activities, which improves the financial reporting of hedging relationships to better portray the economic results of an entity's risk management activities in its financial statements. The amendments in this update also make certain targeted improvements to simplify the application of the hedge accounting guidance in current GAAP. ASU No. 2017-12 is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. The adoption of this ASU is not expected to have a significant impact on the company's consolidated financial statements.

Notes to Consolidated Financial Statements (continued)

In June 2016, the FASB issued ASU No. 2016-13, Financial Instruments – Credit Losses (Topic 326), to require the measurement of expected credit losses for financial instruments held at the reporting date based on historical experience, current conditions and reasonable forecasts. The main objective of this ASU is to provide financial statement users with more decision-useful information about the expected credit losses on financial instruments and other commitments to extend credit held by a reporting entity at each reporting date. ASU No. 2016-13 is effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years; the ASU allows for early adoption as of the beginning of an interim or annual reporting period beginning after December 15, 2018. The company is currently assessing the impact this ASU will have on its consolidated financial statements.

In February 2016, the FASB issued ASU No. 2016-02, Leases (Topic 842), to increase transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. The ASU is intended to represent an improvement over previous GAAP, which did not require lease assets and lease liabilities to be recognized for most leases. This ASU, which supersedes most current lease guidance, affects any entity that enters into a lease (as that term is defined in the ASU), with some specified scope exemptions. ASU No. 2016-02 is effective for fiscal years beginning after December 15, 2018.

Snap-on commenced its assessment of Topic 842 during the second half of 2017 and developed a comprehensive project plan that included representatives from across the company's business segments. The project plan included evaluating Snap-on's lease information, analyzing the standard's impact on the company's various types of lease contracts and identifying the reporting requirements of the new standard. The company identified and implemented appropriate changes to its business processes, systems and controls to support lease accounting and disclosures under Topic 842.

As of December 29, 2018, and subject to the company's ongoing evaluation of new lease contracts, the company has substantially completed its evaluation of the expected impact of adopting Topic 842 and anticipates that the adoption of this standard will not have a significant impact on the company's consolidated financial statements. As a result of the adoption of this standard, a right-of-use asset and a related lease liability of approximately $61 million will be established to reflect the present value of the future lease payments.

The company will adopt Topic 842 at the beginning of 2019 using the modified retrospective approach with prior periods following existing guidance.

Note 2: Revenue Recognition

Snap-on recognizes revenue from the sale of tools, diagnostic and equipment products and related services based on when control of the product passes to the customer or the service is provided and is recognized at an amount that reflects the consideration expected to be received in exchange for such goods or services.

The effects of adjustments to the December 30, 2017 Consolidated Balance Sheet for the adoption of Topic 606 were as follows:

(Amounts in millions)	Balance at December 30, 2017	Topic 606 Adjustments	Opening Balance at December 31, 2017
Assets			
Inventories - net	$ 638.8	$ 20.9	$ 659.7

Deferred income tax assets	52.0	0.6	52.6
Liabilities and Equity			
Other accrued liabilities	$ 388.1	$ 23.3	$ 411.4
Retained earnings	3,772.3	(1.8)	3,770.5

The adoption of Topic 606 did not have a significant impact on the company's consolidated financial statements. The adoption resulted in the recognition of an inventory asset related to certain product returns by increasing the returns liability and recognizing an inventory asset for the anticipated value of the returns to recognize Snap-on's contractual obligation to recover products from customers; this gross up had no corresponding impact on the Consolidated Statement of Earnings. For the anticipated value of the returns, the adoption resulted in the recognition of an increase in the inventory obsolescence reserve of $2.4 million with a corresponding adjustment to fiscal 2018 beginning retained earnings. Other than the amounts recorded for the adoption of Topic 606 on the Consolidated Balance Sheets, there were no other changes since the adoption that would be materially different from previous accounting standards that would affect the Consolidated Statements of Earnings, Balance Sheets, or Cash Flows.

Revenue Disaggregation

The following table shows the consolidated revenues by revenue source:

(Amounts in millions)	2018
Revenue from contracts with customers	$3,719.6
Other revenues	21.1
Total net sales	3,740.7
Financial services revenue	329.7
Total revenues	$4,070.4

Snap-on evaluates the performance of its operating segments based on segment revenues, including both external and intersegment net sales, and segment operating earnings. Snap-on accounts for both intersegment sales and transfers based primarily on standard costs with reasonable mark-ups established between the segments. Intersegment amounts are eliminated to arrive at Snap-on's consolidated financial results.

The following table represents external net sales disaggregated by geography, based on the customers' billing addresses:

	2018					
(Amounts in millions)	Commercial & Industrial Group	Snap-on Tools Group	Repair Systems & Information Group	Financial Services	Eliminations	Snap-on Incorporated
Net sales:						
North America*	$466.5	$1,378.7	$ 747.1	$ —	$ —	$ 2,592.3
Europe	311.9	151.3	255.2	—	—	718.4
All other	273.2	83.8	73.0	—	—	430.0
External net sales	1,051.6	1,613.8	1,075.3	—	—	3,740.7
Intersegment net sales	291.7	—	259.1	—	(550.8)	—
Total net sales	1,343.3	1,613.8	1,334.4	—	(550.8)	3,740.7
Financial services revenue	—	—	—	329.7	—	329.7
Total revenue	$1,343.3	$1,613.8	$ 1,334.4	$ 329.7	$ (550.8)	$ 4,070.4

* North America is comprised of the United States, Canada and Mexico.

Notes to Consolidated Financial Statements (continued)

The following table represents external net sales disaggregated by customer type:

2018 (Amounts in millions)	Commercial & Industrial Group	Snap-on Tools Group	Repair Systems & Information Group	Financial Services	Eliminations	Snap-on Incorporated
Net sales:						
Vehicle service professionals	$91.1	$1,613.8	$ 1,075.3	$ —	$ —	$ 2,780.2
All other professionals	960.5	—	—	—	—	960.5
External net sales	1,051.6	1,613.8	1,075.3	—	—	3,740.7
Intersegment net sales	291.7	—	259.1	—	(550.8)	—
Total net sales	1,343.3	1,613.8	1,334.4	—	(550.8)	3,740.7
Financial services revenue	—	—	—	329.7	—	329.7
Total revenue	$1,343.3	$1,613.8	$ 1,334.4	$ 329.7	$ (550.8)	$ 4,070.4

Nature of Goods and Services

Snap-on derives net sales from a broad line of products and complementary services that are grouped into three categories: (i) tools; (ii) diagnostics, information and management systems; and (iii) equipment. The tools product category includes hand tools, power tools, tool storage products and other similar products. The diagnostics, information and management systems product category includes handheld and PC-based diagnostic products, service and repair information products, diagnostic software solutions, electronic parts catalogs, business management systems and services, point-of-sale systems, integrated systems for vehicle service shops, original equipment manufacturer ("OEM") purchasing facilitation services, and warranty management systems and analytics to help OEM dealership service and repair shops ("OEM dealerships") manage and track performance. The equipment product category includes solutions for the service of vehicles and industrial equipment. Snap-on supports the sale of its diagnostics and vehicle service shop equipment by offering training programs as well as after-sales support to its customers. Through its financial services businesses, Snap-on also derives revenue from various financing programs designed to facilitate the sales of its products and support its franchise business.

Approximately 90% of Snap-on's net sales are products sold at a point in time through ship-and-bill performance obligations that also includes service repair services. The remaining sales revenue is earned over time primarily on a subscription basis including software, extended warranty and other subscription service agreements.

Snap-on enters into contracts related to the selling of tools, diagnostic and repair information and equipment products and related services. At contract inception, an assessment of the goods and services promised in the contracts with customers is performed and a performance obligation is identified for each distinct promise to transfer to the customer a good or service (or bundle of goods or services). To identify the performance obligations, Snap-on considers all of the goods or services promised in the contract regardless of whether they are explicitly stated or are implied by customary business practices. Contracts with customers are comprised of customer purchase orders, invoices and written contracts.

When Performance Obligations Are Satisfied

For performance obligations related to the majority of ship-and-bill products, including repair services contracts, control transfers at a point in time when title transfers upon shipment of the product to the customer, and for some sales, control transfers when title is transferred at time of receipt by customer. Once a product or repaired product has shipped or has been delivered, the customer is able to direct the use of, and obtain substantially all of the remaining

benefits from the asset, revenue is recognized. Snap-on considers control to have transferred upon shipment or delivery when Snap-on has a present right to payment, the customer has legal title to the asset, Snap-on has transferred physical possession of the asset, and the customer has significant risk and rewards of ownership of the asset.

For performance obligations related to software subscriptions, extended warranties and other subscription agreements, Snap-on transfers control and recognizes revenue over time on a ratable basis using a time-based output method. The performance obligations are typically satisfied as services are rendered on a straight-line basis over the contract term, which is generally for 12 months but can be for a term up to 60 months.

Significant Payment Terms
For ship-and-bill type contracts with customers, the contract states the final terms of the sale, including the description, quantity, and price of each product or service purchased. Payment terms are typically due upon delivery or up to 30 days after delivery but can range up to 120 days after delivery.

For subscription contracts, payment terms are in advance or in arrears of services on a monthly, quarterly or annual basis over the contract term, which is generally for 12 months but can be for a term up to 60 months depending on the product or service. The customer typically agrees to a stated rate and price in the contract that does not vary over the contract term. In some cases, customers prepay for their licenses, or in other cases, pay on a monthly or quarterly basis. When the timing of the payment made by the customer precedes the delivery of the performance obligation, a contract liability is recognized.

Variable Consideration
In some cases, the nature of Snap-on's contracts give rise to variable consideration, including rebates, credits, allowances for returns or other similar items that generally decrease the transaction price. These variable amounts generally are credited to the customer, based on achieving certain levels of sales activity, product returns and making payments within specific terms.

In the normal course of business, Snap-on allows franchisees to return product per the provisions in the franchise agreement that allow for the return of product in a saleable condition. For other customers, product returns are generally not accepted unless the item is defective as manufactured. Where applicable, Snap-on establishes provisions for estimated sales returns. Estimated product returns are recorded as a reduction in reported revenues at the time of sale based upon historical product return experience and is adjusted for known trends to arrive at the amount of consideration to which Snap-on expects to receive.
Variable consideration is estimated at the most likely amount that is expected to be earned. Estimated amounts are included in the transaction price to the extent it is probable that a significant reversal of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is resolved. Estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based largely on an assessment of the anticipated performance and all information (historical, current and forecasted) that is reasonably available.

Warranties
Snap-on allows customers to return product when the product is defective as manufactured. Where applicable, Snap-on establishes provisions for estimated warranties. Estimated product warranties are provided for specific product lines and Snap-on accrues for estimated future warranty cost in the period in which the sale is recorded. The costs are included in "Cost of goods sold" on the accompanying Consolidated Statements of Earnings. Snap-on calculates its accrual requirements based on historic warranty loss experience that is periodically adjusted for recent actual experience, including the timing of claims during the warranty period and actual costs incurred. Snap-on does not typically provide customers with the right to a refund.

Practical Expedients and Exemptions
Snap-on typically expenses incremental direct costs of obtaining a contract (sales commissions) when incurred because the amortization period is generally 12 months or less. Capitalized long-term contract costs are not significant. Contract costs are expensed or amortized in "Operating expenses" on the accompanying Consolidated Statements of Earnings.

Snap-on elected to account for shipping and handling activities that occur after control of the related good transfers to the customer as fulfillment activities and are therefore recognized upon shipment of the goods.

Snap-on has applied the portfolio approach to its ship-and-bill contracts that have similar characteristics as it reasonably expects that the effects on the financial statements of applying this guidance to the portfolio of contracts would not differ materially from applying this guidance to the individual contracts within the portfolio.

Snap-on typically excludes from its sales transaction price any amounts collected from customers for sales (and similar) taxes.

For certain performance obligations related to software subscriptions, extended warranty and other subscription agreements that are settled over time, Snap-on has elected not to disclose the value of unsatisfied performance obligations for: (i) contracts that have an original expected length of one year or less; (ii) contracts where revenue is recognized as invoiced; and (iii) contracts with variable consideration related to unsatisfied performance obligations. The remaining duration of these unsatisfied performance obligations generally range from one month up to 60 months. Snap-on had approximately $221.0 million of long-term contracts that have fixed consideration that extends beyond one year as of December 29, 2018. Snap-on expects to recognize approximately 50% of these contracts as revenue by the end of fiscal 2020, an additional 40% by the end of fiscal 2022 and the balance thereafter.

Notes to Consolidated Financial Statements (continued)

Contract Liabilities (Deferred Revenues)
Contract liabilities are recorded when cash payments are received in advance of Snap-on's performance. The timing of payment is typically on a monthly, quarterly or annual basis. The balance of total contract liabilities at December 29, 2018, was $63.8 million and was $49.4 million at the beginning of fiscal 2018. The current portion of contract liabilities and the non-current portion are included in "Other accrued liabilities" and "Other long-term liabilities", respectively, on the accompanying Consolidated Balance Sheets. In 2018, Snap-on recognized revenue of $37.4 million that was included in the contract liability balance as of December 30, 2017, which was primarily from the amortization of software subscriptions, extended warranties and other subscription agreements. The increase in the total contract liabilities balance is primarily driven by the timing of cash payments received or due in advance of satisfying Snap-on's performance obligations and growth in certain software subscriptions, partially offset by revenues recognized that were included in the contract liability balance at the beginning of the year.

Franchise fee revenue, including nominal, non-refundable initial fees, was recognized upon the granting of a franchise, which was when the company performed substantially all initial services required by the franchise agreement. Franchise fee revenue also included ongoing monthly fees (primarily for sales and business training as well as marketing and product promotion programs) that were recognized as the fees were earned. Franchise fee revenue in 2018, 2017 and 2016 totaled $16.2 million, $15.2 million and $13.9 million, respectively.

Revenue Recognition Prior to 2018
Revenue recognition prior to 2018, as presented, is based on Revenue Recognition (Topic 605). Snap-on recognized revenue from the sale of tools and diagnostic and equipment products when contract terms were met, the price was fixed or determinable, collectability was reasonably assured and a product was shipped or risk of ownership had been transferred to and accepted by the customer. For sales contingent upon customer acceptance, revenue recognition was deferred until such obligations were fulfilled. Estimated product returns were recorded as a reduction in reported revenues at the time of sale based upon historical product return experience and gross profit margin was adjusted for known trends. Provisions for customer volume rebates, discounts and allowances were also recorded as a reduction in reported revenues at the time of sale based on historical experience and known trends. Revenue related to extended warranty and subscription agreements was recognized over the terms of the respective agreements.

