

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

FORM 10-K

(Mark One)

- ☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended December 31, 2018
- or
- ☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the transition period from _____ to _____

Commission File Number 001-35985

CDW CORPORATION
(Exact name of registrant as specified in its
charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

**75 Tri-State International
Lincolnshire, Illinois**
(Address of principal executive offices)

26-0273989
(I.R.S. Employer
Identification No.)

60069
(Zip Code)

(847) 465-6000
(Registrant's telephone number, including area code)

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

<u>Title of each class:</u>	<u>Name of each exchange on which registered</u>
Common stock, par value \$0.01 per share	Nasdaq Global Select Market

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

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

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

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for 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) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☒

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or 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 the voting and non-voting common equity held by non-affiliates of the registrant as of June 29, 2018, the last business day of the registrant's most recently completed second fiscal quarter, was \$12,094.3 million, based on the per share closing sale price of \$80.79 on that date.

As of February 22, 2019, there were 147,059,195 shares of common stock, \$0.01 par value, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Certain parts of the registrant's definitive proxy statement for its 2019 annual meeting of stockholders to be held on May 21, 2019, which will be filed with the Securities and Exchange Commission on or before April 30, 2019, are incorporated by reference into Part III of this Annual Report on Form 10-K.

CDW CORPORATION AND SUBSIDIARIES

ANNUAL REPORT ON FORM 10-K

Year Ended December 31, 2018

TABLE OF CONTENTS

<u>Item</u>		<u>Page</u>
PART I		
Item 1.	Business	4
Item 1A.	Risk Factors	9
Item 1B.	Unresolved Staff Comments	19
Item 2.	Properties	19
Item 3.	Legal Proceedings	19
Item 4.	Mine Safety Disclosures	20
	Executive Officers	20
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	23
Item 7.	Management’s Discussion and Analysis of Financial Condition and Results of Operations	27
Item 7A.	Quantitative and Qualitative Disclosures About Market Risk	51
Item 8.	Financial Statements and Supplementary Data	52
Item 9.	Changes in and Disagreements With Accountants on Accounting and Financial Disclosure	95
Item 9A.	Controls and Procedures	95
Item 9B.	Other Information	97
PART III		
Item 10.	Directors, Executive Officers and Corporate Governance	98
Item 11.	Executive Compensation	98
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	98
Item 13.	Certain Relationships and Related Transactions, and Director Independence	98
Item 14.	Principal Accountant Fees and Services	98
PART IV		
Item 15.	Exhibits and Financial Statement Schedules	99
Item 16.	Form 10-K Summary	104
SIGNATURES		105

FORWARD-LOOKING STATEMENTS

This report contains forward-looking statements within the meaning of the federal securities laws. All statements other than statements of historical fact included in this report are forward-looking statements. These statements relate to analyses and other information, which are based on forecasts of future results and estimates of amounts not yet determinable. These statements also relate to our future prospects, developments and business strategies. We claim the protection of The Private Securities Litigation Reform Act of 1995 for all forward-looking statements in this report.

These forward-looking statements are identified by the use of terms and phrases such as "anticipate," "believe," "could," "estimate," "expect," "intend," "may," "plan," "predict," "project," "should," "will" and similar terms and phrases, including references to assumptions. However, these words are not the exclusive means of identifying such statements. Although we believe that our plans, intentions and expectations reflected in or suggested by such forward-looking statements are reasonable, we cannot assure you that we will achieve those plans, intentions or expectations. All forward-looking statements are subject to risks and uncertainties that may cause actual results to differ materially from those that we expected.

Important factors that could cause actual results to differ materially from our expectations, or cautionary statements, are disclosed under the section entitled "Risk Factors" included elsewhere in this report. All written and oral forward-looking statements attributable to us, or persons acting on our behalf, are expressly qualified in their entirety by the cautionary statements contained in the section entitled "Risk Factors" included elsewhere in this report as well as other cautionary statements that are made from time to time in our other Securities and Exchange Commission ("SEC") filings and public communications. You should evaluate all forward-looking statements made in this report in the context of these risks and uncertainties.

We caution you that the important factors referenced above may not contain all of the factors that could cause actual results to differ from our expectations. In addition, we cannot assure you that we will realize the results or developments we expect or anticipate or, even if substantially realized, that they will result in the consequences or affect us or our operations in the way we expect. The forward-looking statements included in this report are made only as of the date hereof. We undertake no obligation to publicly update or revise any forward-looking statement as a result of new information, future events or otherwise, except as otherwise required by law.

PART I

Item 1. Business

Our Company

CDW Corporation (together with its subsidiaries, the "Company," "CDW" or "we") is a Fortune 500 company and a leading provider of integrated information technology ("IT") solutions to small, medium and large business, government, education and healthcare customers in the United States ("US"), the United Kingdom ("UK") and Canada. Our broad array of offerings ranges from discrete hardware and software products to integrated IT solutions such as mobility, security, data center optimization, cloud computing, virtualization and collaboration.

We are technology "agnostic," with a solutions portfolio including more than 100,000 products and services from more than 1,000 leading and emerging brands. Our solutions are delivered in physical, virtual and cloud-based environments through over 6,000 customer-facing coworkers, including sellers, highly-skilled technology specialists and advanced service delivery engineers. We are a leading sales channel partner for many original equipment manufacturers ("OEMs"), software publishers and cloud providers (collectively, our "vendor partners"), whose products we sell or include in the solutions we offer. We provide our vendor partners with a cost-effective way to reach customers and deliver a consistent brand experience through our established end-market coverage, technical expertise and extensive customer access.

We simplify the complexities of technology across design, selection, procurement, integration and management for our customers. Our goal is to have our customers, regardless of their size, view us as a trusted adviser and extension of their IT resources. We do not manufacture products. Our multi-brand offering approach enables us to identify the products or combination of products from our vendor partners that best address each customer's specific IT requirements.

We provide integrated IT solutions in more than 80 countries for customers with primary locations in the US, UK and Canada, which are large and growing markets. According to the International Data Corporation ("IDC"), the total US, UK and Canadian IT market generated approximately \$1 trillion in sales in 2018. We believe our addressable markets in the US, UK and Canada represent more than \$325 billion in annual sales. These are highly fragmented markets served by thousands of IT resellers and solutions providers. For the year ended December 31, 2018, we estimate that our total Net sales of \$16 billion represented approximately 5% of our addressable markets. We believe that demand for IT will continue to outpace general economic growth in the markets we serve fueled by new technologies, including cloud computing, virtualization and mobility as well as growing end-user demand for security, efficiency and productivity.

Value Proposition

We are positioned in the middle of the IT ecosystem where we procure products from OEMs, software publishers, cloud providers and wholesale distributors and provide added value to our customers by helping them navigate through complex options and implement the best solution for their business. In this role, we believe we provide unique value to both our vendor partners and our customers.

Our value proposition to our customers

- Broad selection of products and multi-branded IT solutions
- Value-added services with integration capabilities
- Highly-skilled specialists and engineers
- Solutions across a very broad IT landscape

Our value proposition to our vendor partners

- Access to over 250,000 customers
- Large and established customer channels
- Strong distribution and implementation capabilities
- Value-added solutions and marketing programs that generate end-user demand

Customers

We provide integrated IT solutions to over 250,000 small, medium and large business, government, education and healthcare customers throughout the US, UK and Canada.

We serve our customers through sales teams focused on customer end-markets that are supported by technical specialists and highly skilled service delivery engineers. Our market segmentation allows us to customize our offerings and to provide enhanced expertise in designing and implementing IT solutions that meet our customer's specific needs.

We have three reportable segments, Corporate, Small Business and Public. Our Corporate segment primarily serves US private sector business customers with more than 250 employees. Our Small Business segment primarily serves US private sector business customers with up to 250 employees. Our Public segment is comprised of government agencies and education and

healthcare institutions in the US. We also have two other operating segments: CDW UK and CDW Canada, each of which do not meet the reportable segment quantitative thresholds and, accordingly, are included in an all other category ("Other").

In our US business, which represents approximately 90% of our revenues, we currently have five dedicated customer channels: corporate, small business, government, education and healthcare, each of which generated over \$1.0 billion in Net sales in 2018. Net sales to customers in the UK and Canada combined generated \$1.9 billion in 2018. We believe this diversity of customer end-markets provides us with multiple avenues for growth and has been a key factor in our ability to weather economic and technology cycles and continue to gain market share.

Partners

We provide more than 100,000 products and services from more than 1,000 partners, including well-established companies such as Adobe, APC, Apple, Cisco, Dell EMC, Google, Hewlett Packard Enterprise, HP Inc., IBM, Intel, Lenovo, Microsoft, NetApp, Samsung, Symantec and VMware, as well as from emerging technology companies such as Calabrio, Cohesity, CrowdStrike, Nutanix, Proofpoint, Splunk, Varidesk, Veeam and Viptela. This broad portfolio of partners and technologies enables us to offer customers significant choice and meet customer demand for the products and solutions that best meet their needs. We believe our value proposition to vendor partners enables us to evolve our offering as new technologies emerge and new companies seek us as a channel partner.

In 2018, we generated over \$1.0 billion of Net sales from each of five of our vendor partners and over \$100 million of revenue from each of thirteen other vendor partners. We have received the highest level of certification from major vendor partners such as Cisco, Dell EMC, Hewlett Packard Enterprise, Microsoft and Palo Alto Networks, which reflects the extensive product and solution knowledge and capabilities that we bring to our customers' IT challenges. These certifications also provide us with access to favorable pricing, tools and resources, including vendor incentive programs, which we use to provide additional value to our customers. Our vendor partners also regularly recognize us with top awards and select us to develop and grow new customer solutions.

Product Procurement

We may purchase all or only some of the products our vendor partners offer for resale to our customers or for inclusion in the solutions we offer. Each vendor partner agreement provides for specific terms and conditions, which may include one or more of the following: product return privileges, price protection policies, purchase discounts and vendor incentive programs, such as, purchase or sales rebates and cooperative advertising reimbursements. We also purchase software from major software publishers and cloud providers for resale to our customers or for inclusion in the solutions we offer. Our agreements allow the end-user customer to acquire cloud-based solutions software or licensed products and services.

In addition to purchasing products directly from our vendor partners, we purchase products from wholesale distributors for resale to our customers or for inclusion in the solutions we offer. These wholesale distributors provide logistics management and supply-chain services for us, as well as for our vendor partners.

For our US operations, we purchased approximately 50% of the products we sold as discrete products or as components of a solution directly from our vendor partners and the remaining 50% from wholesale distributors for the year ended December 31, 2018. Purchases from our three largest wholesale distributors, Ingram Micro, SYNnex and Tech Data, were each approximately 10% of total US purchases in 2018.

Inventory Management

We operate two distribution centers in North America: a 513,000 square foot facility in North Las Vegas, Nevada, and a 442,000 square foot facility in Vernon Hills, Illinois. We also operate a 120,000 square foot distribution center in Rugby, Warwickshire, UK. We ship over 40 million units annually on an aggregate basis from our distribution centers.

We also have drop-shipment arrangements with many of our OEMs and wholesale distributors, which permit us to offer products to our customers without having to take physical delivery at our distribution centers. These arrangements represented approximately 50% of total consolidated Net sales in 2018, of which approximately 25% relate to electronic delivery for software licenses.

We believe that the location of our distribution centers allows us to efficiently ship products to our customers and provide timely access to our principal distributors.

We believe competitive sources of supply are available in substantially all of the product categories that we offer.

Competition

The market for technology products and services is highly competitive and subject to economic conditions and rapid technological changes. Competition is based on many things, including the ability to tailor specific solutions to customer needs, the quality and breadth of product and service offerings, knowledge and expertise of sales force, customer service, price, product availability, speed of delivery and credit availability. We face competition from resellers, direct manufacturers, large service providers, cloud providers, telecommunication companies, and to a lesser extent e-tailers and retailers. Smaller, local or regional value added resellers typically focus on a single solution suite or portfolio of solutions from one or two vendor partners.

We believe we are well positioned to compete within this marketplace due to our competitive advantages. We expect the competitive landscape to continue to evolve as new technologies are developed. While innovation can help our business as it creates new offerings for us to sell, it can also disrupt our business model and create new and stronger competitors. For a discussion of the risks associated with competition, see Item 1A, "Risk Factors."

We believe we have sustainable competitive advantages that differentiate us in the marketplace. We have built a strong sales organization and deep services and solutions capabilities over time and expect to continue to invest to enhance these capabilities, which we believe when combined with our competitive advantages of scale and a performance driven culture, will help drive sustainable, profitable growth for us today and in the future. Our scale enables us to have a national and international footprint, as well as invest in resources to meet specific customer end-market needs. Our sellers are organized around unique customer end-markets that are both vertically and geographically focused. Our scale enables our ability to invest in technical coworkers who work directly with our sellers to help customers implement increasingly complex IT solutions. Our scale also enables us to operate our three distribution centers (two in the US and one in the UK) which combined are more than 1 million square feet in size. We have cross-border relationships that enable us to serve the needs of our US, UK and Canadian-based customers in more than 80 countries. Our strong, execution-oriented culture is underpinned by our compensation system.

Our Offerings

Our offerings range from discrete hardware and software products and services to complex integrated solutions including one or more of these elements. We believe our customers increasingly view technology purchases as integrated solutions rather than discrete product and service categories. We estimate that more than 40% of our Net sales in 2018 in the US came from sales of product categories and services typically associated with solutions. Our hardware products include notebooks/mobile devices (including tablets), network communications, desktop computers, video monitors, enterprise and data storage, printers and servers. Our software products include application suites, security, virtualization, operating systems and network management. Our services include warranties, managed services, consulting design and implementation.

Today, IT is critical to both "run the business" and drive greater growth and productivity. To help our customers accomplish this, we have built a robust portfolio of solutions across data center, digital workspace, security, virtualization and services that we provide in physical, virtual, or cloud-based environments.

We provide public cloud solutions, which reside off customer premises on a public (shared) infrastructure, and private cloud solutions, which reside on customer premises. We also offer hybrid cloud solutions that deliver the benefits of both public and private solutions. Our migration, integration and managed services offerings help our customers simplify cloud adoption, as well as the ongoing management of cloud solutions across the entire IT lifecycle. Dedicated Cloud Client Executives work with our customers to architect cloud solutions meeting their organizational, technology and financial objectives.

We offer a broad portfolio of integrated solutions that include the following on and off-premise capabilities:

- *Data Center:* We assess our customers data center needs, design flexible, resilient and efficient solutions and manage the solution throughout its lifecycle. Our broad portfolio of hardware and software products, encompassing both on and off-premise solutions, enables us to provide well-integrated solutions, including converged and hyper-converged infrastructure, physical and virtualized servers, software defined automation and orchestration solutions, storage and energy-efficient power and cooling.
- *Digital Workspace:* We build end-to-end solutions that deliver access to applications that improve our customers' productivity regardless of device or location. We connect our customers' physical devices, including laptops, desktops, IP Phones, mobile devices and print systems. We utilize collaboration solutions to unite applications via the integration of products that facilitate the use of multiple enterprise communication methods including email, persistent chat, social media, voice and video. We also host cloud-based collaboration solutions. Our solutions provide the tools that allow our customers' employees to share knowledge, ideas and information among each other and with clients and partners effectively, securely and quickly.