Snap-on also recognized revenue related to multiple element arrangements, including sales of hardware, software and software-related services. When a sales arrangement contained multiple elements, such as hardware and software products and/or services, Snap-on used the relative selling price method to allocate revenues between hardware and software elements. For software elements that were not essential to the hardware's functionality and related software post-contract customer support, vendor specific objective evidence ("VSOE") of fair value was used to further allocate revenue to each element based on its relative fair value and, when necessary, the residual method was used to assign value to the delivered elements when VSOE only existed for the undelivered elements. The amount assigned to the products or services was recognized when the product was delivered and/or when the services were performed. In instances where the product and/or services were performed over an extended period, as is the case with subscription agreements or the providing of ongoing support, revenue was generally recognized on a straight-line basis over the term of the agreement, which generally ranged from 12 months to 60 months.

Note 3: Acquisitions

On January 31, 2018, Snap-on acquired substantially all of the assets of George A. Sturdevant, Inc. (d/b/a Fastorq) for a cash purchase price of $3.0 million. Fastorq, based in New Caney, Texas, designs, assembles and distributes hydraulic torque and hydraulic tensioning products for use in critical industries.

In fiscal 2018, the company completed the purchase accounting valuations for the acquired net assets of Fastorq. The $2.6 million excess of the purchase price over the fair value of the net assets acquired was recorded in “Goodwill” on the accompanying Consolidated Balance Sheets. For segment reporting purposes, the results of operations and assets of Fastorq have been included in the Commercial & Industrial Group since the acquisition date.

On July 28, 2017, Snap-on acquired Torque Control Specialists Pty Ltd (“TCS”) for a cash purchase price of $3.6 million (or $3.5 million, net of cash acquired). TCS, based in Adelaide, Australia, distributes a full range of torque products, including wrenches, multipliers and calibrators, for use in critical industries.

In fiscal 2018, the company completed the purchase accounting valuations for the acquired net assets of TCS. The $2.0 million excess of purchase price over the fair value of the net assets acquired was recorded in “Goodwill” on the accompanying Consolidated Balance Sheets. For segment reporting purposes, the results of operations and assets of TCS have been included in the Commercial & Industrial Group since the acquisition date.

On May 4, 2017, Snap-on acquired Norbar Torque Tools Holdings Limited, along with its U.S. and Chinese joint ventures ("Norbar"), for a cash purchase price of $71.6 million (or $69.9 million, net of cash acquired). Norbar, based in Banbury, U.K., designs and manufactures a full range of torque products, including wrenches, multipliers and calibrators for use in critical industries.

In fiscal 2018, the company completed the purchase accounting valuations for the acquired net assets of Norbar, including intangible assets. The $25.1 million excess of purchase price over the fair value of the net assets acquired was recorded in "Goodwill" on the accompanying Consolidated Balance Sheets. For segment reporting purposes, the results of operations and assets of Norbar have been included in the Commercial & Industrial Group since the acquisition date.

On January 30, 2017, Snap-on acquired BTC Global Limited ("BTC") for a cash purchase price of $9.2 million. BTC, based in Crewe, U.K., designs and implements automotive vehicle inspection and management software for original equipment manufacturer ("OEM") franchise repair shops.

In fiscal 2017, the company completed the purchase accounting valuations for the acquired net assets of BTC, including intangible assets. The $5.9 million excess of purchase price over the fair value of the net assets acquired was recorded in "Goodwill" on the accompanying Consolidated Balance Sheets. For segment reporting purposes, the results of operations and assets of BTC have been included in the Repair Systems and Information Group since the acquisition date.

On November 16, 2016, Snap-on acquired Ryeson Corporation (d/b/a Sturtevant Richmont) for a cash purchase price of $13.0 million (or $12.6 million, net of cash acquired). Sturtevant Richmont, based in Carol Stream, Illinois, designs, manufactures and distributes mechanical and electronic torque wrenches as well as wireless torque error proofing systems for a variety of industrial applications.

In fiscal 2017, the company completed the purchase accounting valuations for the acquired net assets of Sturtevant Richmont, including intangible assets. The $5.0 million excess of purchase price over the fair value of the net assets acquired was recorded in "Goodwill" on the accompanying Consolidated Balance Sheets. For segment reporting purposes, the results of operations and assets of Sturtevant Richmont have been included in the Commercial & Industrial Group since the acquisition date.

On October 31, 2016, Snap-on acquired Car-O-Liner Holding AB ("Car-O-Liner") for a cash purchase price of $152.0 million (or $148.1 million, net of cash acquired). Car-O-Liner, based in Gothenburg, Sweden, designs and manufactures collision repair equipment, and information and truck alignment systems.

In fiscal 2017, the company completed the purchase accounting valuations for the acquired net assets of Car-O-Liner, including intangible assets. The $77.3 million excess of purchase price over the fair value of the net assets acquired was recorded in "Goodwill" on the accompanying Consolidated Balance Sheets. For segment reporting purposes, substantially all of Car-O-Liner's results of operations and assets have been included in the Repair Systems & Information Group since the acquisition date, with the remaining portions included in the Commercial & Industrial Group.

Pro forma financial information has not been presented for any of these acquisitions as the net effects, individually and collectively, were neither significant nor material to Snap-on's results of operations or financial position. See Note 7 for further information on goodwill and other intangible assets.

Note 4: Receivables

Trade and Other Accounts Receivable

Snap-on's trade and other accounts receivable primarily arise from the sale of tools and diagnostic and equipment products to a broad range of industrial and commercial customers and to Snap-on's independent franchise van channel on a non-extended-term basis with payment terms generally ranging from 30 to 120 days.

The components of Snap-on's trade and other accounts receivable as of 2018 and 2017 year end are as follows:

(Amounts in millions)	2018	2017
Trade and other accounts receivable	$710.1	$690.2

Allowances for doubtful accounts	(17.5)	(14.6)
Total trade and other accounts receivable – net	$692.6	$675.6

Notes to Consolidated Financial Statements (continued)

Finance and Contract Receivables

Snap-on Credit LLC ("SOC"), the company's financial services operation in the United States, originates extended-term finance and contract receivables on sales of Snap-on's products sold through the U.S. franchisee and customer network and to certain other customers of Snap-on; Snap-on's foreign finance subsidiaries provide similar financing internationally. Interest income on finance and contract receivables is included in "Financial services revenue" on the accompanying Consolidated Statements of Earnings.

Snap-on's finance receivables are comprised of extended-term installment payment contracts to both technicians and independent shop owners (i.e., franchisees' customers) to enable them to purchase tools and diagnostic and equipment products on an extended-term payment plan, generally with average payment terms of approximately four years. Finance receivables are generally secured by the underlying tools and/or diagnostic or equipment products financed.

Snap-on's contract receivables, with payment terms of up to 10 years, are comprised of extended-term installment payment contracts to a broad base of customers worldwide, including shop owners, both independents and national chains, for their purchase of tools and diagnostic and equipment products. Contract receivables also include extended-term installment loans to franchisees to meet a number of financing needs, including working capital loans, loans to enable new franchisees to fund the purchase of the franchise and van leases, or the expansion of an existing franchise. Contract receivables are generally secured by the underlying tools and/or diagnostic or equipment products financed and, for installment loans to franchisees, other franchisee assets.

The components of Snap-on's current finance and contract receivables as of 2018 and 2017 year end are as follows:

(Amounts in millions)	2018	2017
Finance receivables	$538.1	$523.1
Contract receivables	99.5	98.1
Total	637.6	621.2
Allowances for doubtful accounts:		
Finance receivables	(19.6)	(17.7)
Contract receivables	(1.2)	(1.3)
Total	(20.8)	(19.0)
Total current finance and contract receivables – net	$616.8	$602.2
Finance receivables – net	$518.5	$505.4
Contract receivables – net	98.3	96.8
Total current finance and contract receivables – net	$616.8	$602.2

The components of Snap-on's finance and contract receivables with payment terms beyond one year as of 2018 and 2017 year end are as follows:

(Amounts in millions)	2018	2017
Finance receivables	$1,116.2	$1,078.0
Contract receivables	348.0	325.9
Total	1,464.2	1,403.9
Allowances for doubtful accounts:		
Finance receivables	(41.8)	(38.8)
Contract receivables	(3.1)	(3.3)
Total	(44.9)	(42.1)
Total long-term finance and contract receivables – net	$1,419.3	$1,361.8
Finance receivables – net	$1,074.4	$1,039.2
Contract receivables – net	344.9	322.6
Total long-term finance and contract receivables – net	$1,419.3	$1,361.8

Long-term finance and contract receivables installments, net of unearned finance charges, as of 2018 and 2017 year end are scheduled as follows:

(Amounts in millions)	2018 Finance Receivables	2018 Contract Receivables	2017 Finance Receivables	2017 Contract Receivables
Due in Months:				
13 – 24	$428.7	$ 82.2	$415.1	$ 77.6
25 – 36	345.0	72.5	333.3	67.6
37 – 48	232.8	60.5	225.5	56.5
49 – 60	109.7	48.8	104.1	42.8
Thereafter	—	84.0	—	81.4
Total	$1,116.2	$ 348.0	$1,078.0	$ 325.9

Delinquency is the primary indicator of credit quality for finance and contract receivables. The entire receivable balance of a contract is considered delinquent when contractual payments become 30 days past due. Depending on the contract, payments for finance and contract receivables are due on a monthly or weekly basis. Weekly payments are converted into a monthly equivalent for purposes of calculating delinquency. Delinquencies are assessed at the end of each month following the monthly equivalent due date. Removal from delinquent status occurs when the cumulative number of monthly equivalent payments due has been received by the company.

Finance receivables are generally placed on nonaccrual status (nonaccrual of interest and other fees): (i) when a customer is placed on repossession status; (ii) upon receipt of notification of bankruptcy; (iii) upon notification of the death of a customer; or (iv) in other instances in which management concludes collectability is not reasonably assured. Finance receivables that are considered nonperforming include receivables that are on nonaccrual status and receivables that are generally more than 90 days past due.

Contract receivables are generally placed on nonaccrual status: (i) when a receivable is more than 90 days past due or at the point a customer’s account is placed on terminated status regardless of its delinquency status; (ii) upon notification of the death of a customer; or (iii) in other instances in which management concludes collectability is not reasonably assured. Contract receivables that are considered nonperforming include receivables that are on nonaccrual status and receivables that are generally more than 90 days past due.

The accrual of interest and other fees is resumed when the finance or contract receivable becomes contractually current and collection of all remaining contractual amounts due is reasonably assured. Finance and contract receivables are evaluated for impairment on a collective basis. A receivable is impaired when it is probable that all amounts related to the receivable will not be collected according to the contractual terms of the applicable agreement. Impaired finance and contract receivables are covered by the company’s respective allowances for doubtful accounts and are charged-off against the allowances when appropriate. As of 2018 and 2017 year end, there were $27.9 million and $28.0 million, respectively, of impaired finance receivables, and there were $6.0 million and $2.3 million, respectively, of impaired contract receivables.

It is the general practice of Snap-on’s financial services business to not engage in contract or loan modifications. In limited instances, Snap-on’s financial services business may modify certain impaired receivables in troubled debt restructurings. The amount and number of restructured finance and contract receivables as of 2018 and 2017 year end were immaterial to both the financial services portfolio and the company’s results of operations and financial position.

Notes to Consolidated Financial Statements (continued)

The aging of finance and contract receivables as of 2018 and 2017 year end is as follows:

(Amounts in millions)	30-59 Days Past Due	60-90 Days Past Due	Greater Than 90 Days Past Due	Total Past Due	Total Not Past Due	Total	Greater Than 90 Days Past Due and Accruing
2018 year end:							
Finance receivables	$ 19.4	$ 12.1	$ 20.3	$ 51.8	$1,602.5	$1,654.3	$ 15.9
Contract receivables	1.7	1.2	5.2	8.1	439.4	447.5	0.2
2017 year end:							
Finance receivables	$ 19.3	$ 13.9	$ 20.1	$ 53.3	$1,547.8	$1,601.1	$ 15.4
Contract receivables	1.2	0.6	1.9	3.7	420.3	424.0	0.6

The amount of performing and nonperforming finance and contract receivables based on payment activity as of 2018 and 2017 year end is as follows:

(Amounts in millions)	2018 Finance Receivables	Contract Receivables	2017 Finance Receivables	Contract Receivables
Performing	$1,626.4	$ 441.5	$1,573.1	$ 421.7
Nonperforming	27.9	6.0	28.0	2.3
Total	$1,654.3	$ 447.5	$1,601.1	$ 424.0

The amount of finance and contract receivables on nonaccrual status as of 2018 and 2017 year end is as follows:

(Amounts in millions)	2018	2017
Finance receivables	$12.0	$12.6
Contract receivables	5.8	1.7

The following is a rollforward of the allowances for doubtful accounts for finance and contract receivables for 2018 and 2017:

(Amounts in millions)	2018 Finance Receivables	Contract Receivables	2017 Finance Receivables	Contract Receivables
Allowances for doubtful accounts:				
Beginning of year	$56.5	$ 4.6	$48.6	$ 3.9
Provision	57.5	2.0	54.6	2.7
Charge-offs	(59.4)	(2.5)	(53.3)	(2.5)
Recoveries	7.1	0.4	6.6	0.4
Currency translation	(0.3)	(0.2)	—	0.1
End of year	$61.4	$ 4.3	$56.5	$ 4.6

The following is a rollforward of the combined allowances for doubtful accounts related to trade and other accounts receivable, as well as finance and contract receivables, for 2018, 2017 and 2016:

(Amounts in millions)	Balance at Beginning of Year	Expenses	Deductions [1]	Balance at End of Year
Allowances for doubtful accounts:				
2018	$ 75.7	$ 70.3	$ (62.8)	$ 83.2
2017	66.5	65.1	(55.9)	75.7
2016	59.3	51.5	(44.3)	66.5

(1) Represents write-offs of bad debts, net of recoveries, and the net impact of currency translation.

Note 5: Inventories

Inventories by major classification as of 2018 and 2017 year end are as follows:

(Amounts in millions)	2018	2017
Finished goods	$577.0	$541.9
Work in progress	51.7	49.3
Raw materials	123.5	122.7
Total FIFO value	752.2	713.9
Excess of current cost over LIFO cost	(78.4)	(75.1)
Total inventories – net	$673.8	$638.8

Inventories accounted for using the FIFO method approximated 61% of total inventories as of both 2018 and 2017 year end. The company accounts for its non-U.S. inventory on the FIFO method. As of 2018 year end, approximately 35% of the company's U.S. inventory was accounted for using the FIFO method and 65% was accounted for using the LIFO method. There were no LIFO inventory liquidations in 2018, 2017 or 2016.

Note 6: Property and Equipment

Property and equipment (which are carried at cost) as of 2018 and 2017 year end are as follows:

(Amounts in millions)	2018	2017
Land	$31.7	$24.5
Buildings and improvements	368.6	357.4
Machinery, equipment and computer software	944.4	889.2
Property and equipment – gross	1,344.7	1,271.1
Accumulated depreciation and amortization	(849.6)	(786.7)
Property and equipment – net	$495.1	$484.4

The estimated service lives of property and equipment are principally as follows:

Buildings and improvements	3 to 50 years
Machinery, equipment and computer software	2 to 15 years

The cost and accumulated depreciation of property and equipment under capital leases as of 2018 and 2017 year end are as follows:

(Amounts in millions)	2018	2017
Buildings and improvements	$21.8	$21.4
Accumulated depreciation	(15.4)	(14.0)
Net book value	$6.4	$7.4

Depreciation expense was $68.8 million, $65.6 million and $61.4 million in 2018, 2017 and 2016, respectively.