- **Security:** We assess our customers' security needs and provide them with risk mitigation tools and services. Product design, architecture and implementation can take the form of hardware, software or Software as a Service. These tools and services are provided across a multitude of categories such as: endpoint security, email security, web security, intrusion prevention, authentication, firewall, virtual private network services and network access control. Security consulting engagements include security assessment, policy and procedure gap analysis, security roadmaps and healthchecks.
- **Virtualization:** We design and implement server, storage and desktop virtualization solutions. Virtualization enables our customers to efficiently utilize hardware resources by running multiple, independent, virtual operating systems on a single computer and multiple virtual servers simultaneously on a single server. Virtualization also can separate a desktop environment and associated application software from the hardware device that is used to access it, and provides employees with remote desktop access. Our specialists assist customers with the steps of implementing virtualization solutions, including evaluating network environments, deploying shared storage options and licensing platform software.
- **Services:** We advise on, architect and manage integrated business technology for our customers. Our solutions include integrated cloud, collaboration, data center, mobility and security business technology, from the physical to the application layer. We provide advisory, architectural and managed services across basic, discrete and integrated business technology solutions. We leverage best-in-class partner technology platforms to seamlessly architect and manage disparate IT platforms into integrated business technology solutions.

Although we believe customers increasingly view technology purchases as solutions rather than discrete product and service categories, our Net sales by major category, based upon our internal category classifications was as follows:

	Years Ended December 31,					
	2018		2017 ⁽¹⁾⁽²⁾		2016 ⁽¹⁾⁽²⁾	
	Dollars in Millions	Percentage of Total Net Sales	Dollars in Millions	Percentage of Total Net Sales	Dollars in Millions	Percentage of Total Net Sales
Notebooks/Mobile Devices	\$ 4,053.6	25.0%	\$ 3,519.8	23.7%	\$ 2,942.9	21.5%
Netcomm Products	2,119.8	13.1	2,040.3	13.8	1,957.0	14.3
Desktops	1,318.2	8.1	1,207.0	8.1	1,087.7	8.0
Video	1,185.6	7.3	1,078.4	7.3	963.0	7.0
Enterprise and Data Storage (Including Drives)	1,099.2	6.8	1,087.3	7.3	1,073.9	7.9
Other Hardware	3,306.0	20.3	3,027.6	20.4	2,891.5	21.1
Total Hardware	13,082.4	80.6	11,960.4	80.6	10,916.0	79.8
Software ⁽³⁾	2,347.0	14.4	2,156.9	14.5	2,072.3	15.2
Services ⁽³⁾	697.3	4.3	602.7	4.1	564.2	4.1
Other ⁽⁴⁾	113.8	0.7	112.9	0.8	120.2	0.9
Total Net sales	\$ 16,240.5	100.0%	\$ 14,832.9	100.0%	\$ 13,672.7	100.0%

- (1) Amounts for 2017 and 2016 have been adjusted to reflect the adoption of ASU 2014-09, Revenue from Contracts with Customers, as amended ("Topic 606").
- (2) Amounts have been reclassified for changes in individual product classifications to conform to the presentation for the year ended December 31, 2018.
- (3) Certain software and services revenue is recorded on a net basis for accounting purposes, so the category percentage of net revenues is not representative of the category percentage of gross profits.
- (4) Includes items such as delivery charges to customers.

Our Internal Capabilities

Our Coworkers

As of December 31, 2018, we employed 9,019 coworkers with approximately 7,200 coworkers in the US, 1,300 in the UK and 500 in Canada. Approximately two thirds of our coworkers at year-end 2018 were customer facing. Over 50% of our Net sales are generated by account managers who have greater than seven years of tenure with CDW. Account managers are supported by field sellers, highly skilled technology specialists and advanced service delivery engineers. We believe this structure to be core to our ability to continue to offer complex IT solutions and services. None of our coworkers are covered by collective bargaining agreements. We consider our coworker relations to be good.

Marketing

We market the CDW brand to US, UK and Canada audiences using a variety of channels that include online, broadcast, print, social and other media. We market to current and prospective customers through integrated marketing programs including behaviorally targeted email, print, online media, events and sponsorships, as well as broadcast media. This promotion is also supported by integrated communication efforts targeting decision-makers, influencers and the general public using a combination of news releases, case studies, media interviews and speaking opportunities.

As a result of our relationships with our vendor partners, a significant portion of our advertising and marketing expenses is reimbursed through cooperative advertising programs. These programs are at the discretion of our vendor partners and are typically tied to sales or other commitments to be met by us within a specified period of time. We believe that our results and analytical techniques that measure the efficacy of our marketing programs differentiate us from our competitors.

Information Technology Systems

We maintain customized IT and unified communication systems that enhance our ability to provide prompt, efficient and expert service to our customers. In addition, these systems enable centralized management of key functions, including purchasing, inventory management, billing and collection of accounts receivable, sales and distribution. Our systems provide us with thorough, detailed and real-time information regarding key aspects of our business. This capability helps us to continuously enhance productivity, ship customer orders quickly and efficiently, respond appropriately to industry changes and provide high levels of customer service. We believe our websites, which provide electronic order processing and advanced tools, such as order tracking, reporting and asset management, make it easy for customers to transact business with us and ultimately strengthen our customer relationships.

Intellectual Property

The CDW trademark and certain variations thereon are registered or subject to pending trademark applications in the US, UK, Canada and certain other jurisdictions. We believe our trademarks have significant value and are important factors in our marketing programs. In addition, we own registrations for domain names, including cdw.com and cdwg.com and variations thereon, for certain of our primary trademarks. We also own patent rights and have unregistered copyrights in our website content, software and other written materials.

History

Founded in 1984, CDW became a public company in 1993. In 2003, we purchased selected US assets and the Canadian operations of Micro Warehouse, which extended our growth platform into Canada. In 2006, we acquired Berbee Information Networks Corporation, a regional provider of technology products, solutions and customized engineering services in advanced technologies primarily across Cisco, IBM and Microsoft portfolios. This acquisition increased our capabilities in customized engineering services and managed services.

We were a public company from 1993 until 2007 when we were acquired through a merger transaction by an entity controlled by investment funds affiliated with Madison Dearborn Partners, LLC ("Madison Dearborn") and Providence Equity Partners L.L.C. ("Providence Equity"). In 2013, CDW Corporation completed a second IPO of its common stock. After the IPO, through secondary offerings and fund distributions, Madison Dearborn and Providence Equity liquidated their ownership positions.

In 2015, we acquired control of 100% of UK-based IT solutions provider, Kelway TopCo Limited ("Kelway"). Rebranded CDW UK in 2016, the acquisition extended our footprint into the UK. It also enhanced our ability to provide IT solutions to US-based customers with multinational locations.

Available Information

We maintain a website at www.cdw.com. You may access our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 with the SEC free of charge at our website as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. Our website and the information contained on that site, or connected to that site, are not incorporated into and are not a part of this report.

Item 1A. Risk Factors

There are many factors that could adversely affect our business, results of operations and cash flows, some of which are beyond our control. The following is a description of some important factors that may cause our business prospects, results of operations and cash flows in future periods to differ materially from those currently expected or desired. Factors not currently known to us or that we currently deem to be immaterial may also materially and adversely affect our business, results of operations and cash flows.

Risks Related to Our Business

Global and regional economic and political conditions may have an adverse impact on our business.

Weak economic conditions generally, sustained uncertainty about global economic and political conditions, government spending cuts and the impact of new government policies, or a tightening of credit markets, could cause our customers and potential customers to postpone or reduce spending on technology products or services or put downward pressure on prices, which could have an adverse effect on our business, results of operations or cash flows. For example, there continues to be substantial uncertainty regarding the economic impact of the Referendum on the UK's Membership of the European Union ("EU") advising for the exit of the UK from the EU and the subsequent notice delivered by the UK to the EU of the UK's withdrawal (referred to as "Brexit"). Negotiations to determine the terms of the withdrawal, including the terms of trade between the UK and the EU, are ongoing. Although the full effects of Brexit are uncertain and will be dependent on the outcome of such negotiations, potential adverse consequences of Brexit include global market uncertainty, volatility in currency exchange rates, greater restrictions on imports and exports between the UK and EU countries and increased regulatory complexities, each of which could have a negative impact on our business, financial condition and results of operations.

Our financial performance could be adversely affected by decreases in spending on technology products and services by our public sector customers.

Our sales to our public sector customers and our other customers that do business with our public sector customers are impacted by government spending policies, budget priorities and revenue levels. An adverse change in government spending policies (such as budget cuts or limitations or temporary shutdowns of government operations), shifts in budget priorities or reductions in revenue levels could cause our public sector customers or our other customers that do business with impacted public sector customers to reduce or delay their purchases or to terminate or not renew their contracts with us, which could adversely affect our business, results of operations or cash flows. Additionally, such adverse change in government spending policies, shifts in budget priorities or reductions in revenue levels could impact cash collections from contracts with our other customers that do business with impacted public sector customers, which could adversely affect our business, results of operations or cash flows.

Our business depends on our vendor partner relationships and the availability of their products.

Our solutions portfolio includes products from OEMs, software publishers and cloud providers. We are authorized by these vendor partners to sell all or some of their products via direct marketing activities. Our authorization with each vendor partner is subject to specific terms and conditions regarding such things as sales channel restrictions, product return privileges, price protection policies, purchase discounts and vendor partner programs and funding, including purchase rebates, sales volume rebates, purchasing incentives and cooperative advertising reimbursements. However, we do not have any long-term contracts with our vendor partners and many of these arrangements are terminable upon notice by either party. A reduction in vendor partner programs or funding or our failure to timely react to changes in vendor partner programs or funding could have an adverse effect on our business, results of operations or cash flows. In addition, a reduction in the amount or a change in the terms of credit granted to us by our vendor partners could increase our need for, and the cost of, working capital and could have an adverse effect on our business, results of operations or cash flows, particularly given our substantial indebtedness.

From time to time, vendor partners may terminate or limit our right to sell some or all of their products or change the terms and conditions or reduce or discontinue the incentives that they offer us. For example, there is no assurance that, as our vendor partners continue to sell directly to end users and through resellers, they will not limit or curtail the availability of their

products to solutions providers like us. Any such termination or limitation or the implementation of such changes could have a negative impact on our business, results of operations or cash flows.

We purchase the products included in our solutions portfolio both directly from our vendor partners and from wholesale distributors. Although we purchase from a diverse vendor base, in 2018, products we purchased from wholesale distributors Ingram Micro, SYNnex and Tech Data each represented approximately 10% of total US purchases. In addition, sales of products manufactured by Apple, Cisco, Dell EMC, Hewlett Packard Enterprise, HP Inc., Lenovo and Microsoft, whether purchased directly from these vendor partners or from a wholesale distributor, represented in the aggregate nearly 60% of our 2018 consolidated Net sales. Sales of products manufactured by Cisco and HP Inc. represented approximately 25% of our 2018 consolidated Net sales. The loss of, or change in business relationship with, any of these or any other key vendor partners, or the diminished availability of their products, including due to backlogs for their products, could reduce the supply and increase the cost of products we sell and negatively impact our competitive position.

Additionally, the relocation of key distributors utilized in our purchasing model could increase our need for, and the cost of, working capital and have an adverse effect on our business, results of operations or cash flows. Further, the sale, spin-off or combination of any of our vendor partners and/or certain of their business units, including any such sale to or combination with a vendor with whom we do not currently have a commercial relationship or whose products we do not sell, could have an adverse impact on our business, results of operations or cash flows.

Our sales are dependent on continued innovations in hardware, software and services offerings by our vendor partners and the competitiveness of their offerings, and our ability to partner with new and emerging technology providers.

The technology industry is characterized by rapid innovation and the frequent introduction of new and enhanced hardware, software and services offerings, such as cloud-based solutions, including Software as a Service ("SaaS"), Infrastructure as a Service ("IaaS") and Platform as a Service ("PaaS"); Device as a Service ("DaaS"); the Internet of Things ("IoT"); and Artificial Intelligence. We have been and will continue to be dependent on innovations in hardware, software and services offerings, as well as the acceptance of those innovations by customers. Also, customers may delay spending while they evaluate new technologies. A decrease in the rate of innovation, a lack of acceptance of innovations by our customers or delays in technology spending by our customers, could have an adverse effect on our business, results of operations or cash flows.

In addition, if we are unable to keep up with changes in technology and new hardware, software and services offerings, for example by providing the appropriate training to our account managers, sales technology specialists and engineers to enable them to effectively sell and deliver such new offerings to customers, our business, results of operations or cash flows could be adversely affected.

We also are dependent upon our vendor partners for the development and marketing of hardware, software and services to compete effectively with hardware, software and services of vendors whose products and services we do not currently offer or that we are not authorized to offer in one or more customer channels. Our success is dependent on our ability to develop relationships with and sell hardware, software and services from new emerging vendors and vendors that we have not historically represented in the marketplace. To the extent that a vendor's offering that is highly in demand is not available to us for resale in one or more customer channels, and there is not a competitive offering from another vendor that we are authorized to sell in such customer channels, or if we are unable to develop relationships with new technology providers or companies that we have not historically represented, our business, results of operations or cash flows could be adversely impacted.

Substantial competition could reduce our market share and significantly harm our financial performance.

Our current competition includes:

- resellers, such as Computacenter, Connection, Dimension Data, ePlus, Insight Enterprises, PCM, Presidio, SCC, Softchoice, World Wide Technology and many smaller resellers;
- manufacturers who sell directly to customers, such as Adobe, Apple, Dell, HP Inc. and Hewlett Packard Enterprise;
- large service providers and system integrators, such as Accenture, Dell, Hewlett Packard Enterprise and IBM;
- communications service providers, such as AT&T, CenturyLink and Verizon;
- cloud providers, such as Amazon Web Services, Box and Microsoft;
- e-tailers, such as Amazon, Newegg and TigerDirect.com; and
- retailers (including their e-commerce activities), such as Office Depot and Staples.

We expect the competitive landscape to continue to evolve as new technologies and consumption models are developed, such as cloud-based and other "as a service" solutions, hyper-converged infrastructure and embedded software solutions. While innovation can help our business as it creates new offerings for us to sell, it can also disrupt our business model and create new and stronger competitors. For instance, while cloud-based solutions present an opportunity for us, cloud-based solutions and technology solutions as a service could increase the amount of sales directly to customers rather than through solutions providers like us, or could reduce the amount of hardware we sell. In addition, some of our hardware and software vendor partners sell, and could intensify their efforts to sell, their products directly to our customers. Moreover, traditional OEMs have increased their services capabilities through mergers and acquisitions with service providers, which could potentially increase competition in the market to provide comprehensive technology solutions to customers. If we are unable to effectively respond to the evolving competitive landscape, our business, results of operations or cash flows could be adversely impacted.