Note 7: Goodwill and Other Intangible Assets

The changes in the carrying amount of goodwill by segment for 2018 and 2017 are as follows:

(Amounts in millions)	Commercial & Industrial Group	Snap-on Tools Group	Repair Systems & Information Group	Total
Balance as of 2016 year end	$ 242.4	$ 12.5	$ 640.6	$895.5
Currency translation	30.3	—	15.8	46.1
Acquisitions	25.7	—	(43.2)	(17.5)
Balance as of 2017 year end	$ 298.4	$ 12.5	$ 613.2	$924.1
Currency translation	(16.3)	—	(9.7)	(26.0)
Acquisitions	4.1	—	—	4.1
Balance as of 2018 year end	$ 286.2	$ 12.5	$ 603.5	$902.2

Notes to Consolidated Financial Statements (continued)

Goodwill of $902.2 million as of 2018 year end includes: (i) $25.1 million from the acquisition of Norbar, (ii) $2.6 million from the acquisition of Fastorq, and (iii) $2.0 million from the acquisition of TCS. The goodwill from the Norbar, Fastorq and TCS acquisitions is included in the Commercial & Industrial Group.

Goodwill of $924.1 million as of 2017 year end includes the following from 2017 acquisitions: (i) $23.7 million, on a preliminary basis, from the acquisition of Norbar, (ii) $5.9 million from the acquisition of BTC, and (iii) $1.9 million, on a preliminary basis, from the acquisition of TCS. As of 2017 year end goodwill also includes, from 2016 acquisitions: (i) $77.3 million from the acquisition of Car-O-Liner; and (ii) $5.0 million from the acquisition of Sturtevant Richmont.

During 2018, the purchase accounting valuation for the acquired net assets, including intangible assets, of Norbar and TCS were completed resulting in an increase in goodwill of $1.4 million for Norbar and $0.1 million for TCS from 2017 year end. During 2017, the purchase accounting valuations for the acquired net assets, including intangible assets, of Car-O-Liner were completed, resulting in a reduction of goodwill of $50.8 million from 2016 year end, with a $49.1 million reduction in the Repair Systems & Information Group and $1.7 million in the Commercial & Industrial Group. Additionally, purchase accounting for Sturtevant Richmont was also completed in 2017, resulting in a $1.8 million increase in goodwill from 2016 year end.

The goodwill from the Car-O-Liner acquisition is distributed as follows: $76.5 million in the Repair Systems & Information Group and $0.8 million in the Commercial & Industrial Group. The goodwill from Sturtevant Richmont is included in the Commercial & Industrial Group and the goodwill from the BTC acquisition is included in the Repair Systems & Information Group. See Note 3 for additional information on acquisitions.

Additional disclosures related to other intangible assets as of 2018 and 2017 year end are as follows:

(Amounts in millions)	2018 Gross Carrying Value	2018 Accumulated Amortization	2017 Gross Carrying Value	2017 Accumulated Amortization
Amortized other intangible assets:				
Customer relationships	$172.2	$ (107.6)	$175.2	$ (98.2)
Developed technology	18.5	(18.3)	18.9	(18.4)
Internally developed software	156.6	(116.6)	177.0	(133.4)
Patents	35.7	(22.9)	34.1	(22.7)
Trademarks	3.2	(2.0)	3.0	(2.0)
Other	7.3	(2.9)	7.7	(2.7)
Total	393.5	(270.3)	415.9	(277.4)
Non-amortized trademarks	109.7	—	115.2	—
Total other intangible assets	$503.2	$ (270.3)	$531.1	$ (277.4)

There were no acquisitions during 2018 that resulted in the recognition of other intangible assets as of year-end 2018. As of year- end 2017, the gross carrying value of the customer relationships includes $28.8 million related to the Car-O-Liner acquisition, $1.2 million related to the BTC acquisition and $1.1 million related to the Norbar acquisition. The gross carrying value of non-amortized trademarks as of 2018 year end includes $29.8 million related to the Car-O-Liner acquisition, $16.9 million related to the Norbar acquisition and $2.1 million related to the BTC acquisition.

Significant and unanticipated changes in circumstances, such as declines in profitability and cash flow due to significant and long-term deterioration in macroeconomic, industry and market conditions, the loss of key customers, changes in technology or markets, significant changes in key personnel or litigation, a significant and sustained decrease in share price and/or other events, including effects from the sale or disposal of a reporting unit, could require a provision for impairment of goodwill and/or other intangible assets in a future period. As of 2018 year end, the company had no accumulated impairment losses.

The weighted-average amortization periods related to other intangible assets are as follows:

	In Years
Customer relationships	15
Developed technology	3
Internally developed software	5
Patents	8
Trademarks	6
Other	39

Snap-on is amortizing its customer relationships on both an accelerated and straight-line basis over a 15 year weighted-average life; the remaining intangibles are amortized on a straight-line basis. The weighted-average amortization period for all amortizable intangibles on a combined basis is 11 years.

The company's customer relationships generally have contractual terms of three to five years and are typically renewed without significant cost to the company. The weighted-average 15 year life for customer relationships is based on the company's historical renewal experience. Intangible asset renewal costs are expensed as incurred.

The aggregate amortization expense was $25.3 million in 2018, $27.6 million in 2017 and $24.2 million in 2016. Based on current levels of amortizable intangible assets and estimated weighted-average useful lives, estimated annual amortization expense is expected to be $21.5 million in 2019, $17.5 million in 2020, $14.8 million in 2021, $12.6 million in 2022, and $12.0 million in 2023.

Note 8: Exit and Disposal Activities

In 2018 and 2017, Snap-on did not record any costs for exit and disposal activities. In 2016, the company's Repair Systems & Information Group recorded $0.9 million of severance costs for exit and disposal activities, all of which qualified for accrual treatment. The exit and disposal accrual of $0.6 million as of 2017 year end was fully utilized in 2018.

Note 9: Income Taxes

The source of earnings before income taxes and equity earnings consisted of the following:

(Amounts in millions)	2018	2017	2016
United States	$735.4	$645.5	$644.0
Foreign	174.5	176.4	157.4
Total	$909.9	$821.9	$801.4

The provision (benefit) for income taxes consisted of the following:

(Amounts in millions)	2018	2017	2016
Current:			
Federal	$117.9	$166.9	$175.9
Foreign	52.4	41.1	39.9
State	30.4	30.6	27.2
Total current	200.7	238.6	243.0
Deferred:			
Federal	18.7	8.7	6.3
Foreign	(8.4)	2.9	(6.7)
State	3.4	0.7	1.7
Total deferred	13.7	12.3	1.3
Total income tax provision	$214.4	$250.9	$244.3

Notes to Consolidated Financial Statements (continued)

The following is a reconciliation of the statutory federal income tax rate to Snap-on's effective tax rate:

	2018	2017	2016
Statutory federal income tax rate	21.0%	35.0%	35.0%
Increase (decrease) in tax rate resulting from:			
State income taxes, net of federal benefit	2.9	2.4	2.4
Noncontrolling interests	(0.4)	(0.6)	(0.6)
Repatriation of foreign earnings	(0.1)	(1.2)	(0.1)
Change in valuation allowance for deferred tax assets	0.3	0.1	(1.0)
Adjustments to tax accruals and reserves	(0.2)	(0.3)	0.3
Foreign rate differences	0.4	(2.4)	(2.1)
Domestic production activities deduction	—	(2.1)	(1.9)
Excess tax benefits related to equity compensation	(0.8)	(1.4)	(1.8)
U.S. tax reform, net impact	0.4	0.9	—
Other	0.1	0.1	0.3
Effective tax rate	23.6%	30.5%	30.5%

Snap-on's effective income tax rate on earnings attributable to Snap-on Incorporated was 24.0% in 2018, 31.1% in 2017, and 31.0% in 2016. The effective tax rate for 2018 reflects the reduction of the U.S. federal corporate income tax rate from 35% to 21%. It also includes an additional non-recurring net tax cost attributable to the prior year's U.S. tax reform changes. The effective tax rate for 2017 included the one-time net tax costs associated with the Tax Cuts and Jobs Act (the "Tax Act"), which was signed into law in the fourth quarter of 2017, as well as tax benefits associated with certain legal charges. The effective tax rate for 2016 included tax benefits from the reversal of deferred tax asset valuation allowances that are now expected to be realized in future years, as well as tax benefits associated with the January 3, 2016 adoption of ASU No. 2016-09, Compensation – Stock Compensation (Topic 718) – Improvements to Employee Share-Based Payment Accounting; these tax benefits were partially offset by tax contingency reserves established for certain non-U.S. tax audits.

On December 22, 2017, the U.S. government passed the Tax Act. The Tax Act makes broad and complex changes to the U.S. tax code, including, but not limited to: (i) reducing the future U.S. federal corporate tax rate from 35 percent to 21 percent; (ii) requiring companies to pay a one-time transition tax on certain unremitted earnings of foreign subsidiaries; and (iii) bonus depreciation that will allow for full expensing of qualified property.

The Tax Act also established new tax laws that affected 2018, including, but not limited to: (i) the reduction of the U.S. federal corporate tax rate discussed above; (ii) a general elimination of U.S. federal income taxes on dividends from foreign subsidiaries; (iii) a new provision designed to tax global intangible low-taxed income ("GILTI"); (iv) the repeal of the domestic production activity deductions; (v) limitations on the deductibility of certain executive compensation; (vi) limitations on the use of foreign tax credits to reduce the U.S. income tax liability; and (vii) a new provision that allows a domestic corporation an immediate deduction for a portion of its foreign derived intangible income ("FDII").

The Securities and Exchange Commission staff issued Staff Accounting Bulletin ("SAB") 118, which provides guidance on accounting for the tax effects of the Tax Act, for the company's year ended December 30, 2017. SAB 118 provides a measurement period that should not extend beyond one year from the Tax Act enactment date for companies to complete the related accounting under ASC 740, Accounting for Income Taxes. In accordance with SAB 118, a company must reflect the income tax effects of those aspects of the Tax Act for which the accounting under Accounting Standards Codification ("ASC") 740 is complete. To the extent that a company's accounting for a certain income tax effect of the Tax Act is incomplete, but it is able to determine a reasonable estimate, it must record a provisional estimate in the financial statements. If a company cannot determine a provisional estimate to be included in the financial statements, it should continue to apply ASC 740 on the basis of the provisions of the tax laws that were in effect immediately before the enactment of the Tax Act.

The company's accounting for certain elements of the Tax Act was incomplete as of December 30, 2017. However, the company was able to make reasonable estimates of the effects and, therefore, recorded provisional estimates for these items. In connection with its initial analysis of the impact of the Tax Act, the company recorded a provisional discrete net tax expense of $7.0 million in the fiscal year ended December 30, 2017. This provisional estimate consists of a net expense of $13.7 million for the one-time transition tax and a net benefit of $6.7 million related to revaluation of deferred tax assets and liabilities, caused by the new lower corporate tax rate. To determine the transition tax, the company must determine the amount of post-1986 accumulated earnings and profits of the relevant subsidiaries, as well as the amount of non-U.S. income taxes paid on such earnings. While the company was able to make a reasonable estimate of the transition tax for 2017, it continued to gather additional information to more precisely compute the final amount reported on its 2017 U.S. federal tax return which was filed in October 2018. The actual transition tax was $8.3 million greater than the company's initial estimate and was included in income tax expense for 2018. Likewise, while the company was able to make a reasonable estimate of the impact of the reduction to the corporate tax rate, it was affected by other analyses related to the Tax Act, including, but not limited to, the state tax effect of adjustments made to federal temporary differences. During 2018, the company recorded additional net tax benefits of $4.4 million attributable to pension contributions made in 2018 that were deductible for 2017 at the higher 35% federal tax rate and other changes to the 2017 tax provision related to the Tax Act and subsequently-issued tax guidance. Due to the complexity of the new GILTI tax rules, the company continued to evaluate this provision of the Tax Act and the application of ASC 740 throughout 2018. Under GAAP, the company is allowed to make an accounting policy choice to either: (i) treat taxes due on future U.S. inclusions in taxable income related to GILTI as a current-period expense when incurred (the "period cost method"); or (ii) factor in such amounts into a company's measurement of its deferred taxes (the "deferred method"). The company selected to apply the "period cost method" to account for the new GILTI tax, and treated it as a current-period expense for 2018. The company will continue to analyze the full effects of the Tax Act on its financial statements in 2019 as additional guidance is issued and interpretations evolve.

Temporary differences that give rise to the net deferred income tax asset as of 2018, 2017 and 2016 year end are as follows:

(Amounts in millions)	2018	2017	2016
Long-term deferred income tax assets (liabilities):			
Inventories	$33.6	$28.8	$33.3
Accruals not currently deductible	72.9	61.7	77.7
Tax credit carryforward	1.8	2.1	15.1
Employee benefits	56.5	56.8	108.1
Net operating losses	40.9	44.0	42.8
Depreciation and amortization	(167.5)	(161.3)	(209.8)
Valuation allowance	(25.1)	(25.2)	(21.7)
Equity-based compensation	16.6	17.1	24.3
Undistributed non-U.S. earnings	(6.0)	—	—
Cash flow hedge	—	(0.3)	(5.5)
Other	(0.4)	(0.1)	(4.6)
Net deferred income tax asset	$23.3	$23.6	$59.7

As of 2018 year end, Snap-on had tax net operating loss carryforwards totaling $224.8 million as follows:

(Amounts in millions)	State	Federal	Foreign	Total
Year of expiration:				
2019-2023	$0.2	$ —	$52.5	$52.7
2024-2028	0.1	—	38.9	39.0
2029-2033	90.6	—	6.8	97.4
2034-2038	—	—	—	—

Indefinite	—	—	35.7	35.7
Total net operating loss carryforwards	$90.9	$ —	$133.9	$224.8

Notes to Consolidated Financial Statements (continued)

A valuation allowance totaling $25.1 million, $25.2 million and $21.7 million as of 2018, 2017 and 2016 year end, respectively, has been established for deferred income tax assets primarily related to certain subsidiary loss carryforwards that may not be realized. Realization of the net deferred income tax assets is dependent on generating sufficient taxable income prior to their expiration. Although realization is not assured, management believes it is more-likely-than-not that the net deferred income tax assets will be realized. The amount of the net deferred income tax assets considered realizable, however, could change in the near term if estimates of future taxable income during the carryforward period fluctuate.