We focus on offering a high level of service to gain new customers and retain existing customers. To the extent we face increased competition to gain and retain customers, we may be required to reduce prices, increase advertising expenditures or take other actions which could adversely affect our business, results of operations or cash flows. Additionally, some of our competitors may reduce their prices in an attempt to stimulate sales, which may require us to reduce prices. This would require us to sell a greater number of products to achieve the same level of Net sales and Gross profit. If such a reduction in prices occurs and we are unable to attract new customers and sell increased quantities of products, our sales growth and profitability could be adversely affected.

The success of our business depends on the continuing development, maintenance and operation of our information technology systems.

Our success is dependent on the accuracy, proper utilization and continuing development of our information technology systems, including our business systems, such as our sales, customer management, financial and accounting, marketing, purchasing, warehouse management, e-commerce and mobile systems, as well as our operational platforms, including voice and data networks and power systems. The quality and our utilization of the information generated by our information technology systems, and our success in implementing new systems and upgrades, affects, among other things, our ability to:

- conduct business with our customers, including delivering services and solutions to them;
- manage our inventory and accounts receivable and accounts payable;
- purchase, sell, ship and invoice our hardware and software products and provide and invoice our services efficiently and on a timely basis; and
- maintain our cost-efficient operating model while scaling our business.

The integrity of our information technology systems is vulnerable to disruption due to forces beyond our control. While we have taken steps to protect our information technology systems from a variety of threats, both internal and external, and from human error, there can be no guarantee that those steps will be effective. Furthermore, although we have redundant systems at a separate location to back up our primary systems, there can be no assurance that these redundant systems will operate properly if and when required. Any disruption to or infiltration of our information technology systems could significantly harm our business and results of operations.

Breaches of data security and the failure to protect our information technology systems from cybersecurity threats could adversely impact our business.

Our business involves the storage and transmission of proprietary information and sensitive or confidential data, including personal information of coworkers, customers and others. In addition, we operate data centers for our customers that host their technology infrastructure and may store and transmit both business-critical data and confidential information. In connection with our services business, some of our coworkers have access to our customers' confidential data and other information. We have privacy and data security policies in place that are designed to prevent security breaches; however, as newer technologies evolve, and the portfolio of the service providers we share confidential information with grows, we could be exposed to increased risks from breaches in security, including those from human error, negligence or mismanagement or from illegal or fraudulent acts, such as cyberattacks. The evolving nature of threats to data security, in light of new and sophisticated methods used by criminals and cyberterrorists, including computer viruses, malware, phishing, misrepresentation, social engineering and forgery, make it increasingly challenging to anticipate and adequately mitigate these risks.

Breaches in security could expose us, our supply chain, our customers or other individuals to significant disruptions, a risk of public disclosure, loss or misuse of this information. Security breaches could result in legal claims or proceedings, liability or regulatory penalties under laws protecting the privacy of personal information, as well as the loss of existing or potential

customers and damage to our brand and reputation. Moreover, media or other reports of perceived vulnerabilities in our network security or perceived lack of security within our environment, even if inaccurate, could adversely impact our reputation and materially impact our business. The cost and operational consequences of implementing further data protection measures could be significant. Such breaches, costs and consequences could adversely affect our business, results of operations or cash flows.

The failure to comply with our public sector contracts or applicable laws and regulations could result in, among other things, termination, fines or other liabilities, and changes in procurement regulations could adversely impact our business, results of operations or cash flows.

Revenues from our public sector customers are derived from sales to governmental entities, educational institutions and healthcare customers through various contracts and open market sales of products and services. Sales to public sector customers are highly regulated. Noncompliance with contract provisions, government procurement regulations or other applicable laws or regulations (including the False Claims Act, the Medicare and Medicaid Anti-Kickback Statute or similar laws of the jurisdictions for our business activities outside of the US) or security clearance and confidentiality requirements could result in civil, criminal and administrative liability, including substantial monetary fines or damages, termination of government contracts or other public sector customer contracts, and suspension, debarment or ineligibility from doing business with governmental entities or other customers in the public sector. In addition, contracts in the public sector are generally terminable at any time for convenience of the contracting agency or group purchasing organization ("GPO") or upon default. Furthermore, our inability to enter into or retain contracts with GPOs may threaten our ability to sell to customers in those GPOs and compete effectively. The effect of any of these possible actions or failures could adversely affect our business, results of operations or cash flows. In addition, the adoption of new or modified procurement regulations and other requirements may increase our compliance costs and reduce our gross margins, which could have a negative effect on our business, results of operations or cash flows.

If we or our third-party service providers fail to provide high-quality services to our customers, our reputation, business, results of operations or cash flows could be adversely affected.

Our service offerings include field services, managed services, warranties, configuration services, partner services and telecom services. Additionally, we deliver and manage mission critical software, systems and network solutions for our customers. We also offer certain services, such as implementation and installation services and repair services, to our customers through various third-party service providers engaged to perform these services on our behalf. If we or our third-party service providers fail to provide high-quality services to our customers or such services result in a disruption of our customers' businesses, this could, among other things, result in legal claims and proceedings and liability for us. Moreover, as we expand our services and solutions business and provide increasingly complex services and solutions, we may be exposed to additional operational, regulatory and other risks. We also could incur liability for failure to comply with the rules and regulations applicable to the new services and solutions we provide to our customers. If any of the foregoing were to occur, our reputation with our customers, our brand and our business, results of operations or cash flows could be adversely affected.

If we lose any of our key personnel, or are unable to attract and retain the talent required for our business, our business could be disrupted and our financial performance could suffer.

Our success is heavily dependent upon our ability to attract, develop, engage and retain key personnel to manage and grow our business, including our key executive, management, sales, services and technical coworkers.

Our future success will depend to a significant extent on the efforts of our Chief Executive Officer, as well as the continued service and support of our other executive officers. Our future success also will depend on our ability to retain and motivate our customer-facing coworkers, who have been given critical CDW knowledge regarding, and the opportunity to develop strong relationships with, many of our customers. In addition, as we seek to expand our offerings of value-added services and solutions, our success will even more heavily depend on attracting and retaining highly skilled technology specialists and engineers, for whom the market is extremely competitive.

If we are unable to attract, develop, engage and retain key personnel, our relationships with our vendor partners and customers and our ability to expand our offerings of value-added services and solutions could be adversely affected. Moreover, if we are unable to continue to train our sales, services and technical personnel effectively to meet the rapidly changing technology needs of our customers, the overall quality and efficiency of such personnel could decrease. Such consequences could adversely affect our business, results of operations or cash flows.

The interruption of the flow of products from suppliers could disrupt our supply chain.

Our business depends on the timely supply of products in order to meet the demands of our customers. Manufacturing interruptions or delays, including as a result of the financial instability or bankruptcy of manufacturers, significant labor disputes such as strikes, natural disasters or other adverse occurrences affecting any of our suppliers' facilities, could disrupt our supply chain. Suppliers may also fail to accurately forecast customer demand, or may be unable to manufacture sufficient quantities of product to meet customer demand, resulting in the reduced supply of product available to us.

Our supply chain is also exposed to risks related to international operations. While we purchase our products primarily in the markets we serve (for example, products for US customers are sourced in the US), our vendor partners manufacture or purchase a significant portion of the products we sell outside of the US, primarily in Asia. Political, social or economic instability in Asia, or in other regions in which our vendor partners purchase or manufacture the products we sell, could cause disruptions in trade, including exports to the US. Other events related to international operations that could cause disruptions to our supply chain include:

- the imposition of additional trade law provisions or regulations, including the adoption or expansion of trade restrictions;
- the imposition of additional duties, tariffs and other charges on imports and exports, including any resulting retaliatory tariffs or charges and any reductions in the production of products subject to such tariffs and charges;
- foreign currency fluctuations; and
- restrictions on the transfer of funds.

We cannot predict whether the countries in which the products we sell, or any components of those products, are purchased or manufactured will be subject to new or additional trade restrictions or sanctions imposed by the US or foreign governments, including the likelihood, type or effect of any such restrictions. Trade restrictions, including new or increased tariffs or quotas, embargoes, sanctions, safeguards and customs restrictions against the products we sell, could increase the cost or reduce the supply of product available to us and adversely affect our business, results of operations or cash flows. In addition, our exports are subject to regulations, some of which may be inconsistent, and noncompliance with these requirements could have a negative effect on our business, results of operations or cash flows.

A natural disaster or other adverse occurrence at one of our primary facilities or customer data centers could damage our business.

We have two warehouse and distribution facilities in the US and one in the UK. If the warehouse and distribution equipment at one of our distribution centers were to be seriously damaged by a natural disaster or other adverse occurrence, we could utilize another distribution center or third-party distributors to ship products to our customers. However, this may not be sufficient to avoid interruptions in our service and may not enable us to meet all of the needs of our customers and would cause us to incur incremental operating costs. In addition, we operate three customer data centers and numerous sales offices which may contain both business-critical data and confidential information of our customers. A natural disaster or other adverse occurrence at any of the customer data centers or at any of our major sales offices could negatively impact our business, results of operations or cash flows.

Increases in the cost of commercial delivery services or disruptions of those services could adversely impact our business.

We generally ship hardware products to our customers by FedEx, United Parcel Service and other commercial delivery services and invoice customers for delivery charges. If we are unable to pass on to our customers future increases in the cost of commercial delivery services (including those that may result from an increase in fuel or personnel costs), our profitability could be adversely affected. Additionally, strikes, inclement weather, natural disasters or other service interruptions by such shippers could adversely affect our ability to deliver or receive products on a timely basis.

We are exposed to accounts receivable and inventory risks.

We extend credit to our customers for a significant portion of our Net sales, typically on 30-day payment terms. We are subject to the risk that our customers may not pay for the products they have purchased, or may pay at a slower rate than we have historically experienced. This risk is heightened during periods of global or industry-specific economic downturn or uncertainty, during periods of rising interest rates or, in the case of public sector customers, during periods of budget constraints. Significant failures of customers to timely pay all amounts due to us could adversely affect our business, results of operations or cash flows.

We are also exposed to inventory risks as a result of the rapid technological changes that affect the market and pricing for the products we sell. We seek to minimize our inventory exposure through a variety of inventory management procedures and

policies, including our rapid-turn inventory model, as well as vendor price protection and product return programs. However, if we were unable to maintain our rapid-turn inventory model, if there were unforeseen product developments that created more rapid obsolescence or if our vendor partners were to change their terms and conditions, our inventory risks could increase. We also from time to time take advantage of cost savings associated with certain opportunistic bulk inventory purchases offered by our vendor partners or we may decide to carry high inventory levels of certain products that have limited or no return privileges due to customer demand or request or to manage supply chain interruptions. If we purchase inventory in anticipation of customer demand that does not materialize, or if customers reduce or delay orders, we would be exposed to an increased risk of inventory obsolescence.

We could be exposed to additional risks if we continue to make strategic investments or acquisitions or enter into alliances.

We may continue to pursue transactions, including strategic investments, acquisitions or alliances, in an effort to extend or complement our existing business. These types of transactions involve numerous business risks, including finding suitable transaction partners and negotiating terms that are acceptable to us, the diversion of management's attention from other business concerns, extending our product or service offerings into areas in which we have limited experience, entering into new geographic markets, the potential loss of key coworkers or business relationships and successfully integrating acquired businesses. There can be no assurance that the intended benefits of our investments, acquisitions and alliances will be realized, or that those benefits will offset these numerous risks or other unforeseen factors, any of which could adversely affect our business, results of operations or cash flows.

In addition, our financial results could be adversely affected by financial adjustments required by generally accepted accounting principles in the United States of America ("GAAP") in connection with these types of transactions where significant goodwill or intangible assets are recorded. To the extent the value of goodwill or identifiable intangible assets with indefinite lives becomes impaired, we may be required to incur material charges relating to the impairment of those assets.

Our future operating results may fluctuate significantly, which may result in volatility in the market price of our stock and could impact our ability to operate our business effectively.

We may experience significant variations in our future quarterly results of operations. These fluctuations may cause the market price of our common stock to be volatile and may result from many factors, including the condition of the technology industry in general, shifts in demand and pricing for hardware, software and services and the introduction of new products or upgrades.

Our operating results are also highly dependent on our level of Gross profit as a percentage of Net sales. Our Gross profit percentage fluctuates due to numerous factors, some of which may be outside of our control, including general macroeconomic conditions; pricing pressures; changes in product costs from our vendor partners; the availability of price protection, purchase discounts and incentive programs from our vendor partners; changes in product, order size and customer mix; the risk of some items in our inventory becoming obsolete; increases in delivery costs that we cannot pass on to customers; and general market and competitive conditions.

In addition, our cost structure is based, in part, on anticipated sales and gross margins. Therefore, we may not be able to adjust our cost structure quickly enough to compensate for any unexpected sales or gross margin shortfall, and any such inability could have an adverse effect on our business, results of operations or cash flows.

Fluctuations in foreign currency have an effect on our reported results of operations.

Our exposure to fluctuations in foreign currency rates results primarily from the translation exposure associated with the preparation of our Consolidated Financial Statements. While our Consolidated Financial Statements are reported in US dollars, the financial statements of our subsidiaries outside the US are prepared using the local currency as the functional currency and translated into US dollars. As a result, fluctuations in the exchange rate of the US dollar relative to the local currencies of our international subsidiaries, particularly the British pound and the Canadian dollar, could cause fluctuations in our reported results of operations. We also have foreign currency exposure to the extent sales and purchases are not denominated in a subsidiary's functional currency, which could have an adverse effect on our business, results of operations or cash flows.

We are exposed to risks from legal proceedings and audits, which may result in substantial costs and expenses or interruption of our normal business operations.

We are party to various legal proceedings that arise in the ordinary course of our business, which include commercial, employment, tort and other litigation.

We are subject to intellectual property infringement claims against us in the ordinary course of our business, either because of the products and services we sell or the business systems and processes we use to sell such products and services, in the form

of cease-and-desist letters, licensing inquiries, lawsuits and other communications and demands. In our industry, such intellectual property claims have become more frequent as the complexity of technological products and the intensity of competition in our industry have increased. Increasingly, many of these assertions are brought by non-practicing entities whose principal business model is to secure patent licensing revenue, but we may also be subject to demands from inventors, competitors or other patent holders who may seek licensing revenue, lost profits and/or an injunction preventing us from engaging in certain activities, including selling certain products or services.

We also are subject to proceedings, investigations and audits by federal, state, international, national, provincial and local authorities, including as a result of our significant sales to governmental entities. We also are subject to audits by various vendor partners and large customers, including government agencies, relating to purchases and sales under various contracts. In addition, we are subject to indemnification claims under various contracts.

Current and future litigation, infringement claims, governmental proceedings and investigations, audits or indemnification claims that we face may result in substantial costs and expenses and significantly divert the attention of our management regardless of the outcome. In addition, these matters could lead to increased costs or interruptions of our normal business operations. Litigation, infringement claims, governmental proceedings and investigations, audits or indemnification claims involve uncertainties and the eventual outcome of any such matter could adversely affect our business, results of operations or cash flows.