The following is a reconciliation of the beginning and ending amounts of unrecognized tax benefits for 2018, 2017 and 2016:

(Amounts in millions)	2018	2017	2016
Unrecognized tax benefits at beginning of year	$7.7	$9.4	$7.2
Gross increases – tax positions in prior periods	1.3	1.4	2.5
Gross decreases – tax positions in prior periods	(0.1)	—	(0.3)
Gross increases – tax positions in the current period	2.8	1.0	0.5
Settlements with taxing authorities	—	(3.6)	—
Lapsing of statutes of limitations	(0.6)	(0.5)	(0.5)
Unrecognized tax benefits at end of year	$11.1	$7.7	$9.4

The unrecognized tax benefits of $11.1 million, $7.7 million and $9.4 million as of 2018, 2017 and 2016 year end, respectively, would impact the effective income tax rate if recognized. As of December 29, 2018, unrecognized tax benefits of $1.7 million and $9.4 million were included in “Deferred income tax assets” and “Other long-term liabilities,” respectively, on the accompanying Consolidated Balance Sheets. Interest and penalties related to unrecognized tax benefits are recorded in income tax expense. As of 2018, 2017 and 2016 year end, the company had provided for $0.8 million, $0.6 million and $0.9 million, respectively, of accrued interest and penalties related to unrecognized tax benefits. During 2018, the company increased the reserve attributable to interest and penalties associated with unrecognized tax benefits by a net $0.2 million. As of December 29, 2018, $0.8 million of accrued interest and penalties were included in “Other long-term liabilities” on the accompanying Consolidated Balance Sheets.

Snap-on and its subsidiaries file income tax returns in the United States and in various state, local and foreign jurisdictions. It is reasonably possible that certain unrecognized tax benefits may either be settled with taxing authorities or the statutes of limitations for such items may lapse within the next 12 months, causing Snap-on’s gross unrecognized tax benefits to decrease by a range of zero to $2.4 million. Over the next 12 months, Snap-on anticipates taking certain tax positions on various tax returns for which the related tax benefit does not meet the recognition threshold. Accordingly, Snap-on’s gross unrecognized tax benefits may increase by a range of zero to $1.0 million over the next 12 months for uncertain tax positions expected to be taken in future tax filings.

With few exceptions, Snap-on is no longer subject to U.S. federal and state/local income tax examinations by tax authorities for years prior to 2013, and Snap-on is no longer subject to non-U.S. income tax examinations by tax authorities for years prior to 2012.

In general, it is Snap-on’s practice and intention to reinvest certain earnings of its non-U.S. subsidiaries in those operations. As of 2018 year end, the company has not made a provision for incremental U.S. income taxes or additional foreign withholding taxes on approximately $205.6 million of such undistributed earnings that is deemed indefinitely reinvested. Determination of the amount of unrecognized deferred tax liability related to these earnings is not practicable. As a result of the Tax Act, which subjected the majority of the company’s undistributed foreign earnings to taxation for the 2017 tax year, the company can now repatriate non-U.S. cash in a tax efficient manner. Accordingly, the company has reversed its prior assertion concerning the indefinite reinvestment of the majority of its undistributed foreign earnings and has recorded a deferred tax liability for the incremental tax costs associated with the future repatriation of such earnings.

Note 10: Short-term and Long-term Debt

Short-term and long-term debt as of 2018 and 2017 year end consisted of the following:

(Amounts in millions)	2018	2017
4.25% unsecured notes due 2018	$	$250.0
6.70% unsecured notes due 2019, paid in February 2018	—	200.0
6.125% unsecured notes due 2021	250.0	250.0
3.25% unsecured notes due 2027	300.0	300.0
4.10% unsecured notes due 2048	400.0	—
Other debt*	182.3	186.8
	1,132.3	1,186.8
Less: notes payable and current maturities of long-term debt:		
Current maturities of long-term debt	$—	$(250.0)
Commercial paper borrowings	(177.1)	(151.0)
Other notes	(9.2)	(32.2)
	(186.3)	(433.2)
Total long-term debt	$946.0	$753.6

* Includes fair value adjustments related to interest rate swaps.

The annual maturities of Snap-on's long-term debt and notes payable over the next five years are $186.3 million in 2019, no maturities in 2020, $250 million in 2021, and no maturities in both 2022 and 2023.

Average notes payable outstanding, including commercial paper borrowings, were $167.7 million and $126.8 million in 2018 and 2017, respectively. The weighted-average interest rate of 2.84% in 2018 increased from 2.45% last year primarily due to the impact of higher rates on commercial paper borrowings. Average commercial paper borrowings were $154.9 million and $103.3 million in 2018 and 2017, respectively, and the weighted-average interest rate of 2.03% in 2018 increased from 1.14% last year. At 2018 year end, the weighted-average interest rate on outstanding notes payable of 3.21% compared with 2.34% at 2017 year end. The 2018 year-end rate increased primarily due to higher rates on commercial paper borrowings.

On February 20, 2018, Snap-on commenced a tender offer to repurchase $200 million in principal amount of its unsecured 6.70% notes that were scheduled to mature on March 1, 2019 (the "2019 Notes"), with $26.1 million of the 2019 Notes tendered and repaid on February 27, 2018. On February 20, 2018, Snap-on also issued a notice of redemption for remaining outstanding 2019 Notes not tendered, with the redemption completed on March 22, 2018. The total cash cost for this tender and redemption was $209.1 million, including accrued interest of $1.5 million. Snap-on recorded $7.8 million for the loss on the early extinguishment of debt related to the 2019 Notes, which included the redemption premium and other issuance costs associated with this debt in "Other income (expense) - net" on the accompanying Consolidated Statement of Earnings. See Note 17 for additional information on Other income (expense) - net.

On February 20, 2018, Snap-on sold, at a discount, $400 million of unsecured 4.10% long-term notes that mature on March 1, 2048 (the"2048 Notes"). Interest on the 2048 Notes accrues at a rate of 4.10% per year and is payable semi-annually beginning September 1, 2018. Snap-on used a portion of the $395.4 million of net proceeds from the

sale of the 2048 Notes, reflecting $3.5 million of transaction costs, to repay the 2019 Notes. The remaining net proceeds were used to repay a portion of its then-outstanding commercial paper borrowings and for general corporate purposes.

Notes to Consolidated Financial Statements (continued)

Snap-on has a five-year, $700 million multi-currency revolving credit facility that terminates on December 15, 2020 (the "Credit Facility"); no amounts were outstanding under the Credit Facility as of December 29, 2018. Borrowings under the Credit Facility bear interest at varying rates based on Snap-on's then-current, long-term debt ratings. The Credit Facility's financial covenant requires that Snap-on maintain, as of each fiscal quarter end, either (i) a ratio not greater than 0.60 to 1.00 of consolidated net debt (consolidated debt net of certain cash adjustments) to the sum of such consolidated net debt plus total equity and less accumulated other comprehensive income or loss (the "Debt Ratio"); or (ii) a ratio not greater than 3.50 to 1.00 of such consolidated net debt to earnings before interest, taxes, depreciation, amortization and certain other adjustments for the preceding four fiscal quarters then ended (the "Debt to EBITDA Ratio"). Snap-on may, up to two times during any five-year period during the term of the Credit Facility (including any extensions thereof), increase the maximum Debt Ratio to 0.65 to 1.00 and/or increase the maximum Debt to EBITDA Ratio to 3.75 to 1.00 for four consecutive fiscal quarters in connection with certain material acquisitions (as defined in the related credit agreement). As of 2018 year end, the company's actual ratios of 0.23 and 0.99, respectively, were both within the permitted ranges set forth in this financial covenant. Snap-on generally issues commercial paper to fund its financing needs on a short-term basis and uses the Credit Facility as back-up liquidity to support such commercial paper issuances.

Note 11: Financial Instruments

Derivatives: All derivative instruments are reported in the Consolidated Financial Statements at fair value. Changes in the fair value of derivatives are recorded each period in earnings or on the accompanying Consolidated Balance Sheets, depending on whether the derivative is designated and effective as part of a hedged transaction. Gains or losses on derivative instruments recorded in Accumulated other comprehensive income (loss) ("Accumulated OCI") must be reclassified to earnings in the period in which earnings are affected by the underlying hedged item and the ineffective portion of all hedges must be recognized in earnings in the period that such portion is determined to be ineffective.

The criteria used to determine if hedge accounting treatment is appropriate are: (i) the designation of the hedge to an underlying exposure; (ii) whether or not overall risk is being reduced; and (iii) if there is a correlation between the value of the derivative instrument and the underlying hedged item. On the date a derivative contract is entered into, Snap-on designates the derivative as a fair value hedge, a cash flow hedge, a hedge of a net investment in a foreign operation, or a natural hedging instrument whose change in fair value is recognized as an economic hedge against changes in the value of the hedged item. Snap-on does not use derivative instruments for speculative or trading purposes.

The company is exposed to global market risks, including the effects of changes in foreign currency exchange rates, interest rates, and the company's stock price, and therefore uses derivatives to manage financial exposures that occur in the normal course of business. The primary risks managed by using derivative instruments are foreign currency risk, interest rate risk and stock-based deferred compensation risk.

Foreign currency risk management: Snap-on has significant international operations and is subject to certain risks inherent with foreign operations that include currency fluctuations. Foreign currency exchange risk exists to the extent that Snap-on has payment obligations or receipts denominated in currencies other than the functional currency, including intercompany loans denominated in foreign currencies. To manage these exposures, Snap-on identifies naturally offsetting positions and then purchases hedging instruments to protect the residual net exposures. Snap-on manages most of these exposures on a consolidated basis, which allows for netting of certain exposures to take advantage of natural offsets. Foreign currency forward contracts ("foreign currency forwards") are used to hedge the net exposures. Gains or losses on net foreign currency hedges are intended to offset losses or gains on the underlying net exposures in an effort to reduce the earnings volatility resulting from fluctuating foreign currency exchange rates. Snap-on's foreign currency forwards are typically not designated as hedges. The fair value changes of these contracts are reported in earnings as foreign exchange gain or loss, which is included in "Other income (expense) – net" on the accompanying Consolidated Statements of Earnings.

As of 2018 year end, Snap-on had $26.3 million of net foreign currency forward buy contracts outstanding comprised of buy contracts including $26.7 million in euros, $23.6 million in Swedish kronor, $21.0 million in Hong Kong dollars, $10.2 million in Chinese renminbi, $8.6 million in Singapore dollars, $7.0 million in South Korean won, $6.3 million in Norwegian kroner, and $5.1 million in other currencies, and sell contracts comprised of $37.4 million in British pounds, $14.6 million in Canadian dollars, $11.0 million in Japanese yen, $8.2 million in Indian rupees, $4.1 million in Australian dollars, $3.1 million in Thai baht, and $3.8 million in other currencies. As of 2017 year end, Snap-on had $53.8 million of net foreign currency forward buy contracts outstanding comprised of buy contracts including $64.9 million in euros, $15.4 million in Swedish kronor, $13.1 million in Hong Kong dollars, $11.3 million in Singapore dollars, $6.8 million in South Korean won, $5.7 million in Norwegian kroner, and $8.0 million in other currencies, and sell contracts comprised of $29.7 million in British pounds, $13.8 million in Canadian dollars, $11.8 million in Australian dollars, $6.0 million in Indian rupees, $3.4 million in Thai baht, and $6.7 million in other currencies.

Interest rate risk management: Snap-on aims to control funding costs by managing the exposure created by the differing maturities and interest rate structures of Snap-on's borrowings through the use of interest rate swap agreements ("interest rate swaps") and treasury lock agreements ("treasury locks").

Interest rate swaps: Snap-on enters into interest rate swaps to manage risks associated with changing interest rates related to the company's fixed rate borrowings. Interest rate swaps are accounted for as fair value hedges. The differentials paid or received on interest rate swaps are recognized as adjustments to "Interest expense" on the accompanying Consolidated Statements of Earnings. The effective portion of the change in fair value of the derivative is recorded in "Long-term debt" on the accompanying Consolidated Balance Sheets, while any ineffective portion is recorded as an adjustment to "Interest expense" on the accompanying Consolidated Statements of Earnings. The notional amount of interest rate swaps outstanding and designated as fair value hedges was $100 million as of both 2018 and 2017 year end.

Treasury locks: Snap-on uses treasury locks to manage the potential change in interest rates in anticipation of the issuance of fixed rate debt. Treasury locks are accounted for as cash flow hedges. The effective differentials to be paid or received on treasury locks related to the anticipated issuance of fixed rate debt are initially recorded in Accumulated OCI, net of tax effect. Upon the issuance of debt, the related amount in Accumulated OCI is released over the term of the debt and recognized as an adjustment to interest expense on the Consolidated Statements of Earnings.

Snap-on entered into a $300 million treasury lock in the fourth quarter of 2017 to manage the potential change in interest rates in anticipation of the issuance of fixed rate debt in the first quarter of 2018. As of 2017 year end, an unrecognized gain of $0.8 million had been recorded in Accumulated OCI on the accompanying Consolidated Balance Sheets.

In the first quarter of 2018, Snap-on settled the outstanding $300 million treasury lock after it was deemed to be an ineffective hedge for the 2048 Notes which were issued in February 2018. The $13.3 million gain on the settlement of the treasury lock was recorded in "Other income (expense) - net" on the accompanying Consolidated Statements of Earnings. The notional amount of treasury locks outstanding and designated as cash flow hedges was zero as of December 29, 2018, and $300 million as of December 30, 2017. See Note 17 for additional information on Other income (expense) - net.

In fiscal 2017, Snap-on settled a $250 million treasury lock in conjunction with the February 2017 issuance of $300 million of unsecured 3.25% notes that mature on March 1, 2027 (the "2027 Notes"). The $14.9 million gain on the settlement of the treasury lock was recorded in Accumulated OCI and is being amortized over the term of the 2027 Notes and recognized as an adjustment to interest expense on the Consolidated Statements of Earnings. There were no treasury locks settled in 2016.

Stock-based deferred compensation risk management: Snap-on aims to manage market risk associated with the stock-based portion of its deferred compensation plans through the use of prepaid equity forward agreements ("equity forwards"). Equity forwards are used to aid in offsetting the potential mark-to-market effect on stock-based deferred

compensation from changes in Snap-on's stock price. Since stock-based deferred compensation liabilities increase as the company's stock price rises and decrease as the company's stock price declines, the equity forwards are intended to mitigate the potential impact on deferred compensation expense that may result from such mark-to-market changes. As of 2018 and 2017 year end, Snap-on had equity forwards in place intended to manage market risk with respect to 99,100 shares and 102,300 shares, respectively, of Snap-on common stock associated with its deferred compensation plans.