Failure to comply with complex and evolving laws and regulations applicable to our operations could adversely impact our business, results of operations or cash flows.

Our operations are subject to numerous complex federal, state, provincial, local and foreign laws and regulations in a number of areas, including labor and employment, advertising, e-commerce, tax, trade, import and export requirements, economic and trade sanctions, anti-corruption, data privacy requirements (including those under the European Union General Data Protection Regulation), anti-competition, environmental and health and safety. The evaluation of, and compliance with these laws, regulations and similar requirements may be onerous and expensive, and these laws and regulations may have other adverse impacts on our business, results of operations or cash flows. Furthermore, these laws and regulations are evolving and may be inconsistent from jurisdiction to jurisdiction, further increasing the cost of compliance and doing business, and the risk of noncompliance.

We have implemented policies and procedures designed to help ensure compliance with applicable laws and regulations, but there can be no guarantee against coworkers, contractors or agents violating such laws and regulations or our policies and procedures.

As a public company, we also are subject to increasingly complex public disclosure, corporate governance and accounting requirements that increase compliance costs and require significant management focus.

Risks Related to Our Indebtedness

We have a substantial amount of indebtedness, which could have important consequences to our business.

We have a substantial amount of indebtedness. As of December 31, 2018, we had \$3.2 billion of total long-term debt outstanding, as defined by GAAP, and \$429 million of obligations outstanding under our inventory financing agreements, and the ability to borrow an additional \$1.1 billion under our senior secured asset-based revolving credit loan facility (the "Revolving Loan") and an additional £50 million (\$64 million at December 31, 2018) under our CDW UK revolving credit facility. Our substantial indebtedness could have important consequences, including the following:

- making it more difficult for us to satisfy our obligations with respect to our indebtedness;
- requiring us to dedicate a substantial portion of our cash flow from operations to debt service payments on our and our subsidiaries' debt, which reduces the funds available for working capital, capital expenditures, acquisitions and other general corporate purposes;
- requiring us to comply with restrictive covenants in our senior credit facilities and indentures, which limit the manner in which we conduct our business;
- making it more difficult for us to obtain vendor financing from our vendor partners, including original equipment manufacturers and software publishers;
- limiting our flexibility in planning for, or reacting to, changes in the industry in which we operate;
- placing us at a competitive disadvantage compared to any of our less-leveraged competitors;

- increasing our vulnerability to both general and industry-specific adverse economic conditions; and
- limiting our ability to obtain additional debt or equity financing to fund future working capital, capital expenditures, acquisitions or other general corporate requirements and increasing our cost of borrowing.

Restrictive covenants under our senior credit facilities and, to a lesser degree, our indentures may adversely affect our operations and liquidity.

Our senior credit facilities and, to a lesser degree, our indentures contain, and any future indebtedness of ours may contain, various covenants that limit our ability to, among other things:

- incur or guarantee additional debt;
- pay dividends or make distributions to holders of our capital stock or to make certain other restricted payments or investments;
- repurchase or redeem capital stock;
- make loans, capital expenditures or investments or acquisitions;
- receive dividends or other payments from our subsidiaries;
- enter into transactions with affiliates;
- pledge our assets as collateral;
- merge or consolidate with other companies or transfer all or substantially all of our assets;
- transfer or sell assets, including capital stock of subsidiaries; and
- prepay, repurchase or redeem debt.

As a result of these covenants, we are limited in the manner in which we conduct our business and we may be unable to engage in favorable business activities or finance future operations or capital needs. A breach of any of these covenants or any of the other restrictive covenants would result in a default under our senior credit facilities. Upon the occurrence of an event of default under our senior credit facilities, the lenders:

- will not be required to lend any additional amounts to us;
- could elect to declare all borrowings outstanding thereunder, together with accrued and unpaid interest and fees, to be due and payable; or
- could require us to apply all of our available cash to repay these borrowings.

The acceleration of amounts outstanding under our senior credit facilities would likely trigger an event of default under our existing indentures.

If we were unable to repay those amounts, the lenders under our senior credit facilities could proceed against the collateral granted to them to secure our borrowings thereunder. We have pledged a significant portion of our assets as collateral under our senior credit facilities. If the lenders under our senior credit facilities accelerate the repayment of borrowings, we cannot assure you that we will have sufficient assets to repay our senior credit facilities and our other indebtedness or the ability to borrow sufficient funds to refinance such indebtedness. Even if we were able to obtain new financing, it may not be on commercially reasonable terms, or terms that are acceptable to us.

In addition, under our Revolving Loan, we are permitted to borrow an aggregate amount of up to \$1.1 billion. However, our ability to borrow under our Revolving Loan is limited by a borrowing base and a liquidity condition. The borrowing base at any time equals the sum of up to 85% of CDW LLC and its subsidiary guarantors' eligible accounts receivable (net of accounts reserves) (up to 30% of such eligible accounts receivable which can consist of federal government accounts receivable) plus the lesser of (i) 75% of CDW LLC and its subsidiary guarantors' eligible inventory (valued at cost and net of inventory reserves) and (ii) the product of 85% multiplied by the net orderly liquidation value percentage multiplied by eligible inventory (valued at cost and net of inventory reserves), less reserves (other than accounts reserves and inventory reserves). The borrowing base in effect as of December 31, 2018 was \$1.8 billion and, therefore, did not restrict our ability to borrow under our Revolving Loan as of that date.

Our ability to borrow under our Revolving Loan is also limited by a minimum liquidity condition, which provides that, if excess cash availability is less than the lesser of (i) \$125 million and (ii) the greater of (A) 10% of the borrowing base and (B) \$100 million, the lenders are not required to lend any additional amounts under our Revolving Loan unless the consolidated fixed charge coverage ratio (as defined in the credit agreement for our Revolving Loan) is at least 1.00 to 1.00. It is an event of default under our Revolving Loan if our excess cash availability and consolidated fixed charge coverage ratio remain below such levels for a period of five or more consecutive business days. Moreover, our Revolving Loan provides discretion to the agent bank acting on behalf of the lenders to impose additional availability reserves, which could materially impair the amount of borrowings that would otherwise be available to us. We cannot assure you that the agent bank will not impose such reserves or, were it to do so, that the resulting impact of this action would not materially and adversely impair our liquidity.

We will be required to generate sufficient cash to service our indebtedness and, if not successful, we may be forced to take other actions to satisfy our obligations under our indebtedness.

Our ability to make scheduled payments on or to refinance our debt obligations depends on our financial and operating performance, which is subject to prevailing economic and competitive conditions and to certain financial, business and other factors beyond our control. Our outstanding long-term debt will impose significant cash interest payment obligations on us and, accordingly, we will have to generate significant cash flow from operating activities to fund our debt service obligations. We cannot assure you that we will maintain a level of cash flows from operating activities sufficient to permit us to pay the principal, premium, if any, and interest on our indebtedness. See "Management's Discussion and Analysis of Financial Condition and Results of Operations-Liquidity and Capital Resources" included elsewhere in this report.