Notes to Consolidated Financial Statements (continued)

Fair value measurements: Snap-on has derivative assets and liabilities related to interest rate swaps, treasury locks, foreign currency forwards and equity forwards that are measured at Level 2 fair value on a recurring basis. The fair values of derivative instruments included within the accompanying Consolidated Balance Sheets as of 2018 and 2017 year end are as follows:

(Amounts in millions)	Balance Sheet Presentation	2018 Asset Derivatives Fair Value	2018 Liability Derivatives Fair Value	2017 Asset Derivatives Fair Value	2017 Liability Derivatives Fair Value
Derivatives designated as hedging instruments:					
Interest rate swaps	Other assets	$4.6	$ —	$7.3	$ —
Treasury locks	Other assets	—	—	1.4	—
		4.6	—	8.7	—
Derivatives not designated as hedging instruments:					
Foreign currency forwards	Prepaid expenses and other assets	$2.8	$ —	$4.1	$ —
Foreign currency forwards	Other accrued liabilities	—	3.2	—	6.5
Equity forwards	Prepaid expenses and other assets	14.3	—	17.8	—
		17.1	3.2	21.9	6.5
Total derivative instruments		$21.7	$ 3.2	$30.6	$ 6.5

As of 2018 and 2017 year end, the fair value adjustment to long-term debt related to the interest rate swaps was $4.6 million and $7.3 million, respectively.

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between participants at the measurement date. Level 2 fair value measurements for derivative assets and liabilities are measured using quoted prices in active markets for similar assets and liabilities. Interest rate swaps are valued based on the six-month LIBOR swap rate for similar instruments. Treasury locks are valued based on the 10-year U.S. treasury interest rate. Foreign currency forwards are valued based on exchange rates quoted by domestic and foreign banks for similar instruments. Equity forwards are valued using a market approach based primarily on the company's stock price at the reporting date. The company did not have any derivative assets or liabilities measured at Level 1 or Level 3, nor did it implement any changes in its valuation techniques as of and for its 2018 and 2017 years ended.

The effect of derivative instruments designated as fair value hedges as included in the Consolidated Statements of Earnings is as follows:

(Amounts in millions)	Statement of Earnings Presentation	Effective Portion of Gain Recognized in Income 2018	2017	2016
Derivatives designated as fair value hedges:				
Interest rate swaps	Interest expense	$ 1.5	$ 2.8	$ 2.9

The effect of derivative instruments designated as cash flow hedges as included in Accumulated OCI on the Consolidated Balance Sheets and the Consolidated Statements of Earnings is as follows:

(Amounts in millions)	Effective Portion of Gain Recognized in Accumulated OCI	Statement of Earnings Presentation	Effective Portion of Gain Reclassified from Accumulated OCI into

					Income		
	2018	2017	2016		2018	2017	2016
Derivatives designated as cash flow hedges:							
Treasury locks	$ (0.8)	$ 6.9	$ 8.8	Interest expense	$ 1.5	$ 1.6	$ 0.3

The effects of derivative instruments not designated as hedging instruments as included in the Consolidated Statements of Earnings are as follows:

(Amounts in millions)	Statement of Earnings Presentation	Gain (Loss) Recognized in Income 2018	2017	2016
Derivatives not designated as hedging instruments:				
Foreign currency forwards	Other income (expense) – net	$ (40.4)	(25.8)	(7.4)
Equity forwards	Operating expenses	(2.1)	0.9	0.8

Snap-on's foreign currency forwards are typically not designated as hedges for financial reporting purposes. The fair value changes of foreign currency forwards not designated as hedging instruments are reported in earnings as foreign exchange gain or loss in "Other income (expense) – net" on the accompanying Consolidated Statements of Earnings. In 2018, the $40.4 million derivative loss was substantially offset by transaction gains on net exposures of $36.5 million, resulting in a net foreign exchange loss of $3.9 million. In 2017, the $25.8 million derivative loss was partially offset by transaction gains on net exposures of $18.8 million, resulting in a net foreign exchange loss of $7.0 million. In 2016, the $7.4 million derivative loss was partially offset by transaction gains on net exposures of $6.1 million, resulting in a net foreign exchange loss of $1.3 million. The resulting net foreign exchange losses are included in "Other income (expense) – net" on the accompanying Consolidated Statements of Earnings. See Note 17 for additional information on "Other income (expense) – net."

Snap-on's equity forwards are not designated as hedges for financial reporting purposes. Fair value changes of both the equity forwards and related stock-based (mark-to-market) deferred compensation liabilities are reported in "Operating expenses" on the accompanying Consolidated Statements of Earnings. The $2.1 million derivative loss recognized in 2018 was primarily offset by $2.0 million of mark-to-market deferred compensation gain. The $0.9 million derivative gain recognized in 2017 was primarily offset by $0.8 million of mark-to-market deferred compensation expense. The $0.8 million derivative gain recognized in 2016 was largely offset by $0.3 million of mark-to-market deferred compensation expense.

As of 2018 year end, the maximum maturity date of any fair value hedge was three years. During the next 12 months, Snap-on expects to reclassify into earnings net gains from Accumulated OCI of approximately $1.1 million after tax at the time the underlying hedge transactions are realized.

Counterparty risk: Snap-on is exposed to credit losses in the event of non-performance by the counterparties to its various financial agreements, including its foreign currency forward contracts, interest rate swap agreements, treasury lock agreements and prepaid equity forward agreements. Snap-on does not obtain collateral or other security to support financial instruments subject to credit risk, but monitors the credit standing of the counterparties and generally enters into agreements with financial institution counterparties with a credit rating of A- or better. Snap-on does not anticipate non-performance by its counterparties, but cannot provide assurances.

Fair value of financial instruments: The fair values of financial instruments that do not approximate the carrying values in the financial statements as of 2018 and 2017 year end are as follows:

(Amounts in millions)	2018 Carrying Value	2018 Fair Value	2017 Carrying Value	2017 Fair Value
Finance receivables – net	$1,592.9	$1,845.4	$1,544.6	$1,791.5
Contract receivables – net	443.2	481.2	419.4	459.1
Long-term debt, notes payable and current maturities of long-term debt	1,132.3	1,136.0	1,186.8	1,235.6

Notes to Consolidated Financial Statements (continued)

The following methods and assumptions were used in estimating the fair value of financial instruments:

- Finance and contract receivables include both short-term and long-term receivables. The fair value estimates of finance and contract receivables are derived utilizing discounted cash flow analyses performed on groupings of receivables that are similar in terms of loan type and characteristics. The cash flow analyses consider recent prepayment trends where applicable. The cash flows are discounted over the average life of the receivables using a current market discount rate of a similar term adjusted for credit quality. Significant inputs to the fair value measurements of the receivables are unobservable and, as such, are classified as Level 3.

- Fair value of long-term debt and current maturities of long-term debt were estimated, using Level 2 fair value measurements, based on quoted market values of Snap-on's publicly traded senior debt. The carrying value of long-term debt includes adjustments related to fair value hedges. The fair value of notes payable approximates such instruments' carrying value due to their short-term nature.

- The fair value of all other financial instruments, including trade and other accounts receivable, accounts payable and other financial instruments, approximates such instruments' carrying value due to their short-term nature.

Note 12: Pension Plans

Snap-on has several non-contributory defined benefit pension plans covering most U.S. employees and certain employees in foreign countries. Snap-on also has foreign contributory defined benefit pension plans covering certain foreign employees. Retirement benefits are generally provided based on employees' years of service and average earnings or stated amounts for years of service. Normal retirement age is 65, with provisions for earlier retirement.

The status of Snap-on's pension plans as of 2018 and 2017 year end is as follows:

(Amounts in millions)	2018	2017
Change in projected benefit obligation:		
Benefit obligation at beginning of year	$1,467.6	$1,361.4
Service cost	25.1	22.7
Interest cost	52.8	56.1
Plan participant contributions	0.5	0.6
Plan amendments	1.0	—
Plan settlements	—	(0.3)
Benefits paid	(68.5)	(66.6)
Actuarial (gain) loss	(77.9)	69.5
Foreign currency impact	(13.7)	24.2
Benefit obligation at end of year	$1,386.9	$1,467.6
Change in plan assets:		
Fair value of plan assets at beginning of year	$1,305.0	$1,110.8
Actual (loss) gain on plan assets	(72.8)	175.7
Employer contributions	61.3	69.6
Plan participant contributions	0.5	0.6
Plan settlements	—	(0.3)
Benefits paid	(68.5)	(66.6)
Foreign currency impact	(9.9)	15.2
Fair value of plan assets at end of year	$1,215.6	$1,305.0
Unfunded status at end of year	$(171.3)	$(162.6)

Amounts recognized in the Consolidated Balance Sheets as of 2018 and 2017 year end are as follows:

(Amounts in millions)	2018	2017
Other assets	$4.3	$1.5
Accrued benefits	(4.3)	(5.2)
Pension liabilities	(171.3)	(158.9)
Net liability	$(171.3)	$(162.6)

Amounts included in Accumulated OCI on the accompanying Consolidated Balance Sheets as of 2018 and 2017 year end are as follows:

(Amounts in millions)	2018	2017
Net loss, net of tax of $158.8 million and $146.4 million, respectively	$(301.9)	$(266.7)
Prior service credit, net of tax of $0.4 million and $0.9 million, respectively	(0.2)	1.5
	$(302.1)	$(265.2)

The accumulated benefit obligation for Snap-on's pension plans as of 2018 and 2017 year end was $1,316.1 million and $1,385.0 million, respectively.

The projected benefit obligation, accumulated benefit obligation and fair value of plan assets for Snap-on's pension plans in which the accumulated benefit obligation exceeds the fair value of plan assets as of 2018 and 2017 year end are as follows:

(Amounts in millions)	2018	2017
Projected benefit obligation	$1,081.3	$398.7
Accumulated benefit obligation	1,028.6	378.1
Fair value of plan assets	916.2	275.6

The components of net periodic benefit cost and changes recognized in "Other comprehensive income (loss)" ("OCI") are as follows:

(Amounts in millions)	2018	2017	2016
Net periodic benefit cost:			
Service cost	$25.1	$22.7	$19.3
Interest cost	52.8	56.1	56.5
Expected return on plan assets	(88.6)	(83.4)	(81.0)
Amortization of unrecognized loss	32.7	27.9	31.3
Amortization of prior service credit	(1.2)	(1.1)	(1.1)
Settlement loss	—	0.1	—
Net periodic benefit cost	$20.8	$22.3	$25.0
Changes in benefit obligations recognized in OCI, net of tax:			
Net (gain) loss	$35.2	$(30.3)	$43.3
Prior service cost	1.7	0.7	0.6
Total recognized in OCI	$36.9	$(29.6)	$43.9

The components of net periodic pension cost, other than the service cost component, are included in "Other income (expense) - net" on the accompanying Consolidated Statements of Earnings. See Note 17 for additional information on Other income (expense) - net.

Notes to Consolidated Financial Statements (continued)

Amounts in Accumulated OCI that are expected to be amortized as net expense into net periodic benefit cost during 2019 are as follows:

(Amounts in millions)	Amount
Amortization of unrecognized loss	$ 24.9
Amortization of prior service credit	(0.9)
Total to be recognized in net periodic benefit cost	$ 24.0

The worldwide weighted-average assumptions used to determine Snap-on's full-year pension costs are as follows:

	2018	2017	2016
Discount rate	3.7%	4.2%	4.5%
Expected return on plan assets	7.1%	7.2%	7.4%
Rate of compensation increase	3.4%	3.4%	3.6%

The worldwide weighted-average assumptions used to determine Snap-on's projected benefit obligation as of 2018 and 2017 year end are as follows:

	2018	2017
Discount rate	4.4%	3.7%
Rate of compensation increase	3.4%	3.4%

The objective of Snap-on's discount rate assumption is to reflect the rate at which the pension benefits could be effectively settled. In making this determination, the company takes into account the timing and amount of benefits that would be available under the plans. The domestic discount rate as of 2018 and 2017 year end was selected based on a cash flow matching methodology developed by the company's outside actuaries and which incorporates a review of current economic conditions. This methodology matches the plans' yearly projected cash flows for benefits and service costs to those of hypothetical bond portfolios using high-quality, AA rated or better, corporate bonds from either Moody's Investors Service or Standard & Poor's credit rating agencies available at the measurement date. This technique calculates bond portfolios that produce adequate cash flows to pay the plans' projected yearly benefits and then selects the portfolio with the highest yield and uses that yield as the recommended discount rate.

The weighted-average discount rate for Snap-on's domestic pension plans of 4.4% represents the single rate that produces the same present value of cash flows as the estimated benefit plan payments. Lowering Snap-on's domestic discount rate assumption by 50 basis points (100 basis points ("bps") equals 1.0 percent) would have increased Snap-on's 2018 domestic pension expense and projected benefit obligation by approximately $3.7 million and $62.9 million, respectively. As of 2018 year end, Snap-on's domestic projected benefit obligation comprised approximately 83% of Snap-on's worldwide projected benefit obligation. The weighted-average discount rate for Snap-on's foreign pension plans of 3.0% represents the single rate that produces the same present value of cash flows as the estimated benefit plan payments. Lowering Snap-on's foreign discount rate assumption by 50 bps would have increased Snap-on's 2018 foreign pension expense and projected benefit obligation by approximately $1.9 million and $21.0 million, respectively.

Actuarial gains and losses in excess of 10 percent of the greater of the projected benefit obligation or market-related value of assets are amortized on a straight-line basis over the average remaining service period of active participants or over the average remaining life expectancy for plans with primarily inactive participants. Prior service costs and credits resulting from plan amendments are amortized in equal annual amounts over the average remaining service period of active participants or over the average remaining life expectancy for plans with primarily inactive participants.

As a practical expedient, Snap-on uses the calendar year end as the measurement date for its plans. Snap-on funds its pension plans as required by governmental regulation and may consider discretionary contributions as conditions warrant. Snap-on intends to make contributions of $9.4 million to its foreign pension plans and $1.9 million to its domestic pension plans in 2019, as required by law. Depending on market and other conditions, Snap-on may make discretionary cash contributions to its pension plans in 2019.

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

(Amounts in millions)	Amount
Year:	
2019	$ 76.2
2020	80.1
2021	82.4
2022	92.4
2023	88.8
2024-2028	474.9

Snap-on's domestic pension plans have a long-term investment horizon and a total return strategy that emphasizes a capital growth objective. The long-term investment performance objective for Snap-on's domestic plans' assets is to achieve net of expense returns that meet or exceed the 7.45% domestic long-term return on plan assets assumption used for reporting purposes. Snap-on uses a three-year, market-related value asset method of amortizing the difference between actual and expected returns on its domestic plans' assets. As of 2018 year end, Snap-on's domestic pension plans' assets comprised approximately 86% of the company's worldwide pension plan assets.

The basis for determining the overall expected long-term return on plan assets assumption is a nominal returns forecasting method. For each asset class, future returns are estimated by identifying the premium of riskier asset classes over lower risk alternatives. The methodology constructs expected returns using a "building block" approach to the individual components of total return. These forecasts are stated in both nominal and real (after inflation) terms. This process first considers the long-term historical return premium based on the longest set of data available for each asset class. These premiums, which are calculated using the geometric mean, are then adjusted based on current relative valuation levels, macro-economic conditions, and the expected alpha related to active investment management. The asset return assumption is also adjusted by an implicit expense load for estimated administrative and investment-related expenses.

For risk and correlation assumptions, the actual experience for each asset class is reviewed for the longest time period available. Expected relationships for a 10 to 20 year time horizon are determined based upon historical results, with adjustments made for material changes.

Investments are diversified to attempt to minimize the risk of large losses. Since asset allocation is a key determinant of expected investment returns, assets are periodically rebalanced to the targeted allocation to correct significant deviations from the asset allocation policy that are caused by market fluctuations and cash flow. Asset/liability studies are conducted periodically to determine if any revisions to the strategic asset allocation policy are necessary.

Snap-on's domestic pension plans' target allocation and actual weighted-average asset allocation by asset category and fair value of plan assets as of 2018 and 2017 year end are as follows:

	Target		2018		2017	
Asset category:						
Equity securities	51	%	49	%	51	%
Debt securities and cash and cash equivalents	37	%	40	%	38	%
Real estate and other real assets	2	%	1	%	1	%
Hedge funds	10	%	10	%	10	%
Total	100	%	100	%	100	%
Fair value of plan assets (Amounts in millions)			$1,049.0		$1,122.7	

The fair value measurement hierarchy prioritizes the inputs used to measure fair value. The hierarchy gives the highest priority ("Level 1") to unadjusted quoted prices in active markets for identical assets and liabilities and the lowest priority ("Level 3") to unobservable inputs. Fair value measurements primarily based on observable market information are given a "Level 2" priority.

Notes to Consolidated Financial Statements (continued)

Certain equity and debt securities are valued at quoted per share or unit market prices for which an official close or last trade pricing on an active exchange is available and are categorized as Level 1 in the fair value hierarchy. If quoted market prices are not readily available for specific securities, values are estimated using quoted prices of securities with similar characteristics and are categorized as Level 2 in the fair value hierarchy. Insurance contracts are valued at the present value of the estimated future cash flows promised under the terms of the insurance contracts and are categorized as Level 2 in the fair value hierarchy.

Commingled equity securities and commingled multi-strategy funds are valued at the Net Asset Value ("NAV") per share or unit multiplied by the number of shares or units held as of the measurement date, as reported by the fund managers. The share or unit price is quoted on a private market and is based on the value of the underlying investments, which are primarily based on observable inputs; such investments that are measured at fair value using the NAV per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy.

Private equity partnership funds, hedge funds, and real estate and other real assets are valued at the NAV as reported by the fund managers. Private equity partnership funds, certain hedge funds, and certain real estate and other real assets are valued based on the proportionate interest or share of net assets held by the pension plan, which is based on the estimated fair market value of the underlying investments. Certain other hedge funds and real estate and other real assets are valued at the NAV per share or unit multiplied by the number of shares or units held as of the measurement date, based on the estimated value of the underlying investments as reported by the fund managers. These investments are measured at fair value using the NAV per share (or its equivalent) practical expedient and have not been classified in the fair value hierarchy.

The company regularly reviews fund performance directly with its investment advisor and the fund managers, and performs qualitative analysis to corroborate the reasonableness of the reported NAVs. For funds for which the company did not receive a year-end NAV, the company recorded an estimate of the change in fair value for the latest period based on return estimates and other fund activity obtained from the fund managers.

The columns labeled "Investments Measured at NAV" in the following tables reflect certain investments that are measured at fair value using the NAV per share (or its equivalent) practical expedient and have not been categorized in the fair value hierarchy. The fair value amounts presented in these tables are intended to permit a reconciliation of the fair value hierarchy to the pension plan assets.

The following is a summary, by asset category, of the fair value and the level within the fair value hierarchy of Snap-on's domestic pension plans' assets as of 2018 year end:

(Amounts in millions)	Quoted Prices for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Investments Measured at NAV	Total
Asset category:				
Cash and cash equivalents	$ 17.8	$ —	$ —	$17.8
Equity securities:				
Domestic	70.5	—	—	70.5
Foreign	87.5	—	—	87.5
Commingled funds – domestic	—	—	200.6	200.6
Commingled funds – foreign	—	—	128.4	128.4
Private equity partnerships	—	—	22.7	22.7
Debt securities:				
Government	131.2	2.6	—	133.8
Corporate bonds	—	271.3	—	271.3
Real estate and other real assets	—	—	11.9	11.9
Hedge funds	—	—	104.5	104.5

Total	$ 307.0	$ 273.9	$ 468.1	$1,049.0

The following is a summary, by asset category, of the fair value and the level within the fair value hierarchy of Snap-on's domestic pension plans' assets as of 2017 year end:

(Amounts in millions)	Quoted Prices for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Investments Measured at NAV	Total
Asset category:				
Cash and cash equivalents	$ 20.6	$ —	$ —	$20.6
Equity securities:				
Domestic	73.4	—	—	73.4
Foreign	100.1	—	—	100.1
Commingled funds – domestic	—	—	225.0	225.0
Commingled funds – foreign	—	—	148.8	148.8
Private equity partnerships	—	—	27.5	27.5
Debt securities:				
Government	152.8	2.2	—	155.0
Corporate bonds	—	253.0	—	253.0
Real estate and other real assets	—	—	13.2	13.2
Hedge funds	—	—	106.1	106.1
Total	$ 346.9	$ 255.2	$ 520.6	$1,122.7

Snap-on's primary investment objective for its foreign pension plans' assets is to meet the projected obligations to the beneficiaries over a long period of time, and to do so in a manner that is consistent with the company's risk tolerance. The foreign asset allocation policies consider the company's financial strength and long-term asset class risk/return expectations, since the obligations are long term in nature. The company believes the foreign pension plans' assets, which are managed locally by professional investment firms, are well diversified.

The expected long-term rates of return on foreign plans' assets, which ranged from 2.0% to 6.1% as of 2018 year end, reflect management's expectations of long-term average rates of return on funds invested to provide benefits included in the plans' projected benefit obligation. The expected returns are based on outlooks for inflation, fixed income returns and equity returns, asset allocations and investment strategies. Differences between actual and expected returns on foreign pension plans' assets are recorded as an actuarial gain or loss and amortized accordingly.

Snap-on's foreign pension plans' target allocation and actual weighted-average asset allocation by asset category and fair value of plan assets as of 2018 and 2017 year end are as follows:

	Target	2018	2017
Asset category:			
Equity securities*	35%	35%	36%
Debt securities* and cash and cash equivalents	40%	42%	42%
Insurance contracts and hedge funds	25%	23%	22%
Total	100%	100%	100%
Fair value of plan assets (Amounts in millions)		$166.6	$182.3

* Includes commingled funds

-
multi-strategy

Notes to Consolidated Financial Statements (continued)

The following is a summary, by asset category, of the fair value and the level within the fair value hierarchy of Snap-on's foreign pension plans' assets as of 2018 year end:

(Amounts in millions)	Quoted Prices for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Investments Measured at NAV	Total
Asset category:				
Cash and cash equivalents	$ 1.2	$ —	$ —	$1.2
Commingled funds – multi-strategy	—	—	101.5	101.5
Debt securities:				
Government	8.3	—	—	8.3
Corporate bonds	—	17.5	—	17.5
Insurance contracts	—	23.8	—	23.8
Hedge fund	—	—	14.3	14.3
Total	$ 9.5	$ 41.3	$ 115.8	$166.6

The following is a summary, by asset category, of the fair value and the level within the fair value hierarchy of Snap-on's foreign pension plans' assets as of 2017 year end:

(Amounts in millions)	Quoted Prices for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Investments Measured at NAV	Total
Asset category:				
Cash and cash equivalents	$ 0.7	$ —	$ —	$0.7
Commingled funds – multi-strategy	—	—	114.2	114.2
Debt securities:				
Government	8.8	—	—	8.8
Corporate bonds	—	18.3	—	18.3
Insurance contracts	—	24.2	—	24.2
Hedge fund	—	—	16.1	16.1
Total	$ 9.5	$ 42.5	$ 130.3	$182.3

Snap-on has several 401(k) plans covering certain U.S. employees. Snap-on's employer match to the 401(k) plans is made with cash contributions. For 2018, 2017 and 2016, Snap-on recognized $9.4 million, $8.9 million and $8.2 million, respectively, of expense related to its 401(k) plans.

Note 13: Postretirement Plans

Snap-on provides health care benefits for certain retired U.S. employees. Employees retiring prior to 1989 were eligible for retiree medical coverage upon reaching early retirement age, with no retiree contributions required. Benefits are paid based on deductibles and percentages of covered expenses and take into consideration payments made by Medicare and other insurance coverage.

Since 1989, U.S. retirees have been eligible for comprehensive major medical plans. Benefits are paid based on deductibles and percentages of covered expenses, and plan provisions allow for benefit and coverage changes. Most retirees are required to pay the entire cost of the coverage, but Snap-on may elect to subsidize the cost of coverage under certain circumstances.

Snap-on has a Voluntary Employees Beneficiary Association ("VEBA") trust for the funding of existing postretirement health care benefits for certain non-salaried retirees in the United States; all other retiree health care plans are unfunded.

The status of Snap-on's U.S. postretirement health care plans as of 2018 and 2017 year end is as follows:

(Amounts in millions)	2018	2017
Change in accumulated postretirement benefit obligation:		
Benefit obligation at beginning of year	$52.5	$53.2
Service cost	—	—
Interest cost	1.8	2.1
Plan participant contributions	0.3	0.4
Benefits paid	(4.5)	(4.3)
Actuarial (gain) loss	(3.3)	1.1
Benefit obligation at end of year	$46.8	$52.5
Change in plan assets:		
Fair value of plan assets at beginning of year	$13.4	$13.2
Actual return on plan assets	(0.2)	1.3
Employer contributions	3.1	2.8
Plan participant contributions	0.3	0.4
Benefits paid	(4.5)	(4.3)
Fair value of plan assets at end of year	$12.1	$13.4
Unfunded status at end of year	$(34.7)	$(39.1)

Amounts recognized in the Consolidated Balance Sheets as of 2018 and 2017 year end are as follows:

(Amounts in millions)	2018	2017
Accrued benefits	$(2.9)	$(3.1)
Retiree health care benefits	(31.8)	(36.0)
Net liability	$(34.7)	$(39.1)

Amounts included in Accumulated OCI on the accompanying Consolidated Balance Sheets as of 2018 and 2017 year end are as follows:

(Amounts in millions)	2018	2017
Net gain, net of tax of $3.1 million and $2.6 million, respectively	$5.6	$4.2

The components of net periodic benefit cost and changes recognized in OCI are as follows:

(Amounts in millions)	2018	2017	2016
Net periodic benefit cost:			
Service cost	$—	$—	$0.1
Interest cost	1.8	2.1	2.2
Expected return on plan assets	(0.8)	(0.8)	(0.9)
Amortization of unrecognized gain	(0.4)	(0.3)	(0.1)
Net periodic benefit cost	$0.6	$1.0	$1.3
Changes in benefit obligations recognized in OCI, net of tax:			
Net (gain) loss	$(1.4)	$0.6	$(0.3)

The components of net periodic postretirement health care cost, other than the service cost component, are included in "Other income (expense) - net" on the accompanying Consolidated Statements of Earnings. See Note 17 for additional information on Other income (expense) - net.

Notes to Consolidated Financial Statements (continued)

Snap-on expects to recognize $0.8 million of prior unrecognized gains, included in Accumulated OCI on the accompanying 2018 Consolidated Balance Sheet, in net periodic benefit cost during 2019.

The weighted-average discount rate used to determine Snap-on's postretirement health care expense is as follows:

	2018	2017	2016
Discount rate	3.6%	4.1%	4.1%

The weighted-average discount rate used to determine Snap-on's accumulated benefit obligation is as follows:

	2018	2017
Discount rate	4.2%	3.6%

The methodology for selecting the year-end 2018 and 2017 weighted-average discount rate for the company's domestic postretirement plans was to match the plans' yearly projected cash flows for benefits and service costs to those of hypothetical bond portfolios using high-quality, AA rated or better, corporate bonds from either Moody's Investors Service or Standard & Poor's credit rating agencies available at the measurement date. As a practical expedient, Snap-on uses the calendar year end as the measurement date for its plans.

For 2019, the actuarial calculations assume a pre-65 health care cost trend rate of 5.7% and a post-65 health care cost trend rate of 6.3%, both decreasing gradually to 4.5% in 2038 and thereafter. As of 2018 year end, a one-percentage-point increase in the health care cost trend rate for future years would increase the accumulated postretirement benefit obligation by approximately $0.5 million and the aggregate of the service cost and interest cost components by less than $0.1 million. Conversely, a one-percentage-point decrease in the health care cost trend rate for future years would decrease the accumulated postretirement benefit obligation by $0.6 million and the aggregate of the service cost and interest rate components by less than $0.1 million.

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

(Amounts in millions)	Amount
Year:	
2019	$ 3.8
2020	3.9
2021	4.0
2022	4.1
2023	4.1
2024-2028	21.2

The objective of the VEBA trust is to achieve net of expense returns that meet or exceed the 6.3% long-term return on plan assets assumption used for reporting purposes. Investments are diversified to attempt to minimize the risk of large losses. Since asset allocation is a key determinant of expected investment returns, assets are periodically rebalanced to the targeted allocation to correct significant deviations from the asset allocation policy that are caused by market fluctuations and cash flow.

The basis for determining the overall expected long-term return on plan assets assumption is a nominal returns forecasting method. For each asset class, future returns are estimated by identifying the premium of riskier asset classes over lower risk alternatives. The methodology constructs expected returns using a "building block" approach to the individual components of total return. These forecasts are stated in both nominal and real (after inflation) terms. This process first considers the long-term historical return premium based on the longest set of data available for each asset class. These premiums, which are calculated using the geometric mean, are then adjusted based on current relative valuation levels and macro-economic conditions. The asset return assumption is also adjusted by an implicit expense load for estimated administrative and investment-related expenses.

Snap-on's VEBA plan target allocation and actual weighted-average asset allocation by asset category and fair value of plan assets as of 2018 and 2017 year end are as follows:

	Target	2018	2017
Asset category:			
Debt securities and cash and cash equivalents	46 %	56 %	42 %
Equity securities	29 %	26 %	29 %
Hedge funds	25 %	18 %	29 %
Total	100 %	100 %	100 %
Fair value of plan assets (Amounts in millions)		$12.1	$13.4

The fair value measurement hierarchy prioritizes the inputs used to measure fair value. The hierarchy gives the highest priority (Level 1) to unadjusted quoted prices in active markets for identical assets and liabilities and the lowest priority (Level 3) to unobservable inputs. Fair value measurements primarily based on observable market information are given a Level 2 priority.

Debt securities are valued at quoted per share or unit market prices for which an official close or last trade pricing on an active exchange is available and are categorized as Level 1 in the fair value hierarchy.

Equity securities are valued at the NAV per share or unit multiplied by the number of shares or units held as of the measurement date, as reported by the fund managers. The share or unit price is quoted on a private market and is based on the value of the underlying investments, which are primarily based on observable inputs; such investments that are measured at fair value using the NAV per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy.

Hedge funds are stated at the NAV per share or unit (based on the estimated fair market value of the underlying investments) multiplied by the number of shares or units held as of the measurement date, as reported by the fund managers. These investments are measured at fair value using the NAV per share (or its equivalent) practical expedient and have not been classified in the fair value hierarchy.

The company regularly reviews fund performance directly with its investment advisor and the fund managers, and performs qualitative analysis to corroborate the reasonableness of the reported NAVs. For funds for which the company did not receive a year-end NAV, the company recorded an estimate of the change in fair value for the latest period based on return estimates and other fund activity obtained from the fund managers.

The columns labeled "Investments Measured at NAV" in the following tables are measured at fair value using the NAV per share (or its equivalent) practical expedient and have not been categorized in the fair value hierarchy. The fair value amounts presented in these tables are intended to permit a reconciliation of the fair value hierarchy to the VEBA plan assets.

The following is a summary, by asset category, of the fair value and the level within the fair value hierarchy of the VEBA plan assets as of 2018 year end:

(Amounts in millions)	Quoted Prices for Identical Assets (Level 1)	Investments Measured at NAV	Total
Asset category:			
Cash and cash equivalents	$ 1.3	$ —	$ 1.3
Debt securities	5.5	—	5.5
Equity securities	—	3.1	3.1
Hedge fund	—	2.2	2.2

Total	$ 6.8	$ 5.3	$ 12.1

Notes to Consolidated Financial Statements (continued)

The following is a summary, by asset category, of the fair value and the level within the fair value hierarchy of the VEBA plan assets as of 2017 year end:

(Amounts in millions)	Quoted Prices for Identical Assets (Level 1)	Investments Measured at NAV	Total
Asset category:			
Cash and cash equivalents	$ 0.2	$ —	$ 0.2
Debt securities	5.5	—	5.5
Equity securities	—	3.8	3.8
Hedge fund	—	3.9	3.9
Total	$ 5.7	$ 7.7	$ 13.4

Note 14: Stock-based Compensation and Other Stock Plans

The 2011 Incentive Stock and Awards Plan (the “2011 Plan”) provides for the grant of stock options, performance awards, stock appreciation rights (“SARs”) and restricted stock awards (which may be designated as “restricted stock units” or “RSUs”). No further grants are being made under its predecessor, the 2001 Incentive Stock and Awards Plan (the “2001 Plan”), although outstanding awards under the 2001 Plan will continue in accordance with their terms. As of 2018 year end, the 2011 Plan had 2,654,112 shares available for future grants. The company uses treasury stock to deliver shares under both the 2001 and 2011 Plans.

Net stock-based compensation expense was $27.2 million in 2018, $30.3 million in 2017 and $31.0 million in 2016. Cash received from stock purchase and option plan exercises was $55.5 million in 2018, $46.2 million in 2017 and $41.8 million in 2016. The tax benefit realized from both the exercise and vesting of share-based payment arrangements was $14.8 million in 2018, $20.9 million in 2017 and $24.8 million in 2016.

Stock Options

Stock options are granted with an exercise price equal to the market value of a share of Snap-on’s common stock on the date of grant and have a contractual term of ten years. Stock option grants vest ratably on the first, second and third anniversaries of the date of grant.

The fair value of each stock option award is estimated on the date of grant using the Black-Scholes valuation model. The company uses historical data regarding stock option exercise and forfeiture behaviors for different participating groups to estimate the period of time that options granted are expected to be outstanding. Expected volatility is based on the historical volatility of the company’s stock for the length of time corresponding to the expected term of the option. The expected dividend yield is based on the company’s historical dividend payments. The risk-free interest rate is based on the U.S. treasury yield curve on the grant date for the expected term of the option.

The following weighted-average assumptions were used in calculating the fair value of stock options granted during 2018, 2017 and 2016, using the Black-Scholes valuation model:

	2018	2017	2016
Expected term of option (in years)	5.35	5.15	5.05
Expected volatility factor	20.08%	22.01%	22.17%
Expected dividend yield	1.68 %	1.63 %	1.77 %
Risk-free interest rate	2.71 %	1.78 %	1.04 %

A summary of stock option activity during 2018 is presented below:

	Shares (in thousands)	Exercise Price per Share*	Remaining Contractual Term* (in years)	Aggregate Intrinsic Value (in millions)
Outstanding at beginning of year	3,198	$ 115.30		
Granted	515	161.18		
Exercised	(537)	84.00		
Forfeited or expired	(46)	159.33		
Outstanding at end of year	3,130	127.57	6.3	$ 75.3
Exercisable at end of year	2,047	110.48	5.1	74.1

* Weighted-average

The weighted-average grant date fair value of options granted was $30.21 in 2018, $31.13 in 2017 and $22.99 in 2016. The intrinsic value of options exercised was $43.8 million in 2018, $33.3 million in 2017 and $35.2 million in 2016. The fair value of stock options vested was $16.0 million in 2018, $14.0 million in 2017 and $12.7 million in 2016.

As of 2018 year end, there was $18.0 million of unrecognized compensation cost related to non-vested stock options that is expected to be recognized as a charge to earnings over a weighted-average period of 1.4 years.

Performance Awards

Performance awards, which are granted as performance share units (“PSUs”) and performance-based RSUs, are earned and expensed using the fair value of the award over a contractual term of three years based on the company’s performance. Vesting of the performance awards is dependent upon performance relative to pre-defined goals for revenue growth and return on net assets for the applicable performance period. For performance achieved above specified levels, the recipient may earn additional shares of stock, not to exceed 100% of the number of performance awards initially granted.

The PSUs have a three-year performance period based on the results of the consolidated financial metrics of the company. The performance-based RSUs have a one-year performance period based on the results of the consolidated financial metrics of the company followed by a two-year cliff vesting schedule, assuming continued employment.

The fair value of performance awards is calculated using the market value of a share of Snap-on’s common stock on the date of grant and assumed forfeitures based on recent historical experience; in recent years, forfeitures have not been significant. The weighted-average grant date fair value of performance awards granted during 2018, 2017 and 2016 was $161.18, $168.70 and $138.83, respectively. Vested PSUs totaled 32,154 shares as of 2018 year end, 50,316 shares as of 2017 year end and 61,149 shares as of 2016 year end. PSUs related to 50,182 shares, 60,980 shares and 94,186 shares were paid out in 2018, 2017 and 2016, respectively. Earned PSUs vest and are generally paid out following the conclusion of the applicable performance period upon approval by the Organization and Executive Compensation Committee of the company’s Board of Directors (the “Board”).

Based on the company’s 2018 performance, 33,170 RSUs granted in 2018 were earned; assuming continued employment, these RSUs will vest at the end of fiscal 2020. Based on the company’s 2017 performance, 13,648 RSUs granted in 2017 were earned; assuming continued employment, these RSUs will vest at the end of fiscal 2019. Based on the company’s 2016 performance, 45,502 RSUs granted in 2016 were earned; these RSUs vested as of fiscal 2018 year end and were paid out shortly thereafter.

Changes to the company’s non-vested performance awards in 2018 are as follows:

	Shares (in thousands)	Fair Value Price per Share*
Non-vested performance awards at beginning of year	132	$ 149.93
Granted	87	161.18

Vested	(74	)	138.11
Cancellations and other	(25	)	156.63
Non-vested performance awards at end of year	120		164.00

* Weighted-average

Notes to Consolidated Financial Statements (continued)

As of 2018 year end, there was $10.6 million of unrecognized compensation cost related to non-vested performance awards that is expected to be recognized as a charge to earnings over a weighted-average period of 1.8 years.

Stock Appreciation Rights ("SARs")

The company also issues stock-settled and cash-settled SARs to certain key non-U.S. employees. SARs have a contractual term of ten years and vest ratably on the first, second and third anniversaries of the date of grant. SARs are granted with an exercise price equal to the market value of a share of Snap-on's common stock on the date of grant. Stock-settled SARs are accounted for as equity instruments and provide for the issuance of Snap-on common stock equal to the amount by which the company's stock has appreciated over the exercise price. Stock-settled SARs have an effect on dilutive shares and shares outstanding as any appreciation of Snap-on's common stock value over the exercise price will be settled in shares of common stock. Cash-settled SARs provide for the cash payment of the excess of the fair market value of Snap-on's common stock price on the date of exercise over the grant price. Cash-settled SARs have no effect on dilutive shares or shares outstanding as any appreciation of Snap-on's common stock over the grant price is paid in cash and not in common stock.

The fair value of stock-settled SARs is estimated on the date of grant using the Black-Scholes valuation model. The fair value of cash-settled SARs is revalued (mark-to-market) each reporting period using the Black-Scholes valuation model based on Snap-on's period-end stock price. The company uses historical data regarding SARs exercise and forfeiture behaviors for different participating groups to estimate the expected term of the SARs granted based on the period of time that similar instruments granted are expected to be outstanding. Expected volatility is based on the historical volatility of the company's stock for the length of time corresponding to the expected term of the SARs. The expected dividend yield is based on the company's historical dividend payments. The risk-free interest rate is based on the U.S. treasury yield curve in effect as of the grant date (for stock-settled SARs) or reporting date (for cash-settled SARs) for the length of time corresponding to the expected term of the SARs.

The following weighted-average assumptions were used in calculating the fair value of stock-settled SARs granted during 2018, 2017 and 2016, using the Black-Scholes valuation model:

	2018	2017	2016
Expected term of stock-settled SARs (in years)	3.58	3.99	4.03
Expected volatility factor	20.08%	19.39%	20.09%
Expected dividend yield	1.63 %	1.46 %	1.66 %
Risk-free interest rate	2.40 %	1.55 %	1.11 %

Changes to the company's stock-settled SARs in 2018 are as follows:

	Stock-settled SARs (in thousands)	Exercise Price per Share*	Remaining Contractual Term* (in years)	Aggregate Intrinsic Value (in millions)
Outstanding at beginning of year	360	$ 138.63		
Granted	89	161.18		
Exercised	(24)	105.55		
Forfeited or expired	(53)	129.40		
Outstanding at end of year	372	147.41	7.4	$ 2.6
Exercisable at end of year	191	135.42	6.3	2.4

* Weighted-average

The weighted-average grant date fair value of stock-settled SARs granted was $24.71 in 2018, $24.13 in 2017 and $19.47 in 2016. The intrinsic value of stock-settled SARs exercised was $1.8 million in 2018, $0.9 million in 2017 and $1.9 million in 2016. The fair value of stock-settled SARs vested was $2.2 million in 2018 and $2.1 million in both 2017 and 2016.

As of 2018 year end there was $2.5 million of unrecognized compensation cost related to non-vested stock-settled SARs that is expected to be recognized as a charge to earnings over a weighted-average period of 1.4 years.

The following weighted-average assumptions were used in calculating the fair value of cash-settled SARs granted during 2018, 2017 and 2016, using the Black-Scholes valuation model:

	2018	2017	2016
Expected term of cash-settled SARs (in years)	2.76	3.09	3.11
Expected volatility factor	21.96%	19.93%	19.53%
Expected dividend yield	1.75 %	1.59 %	1.56 %
Risk-free interest rate	2.50 %	1.98 %	1.47 %

The intrinsic value of cash-settled SARs exercised was $3.4 million in 2018, $1.6 million in 2017 and $3.3 million in 2016. The fair value of cash-settled SARs vested during 2018 was zero and $0.2 million during both 2017 and 2016. Changes to the company's non-vested cash-settled SARs in 2018 are as follows:

	Cash-settled SARs (in thousands)	Fair Value Price per Share*
Non-vested cash-settled SARs at beginning of year	5	$ 35.41
Granted	1	14.98
Vested	(3)	15.61
Non-vested cash-settled SARs at end of year	3	14.89

* Weighted-average

As of 2018 year end there was $0.1 million of unrecognized compensation cost related to non-vested cash-settled SARs that is expected to be recognized as a charge to earnings over a weighted-average period of 1.1 years.

Restricted Stock Awards – Non-employee Directors

The company awarded 6,975 shares, 6,966 shares and 7,145 shares of restricted stock to non-employee directors in 2018, 2017 and 2016, respectively. The fair value of the restricted stock awards is expensed over a one-year vesting period based on the fair value on the date of grant. All restrictions for the restricted stock generally lapse upon the earlier of the first anniversary of the grant date, the recipient's death or disability or in the event of a change in control, as defined in the 2011 Plan. If termination of the recipient's service occurs prior to the first anniversary of the grant date for any reason other than death or disability, the shares of restricted stock would be forfeited, unless otherwise determined by the Board.

Directors' Fee Plan

Under the Directors' 1993 Fee Plan, as amended, non-employee directors may elect to receive up to 100% of their fees and retainer in shares of Snap-on's common stock. Directors may elect to defer receipt of all or part of these shares. For 2018, 2017 and 2016, issuances under the Directors' Fee Plan totaled 1,727 shares, 1,800 shares and 2,579 shares, respectively, of which 1,315 shares, 1,312 shares and 2,019 shares, respectively, were deferred. As of 2018 year end, shares reserved for issuance to directors under this plan totaled 176,724 shares.

Employee Stock Purchase Plan

Substantially all Snap-on employees in the United States and Canada are eligible to participate in an employee stock purchase plan. The purchase price of the company's common stock to participants is the lesser of the mean of the high and low price of the stock on the beginning date (May 15) or ending date (the following May 14) of each plan year. For 2018, 2017 and 2016, issuances under this plan totaled 22,794 shares, 26,963 shares and 27,156 shares, respectively. As of 2018 year end, shares reserved for issuance under this plan totaled 730,806 shares and Snap-on held participant contributions of approximately $2.8 million. Participants are able to withdraw from the plan at any time prior to the ending date and receive back all contributions made during the plan year. Compensation expense for plan participants was $0.3 million in 2018, $0.1 million in 2017 and zero in 2016.

Notes to Consolidated Financial Statements (continued)

Franchisee Stock Purchase Plan

All franchisees in the United States and Canada are eligible to participate in a franchisee stock purchase plan. The purchase price of the company's common stock to participants is the lesser of the mean of the high and low price of the stock on the beginning date (May 15) or ending date (the following May 14) of each plan year. For 2018, 2017 and 2016, issuances under this plan totaled 46,704 shares, 47,314 shares and 42,867 shares, respectively. As of 2018 year end, shares reserved for issuance under this plan totaled 519,451 shares and Snap-on held participant contributions of approximately $4.9 million. Participants are able to withdraw from the plan at any time prior to the ending date and receive back all contributions made during the plan year. The company recognized mark-to-market expense of $0.6 million in 2018, and $0.2 million in 2017, and a mark-to-market benefit of $0.2 million in 2016.

Note 15: Capital Stock

Snap-on has undertaken repurchases of Snap-on common stock from time to time to offset dilution created by shares issued for employee and franchisee stock purchase plans, stock awards and other corporate purposes. Snap-on repurchased 1,769,000 shares, 1,820,000 shares and 758,000 shares in 2018, 2017 and 2016, respectively. As of 2018 year end, Snap-on has remaining availability to repurchase up to an additional $215.7 million in common stock pursuant to Board authorizations. The purchase of Snap-on common stock is at the company’s discretion, subject to prevailing financial and market conditions.

Cash dividends paid in 2018, 2017 and 2016 totaled $192.0 million, $169.4 million and $147.5 million, respectively. Cash dividends per share in 2018, 2017 and 2016 were $3.41, $2.95 and $2.54, respectively. On February 14, 2019, the company’s Board declared a quarterly dividend of $0.95 per share, payable on March 11, 2019, to shareholders of record on February 25, 2019.

Note 16: Commitments and Contingencies

Snap-on leases facilities, office equipment and vehicles under non-cancelable operating and capital leases that extend for varying amounts of time. Snap-on’s future minimum lease commitments under these leases, net of sub-lease rental income, are as follows:

(Amounts in millions)	Operating Leases	Capital Leases
Year:		
2019	$ 25.6	$ 3.3
2020	18.4	3.2
2021	13.9	2.9
2022	9.8	2.5
2023	4.9	2.2
2024 and thereafter	4.4	1.9
Total minimum lease payments	$ 77.0	16.0
Less: amount representing interest		(0.9)
Total present value of minimum capital lease payments		$ 15.1

Amounts included in the accompanying Consolidated Balance Sheets for the present value of minimum capital lease payments as of 2018 year end are as follows:

(Amounts in millions)	2018
Other accrued liabilities	$ 3.0
Other long-term liabilities	12.1
Total present value of minimum capital lease payments	$ 15.1

Rent expense for worldwide facilities, office equipment and vehicles, net of sub-lease rental income, was $33.0 million, $35.2 million and $31.2 million in 2018, 2017 and 2016, respectively.

Snap-on provides product warranties for specific product lines and accrues for estimated future warranty cost in the period in which the sale is recorded. Snap-on calculates its accrual requirements based on historic warranty loss experience that is periodically adjusted for recent actual experience, including the timing of claims during the warranty period and actual costs incurred. Snap on's product warranty accrual activity for 2018, 2017 and 2016 is as follows:

(Amounts in millions)	2018	2017	2016
Warranty accrual:			
Beginning of year	$17.2	$16.0	$16.4
Additions	14.9	15.2	12.8
Usage	(15.0)	(14.0)	(13.2)
End of year	$17.1	$17.2	$16.0

Approximately 2,650 employees, or 21% of Snap-on's worldwide workforce, are represented by unions and/or covered under collective bargaining agreements. The number of covered union employees whose contracts expire over the next five years approximates 875 employees in 2019, 975 employees in 2020, 575 employees in 2021, 175 employees in 2022, and 50 employees in 2023. In recent years, Snap-on has not experienced any significant work slowdowns, stoppages or other labor disruptions.

Snap-on is involved in various legal matters that are being litigated and/or settled in the ordinary course of business. For the year ended December 30, 2017, accruals were recorded for $45.9 million related to judgments in a patent-related litigation matter that is being appealed, and an employment-related litigation matter, which was subsequently settled in 2018. The company recognized a $4.3 million benefit in operating expenses in 2018 as a result of the settlement.

Although it is not possible to predict the outcome of the above and other legal matters, management believes that the results of all legal matters will not have a material impact on Snap-on's consolidated financial position, results of operations or cash flows.

Note 17: Other Income (Expense) – Net

"Other income (expense) – net" on the accompanying Consolidated Statements of Earnings consists of the following:

(Amounts in millions)	2018	2017	2016
Interest income	$0.6	$0.3	$0.6
Net foreign exchange loss	(3.9)	(7.0)	(1.3)
Net periodic pension and postretirement benefits (costs) - non-service	3.7	(0.6)	(6.9)
Settlement of treasury lock	13.3	—	—
Loss on early extinguishment of debt	(7.8)	—	—
Other	(1.7)	(0.5)	0.1
Total other income (expense) – net	$4.2	$(7.8)	$(7.5)

Notes to Consolidated Financial Statements (continued)

Note 18: Accumulated Other Comprehensive Income (Loss)

The following is a summary of net changes in Accumulated OCI by component and net of tax for 2018 and 2017:

(Amounts in millions)	Foreign Currency Translation	Cash Flow Hedges	Defined Benefit Pension and Postretirement Plans	Total
Balance as of 2016 year end	$ (217.7)	$ 9.2	$ (290.0)	$(498.5)
Other comprehensive income before reclassifications	135.2	6.9	11.8	153.9
Amounts reclassified from Accumulated OCI	—	(1.6)	17.2	15.6
Net other comprehensive income	135.2	5.3	29.0	169.5
Balance as of 2017 year end	$ (82.5)	$ 14.5	$ (261.0)	$(329.0)
Other comprehensive loss before reclassifications	(95.4)	(0.8)	(59.0)	(155.2)
Amounts reclassified from Accumulated OCI	—	(1.5)	23.5	22.0
Net other comprehensive loss	(95.4)	(2.3)	(35.5)	(133.2)
Balance as of 2018 year end	$ (177.9)	$ 12.2	$ (296.5)	$(462.2)

The reclassifications out of Accumulated OCI in 2018 and 2017 are as follows:

	Amounts Reclassified from Accumulated OCI		Statement of Earnings Presentation
(Amounts in millions)	2018	2017	
Gains on cash flow hedges:			
Treasury locks	$1.5	$1.6	Interest expense
Income tax expense	—	—	Income tax expense
Net of tax	1.5	1.6	
Amortization of net unrecognized losses and prior service credits	(31.1)	(26.6)	See footnote below*
Income tax benefit	7.6	9.4	Income tax expense
Net of tax	(23.5)	(17.2)	
Total reclassifications for the period, net of tax	$(22.0)	$(15.6)	

* These Accumulated OCI components are included in the computation of net periodic pension and postretirement health care costs; See Note 12 and Note 13 for further information.

Note 19: Segments

Snap-on's business segments are based on the organization structure used by management for making operating and investment decisions and for assessing performance. Snap-on's reportable business segments are: (i) the Commercial & Industrial Group; (ii) the Snap-on Tools Group; (iii) the Repair Systems & Information Group; and (iv) Financial Services. The Commercial & Industrial Group consists of business operations serving a broad range of industrial and commercial customers worldwide, including customers in the aerospace, natural resources, government, power generation, transportation and technical education market segments (collectively, "critical industries"), primarily through direct and distributor channels. The Snap-on Tools Group consists of business operations primarily serving vehicle service and repair technicians through the company's worldwide mobile tool distribution channel. The Repair Systems & Information Group consists of business operations serving other professional vehicle repair customers worldwide, primarily owners and managers of independent repair shops and OEM dealership service and repair shops ("OEM dealerships"), through direct and distributor channels. Financial Services consists of the business operations of Snap-on's finance subsidiaries.

Snap-on evaluates the performance of its operating segments based on segment revenues, including both external and intersegment net sales, and segment operating earnings. Snap-on accounts for intersegment sales and transfers based primarily on standard costs with reasonable mark-ups established between the segments. Identifiable assets by segment are those assets used in the respective reportable segment's operations. Corporate assets consist of cash and cash equivalents (excluding cash held at Financial Services), deferred income taxes and certain other assets. Intersegment amounts are eliminated to arrive at Snap-on's consolidated financial results. See Note 1 for additional information on the retrospective adoption of ASU No. 2017-07 for full year 2017 and 2016.

Neither Snap-on nor any of its segments depend on any single customer, small group of customers or government for more than 10% of its revenues.

Financial Data by Segment:

(Amounts in millions)	2018	2017	2016
Net sales:			
Commercial & Industrial Group	$1,343.3	$1,265.0	$1,148.3
Snap-on Tools Group	1,613.8	1,625.1	1,633.9
Repair Systems & Information Group	1,334.4	1,347.2	1,179.9
Segment net sales	4,291.5	4,237.3	3,962.1
Intersegment eliminations	(550.8)	(550.4)	(531.7)
Total net sales	$3,740.7	$3,686.9	$3,430.4
Financial Services revenue	329.7	313.4	281.4
Total revenues	$4,070.4	$4,000.3	$3,711.8
Operating earnings:			
Commercial & Industrial Group	$199.3	$186.5	$168.8
Snap-on Tools Group	264.2	274.7	280.4
Repair Systems & Information Group	342.6	335.3	298.6
Financial Services	230.1	217.5	198.7
Segment operating earnings	1,036.2	1,014.0	946.5
Corporate	(80.1)	(131.9)	(85.4)
Operating earnings	956.1	882.1	861.1
Interest expense	(50.4)	(52.4)	(52.2)
Other income (expense) – net	4.2	(7.8)	(7.5)
Earnings before income taxes and equity earnings	$909.9	$821.9	$801.4

(Amounts in millions)	2018	2017
Assets:		
Commercial & Industrial Group	$1,087.9	$1,113.9
Snap-on Tools Group	752.7	714.3
Repair Systems & Information Group	1,306.3	1,314.3
Financial Services	2,039.6	1,971.8
Total assets from reportable segments	5,186.5	5,114.3
Corporate	249.2	200.6
Elimination of intersegment receivables	(62.6)	(65.8)
Total assets	$5,373.1	$5,249.1

Notes to Consolidated Financial Statements (continued)

Financial Data by Segment (continued):

(Amounts in millions)	2018	2017	2016
Capital expenditures:			
Commercial & Industrial Group	$21.5	$22.6	$19.3
Snap-on Tools Group	46.0	40.1	38.3
Repair Systems & Information Group	19.7	13.4	13.1
Financial Services	0.5	1.2	0.6
Total from reportable segments	87.7	77.3	71.3
Corporate	3.2	4.7	3.0
Total capital expenditures	$90.9	$82.0	$74.3
Depreciation and amortization:			
Commercial & Industrial Group	$23.6	$22.8	$20.7
Snap-on Tools Group	29.9	29.1	27.6
Repair Systems & Information Group	36.7	37.8	33.9
Financial Services	0.8	0.6	0.6
Total from reportable segments	91.0	90.3	82.8
Corporate	3.1	2.9	2.8
Total depreciation and amortization	$94.1	$93.2	$85.6
Revenues by geographic region:*			
United States	$2,727.9	$2,703.3	$2,588.8
Europe	784.7	748.8	654.4
All other	557.8	548.2	468.6
Total revenues	$4,070.4	$4,000.3	$3,711.8

(Amounts in millions)	2018	2017
Long-lived assets:**		
United States	$1,091.2	$1,081.2
Sweden	227.4	252.6
All other	311.6	328.4
Total long-lived assets	$1,630.2	$1,662.2

* Revenues are attributed to countries based on origin of the sale.

** Long-lived assets consist of Property and equipment - net, Goodwill, and Other intangibles - net.

Products and Services: Snap-on derives net sales from a broad line of products and complementary services that are grouped into three categories: (i) tools; (ii) diagnostics, information and management systems; and (iii) equipment. The tools product category includes hand tools, power tools, tool storage products and other similar products. The diagnostics, information and management systems product category includes handheld and PC-based diagnostic products, service and repair information products, diagnostic software solutions, electronic parts catalogs, business management systems and services, point-of-sale systems, integrated systems for vehicle service shops, OEM purchasing facilitation services, and warranty management systems and analytics to help OEM dealerships manage and track performance. The equipment product category includes solutions for the service of vehicles and industrial equipment. Snap-on supports the sale of its diagnostics and vehicle service shop equipment by offering training programs as well as after-sales service support to its customers. Through its financial services businesses, Snap-on also derives revenue from various financing programs designed to facilitate the sales of its products and support its

franchise business. Further product line information is not presented as it is not practicable to do so.

The following table shows the consolidated net sales and revenues of these product groups in the last three years:

(Amounts in millions)	2018	2017	2016
Net sales:			
Tools	$2,021.2	$1,946.7	$1,899.2
Diagnostics, information and management systems	797.9	800.4	748.2
Equipment	921.6	939.8	783.0
Total net sales	3,740.7	3,686.9	3,430.4
Financial services revenue	329.7	313.4	281.4
Total revenues	$4,070.4	$4,000.3	$3,711.8

Note 20: Quarterly Data (unaudited)

(Amounts in millions, except per share data)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
2018					
Net sales	$935.5	$954.6	$898.1	$952.5	$3,740.7
Gross profit	471.6	487.1	453.9	457.4	1,870.0
Financial services revenue	83.0	82.0	82.0	82.7	329.7
Financial services expenses	(26.1)	(24.2)	(22.7)	(26.6)	(99.6)
Net earnings	166.8	182.7	167.4	179.3	696.2
Net earnings attributable to Snap-on Incorporated	163.0	178.7	163.2	175.0	679.9
Earnings per share – basic	2.87	3.17	2.90	3.14	12.08
Earnings per share – diluted	2.82	3.12	2.85	3.09	11.87
Cash dividends paid per share	0.82	0.82	0.82	0.95	3.41

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
2017					
Net sales	$887.1	$921.4	$903.8	$974.6	$3,686.9
Gross profit	448.3	463.2	448.8	465.6	1,825.9
Financial services revenue	76.8	77.7	79.0	79.9	313.4
Financial services expenses	(24.3)	(23.1)	(23.0)	(25.5)	(95.9)
Net earnings	145.1	156.8	137.1	133.2	572.2
Net earnings attributable to Snap-on Incorporated	141.6	153.2	133.4	129.5	557.7
Earnings per share – basic	2.45	2.65	2.33	2.28	9.72
Earnings per share – diluted	2.39	2.60	2.29	2.24	9.52
Cash dividends paid per share	0.71	0.71	0.71	0.82	2.95

SIGNATURES

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

SNAP-ON INCORPORATED

By: /s/ Nicholas T. Pinchuk Date: February 14, 2019
Nicholas T. Pinchuk, Chairman, President
and Chief Executive Officer

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

/s/ Nicholas T. Pinchuk Nicholas T. Pinchuk, Chairman, President and Chief Executive Officer	Date: February 14, 2019
/s/ Aldo J. Pagliari Aldo J. Pagliari, Principal Financial Officer, Senior Vice President – Finance and Chief Financial Officer	Date: February 14, 2019
/s/ Richard K. Strege Richard K. Strege, Principal Accounting Officer, Vice President and Controller	Date: February 14, 2019

SIGNATURES

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

By:	/s/ David C. Adams David C. Adams, Director	Date: February 14, 2019
By:	/s/ Karen L. Daniel Karen L. Daniel, Director	Date: February 14, 2019
By:	/s/ Ruth Ann M. Gillis Ruth Ann M. Gillis, Director	Date: February 14, 2019
By:	/s/ James P. Holden James P. Holden, Director	Date: February 14, 2019
By:	/s/ Nathan J. Jones Nathan J. Jones, Director	Date: February 14, 2019
By:	/s/ Henry W. Knueppel Henry W. Knueppel, Director	Date: February 14, 2019
By:	/s/ W. Dudley Lehman W. Dudley Lehman, Director	Date: February 14, 2019
By:	/s/ Nicholas T. Pinchuk Nicholas T. Pinchuk, Director	Date: February 14, 2019
By:	/s/ Gregg M. Sherrill Gregg M. Sherrill, Director	Date: February 14, 2019
By:	/s/ Donald J. Stebbins Donald J. Stebbins, Director	Date: February 14, 2019