If our cash flows and capital resources are insufficient to fund our debt service obligations, we may be forced to reduce or delay capital expenditures, sell assets or operations, seek additional debt or equity capital, restructure or refinance our indebtedness, or revise or delay our strategic plan. We cannot assure you that we would be able to take any of these actions on terms that are favorable to us or at all, that these actions would be successful and permit us to meet our scheduled debt service obligations or satisfy our capital requirements, or that these actions would be permitted under the terms of our existing or future debt agreements, including our senior credit facilities and indentures. In the absence of such operating results and resources, we could face substantial liquidity problems and might be required to dispose of material assets or operations to meet our debt service and other obligations. Our senior credit facilities restrict our ability to dispose of assets and use the proceeds from the disposition. We may not be able to consummate those dispositions or to obtain the proceeds which we could realize from them and these proceeds may not be adequate to meet any debt service obligations then due.

If we cannot make scheduled payments on our debt, we will be in default and, as a result:

- our debt holders could declare all outstanding principal and interest to be due and payable;
- the lenders under our senior credit facilities could foreclose against the assets securing the borrowings from them and the lenders under our Revolving Loan and CDW UK revolving credit facility could terminate their commitments to lend us money; and
- we could be forced into bankruptcy or liquidation.

Despite our indebtedness levels, we and our subsidiaries may be able to incur substantially more debt, including secured debt. This could further increase the risks associated with our leverage.

We and our subsidiaries may be able to incur substantial additional indebtedness in the future. The terms of our senior credit facilities and indentures do not fully prohibit us or our subsidiaries from doing so. To the extent that we incur additional indebtedness, the risks associated with our substantial indebtedness described above, including our possible inability to service our debt, will increase. As of December 31, 2018, we had \$1.1 billion available for additional borrowing under our Revolving Loan after taking into account borrowing base limitations (net of \$1 million of issued and undrawn letters of credit and \$393 million of reserves related to our floorplan sub-facility) and an additional £50 million (\$64 million at December 31, 2018) available under our CDW UK revolving credit facility.

Variable rate indebtedness subjects us to interest rate risk, which could cause our debt service obligations to increase significantly.

Certain of our borrowings, primarily borrowings under our senior credit facilities, are at variable rates of interest and expose us to interest rate risk. As of December 31, 2018, we had \$1.5 billion of variable rate debt outstanding. If interest rates increase, our debt service obligations on the variable rate indebtedness would increase even though the amount borrowed remained the same, and our net income would decrease. Although we have entered into interest rate cap agreements on our term loan facility

to reduce interest rate volatility, we cannot assure you we will be able to enter into interest rate cap agreements in the future on acceptable terms or that such caps or the caps we have in place now will be effective.

Risks Related to Ownership of Our Common Stock

Our common stock price may be volatile and may decline regardless of our operating performance, and holders of our common stock could lose a significant portion of their investment.

The market price for our common stock may be volatile. Our stockholders may not be able to resell their shares of common stock at or above the price at which they purchased such shares, due to fluctuations in the market price of our common stock, which may be caused by a number of factors, many of which we cannot control, including the risk factors described in this Annual Report on Form 10-K and the following:

- changes in financial estimates by any securities analysts who follow our common stock, our failure to meet these estimates or failure of securities analysts to maintain coverage of our common stock;
- downgrades by any securities analysts who follow our common stock;
- future sales of our common stock by our officers, directors and significant stockholders;
- market conditions or trends in our industry or the economy as a whole;
- investors' perceptions of our prospects;
- announcements by us or our competitors of significant contracts, acquisitions, joint ventures or capital commitments; and
- changes in key personnel.

In addition, the stock markets have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies, including companies in our industry. In the past, securities class action litigation has followed periods of market volatility. If we were involved in securities litigation, we could incur substantial costs, and our resources and the attention of management could be diverted from our business.

In the future, we may also issue our securities in connection with investments or acquisitions. The number of shares of our common stock issued in connection with an investment or acquisition could constitute a material portion of our then-outstanding shares of our common stock and depress our stock price.

Anti-takeover provisions in our charter documents and Delaware law might discourage or delay acquisition attempts for us that you might consider favorable.

Our amended and restated certificate of incorporation and amended and restated bylaws contain provisions that may make the acquisition of the Company more difficult without the approval of our Board of Directors. These provisions:

- authorize the issuance of undesignated preferred stock, the terms of which may be established and the shares of which may be issued without stockholder approval, and which may include super voting, special approval, dividend, or other rights or preferences superior to the rights of the holders of common stock;
- establish a classified Board of Directors until the 2021 annual meeting of stockholders, so that not all members of our Board of Directors are elected at one time;
- generally prohibit stockholder action by written consent, requiring all stockholder actions be taken at a meeting of our stockholders;
- provide that special meetings of the stockholders can only be called by or at the direction of our Board of Directors pursuant to a written resolution adopted by the affirmative vote of the majority of the total number of directors that the Company would have if there were no vacancies;
- establish advance notice requirements for nominations for elections to our Board of Directors or for proposing matters that can be acted upon by stockholders at stockholder meetings; and
- provide that our Board of Directors is expressly authorized to make, alter or repeal our amended and restated bylaws.

Our amended and restated certificate of incorporation also contains a provision that provides us with protections similar to Section 203 of the Delaware General Corporation Law, and will prevent us from engaging in a business combination with a person who acquires at least 15% of our common stock for a period of three years from the date such person acquired such common stock, unless board or stockholder approval is obtained prior to the acquisition. These anti-takeover provisions and other provisions under Delaware law could discourage, delay or prevent a transaction involving a change in control of the Company, even if doing so would benefit our stockholders. These provisions could also discourage proxy contests and make it more difficult for our stockholders to elect directors of their choosing and to cause us to take other corporate actions our stockholders desire.

We cannot assure you that we will continue to pay dividends on our common stock or repurchase any of our common stock under our share repurchase program, and our indebtedness and certain tax considerations could limit our ability to continue to pay dividends on, or make share repurchases of, our common stock. If we do not continue to pay dividends, you may not receive any return on investment unless you are able to sell your common stock for a price greater than your purchase price.

We expect to continue to pay a cash dividend on our common stock, currently at the rate of \$0.295 per share per quarter, or \$1.18 per share per annum. However, any determination to pay dividends in the future will be at the discretion of our Board of Directors. Any determination to pay dividends on, or repurchase, shares of our common stock in the future will depend upon our results of operations, financial condition, business prospects, capital requirements, contractual restrictions, any potential indebtedness we may incur, restrictions imposed by applicable law, tax considerations and other factors our Board of Directors deems relevant. In addition, our ability to pay dividends on, or repurchase, shares of our common stock will be limited by restrictions on our ability to pay dividends or make distributions to our stockholders and on the ability of our subsidiaries to pay dividends or make distributions to us, in each case, under the terms of our current and any future agreements governing our indebtedness. There can be no assurance that we will continue to pay a dividend at the current rate or at all or that we will repurchase shares of our common stock. If we do not pay dividends in the future, realization of a gain on your investment will depend entirely on the appreciation of the price of our common stock, which may never occur.

We are a holding company and rely on dividends, distributions and other payments, advances and transfers of funds from our subsidiaries to meet our obligations.

We are a holding company that does not conduct any business operations of our own. As a result, we are largely dependent upon cash dividends and distributions and other transfers from our subsidiaries to meet our obligations. The agreements governing the indebtedness of our subsidiaries impose restrictions on our subsidiaries' ability to pay dividends or other distributions to us. The deterioration of the earnings from, or other available assets of, our subsidiaries for any reason could also limit or impair their ability to pay dividends or other distributions to us.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

As of December 31, 2018, we owned or leased a total of 2.2 million square feet of space, primarily in the US, Canada and UK. We own two properties: a 513,000 square foot distribution center in North Las Vegas, Nevada, and a combined office and a 442,000 square foot distribution center in Vernon Hills, Illinois. In addition, we conduct sales, services and administrative activities in various leased locations primarily in the US, Canada and UK, including data centers in Madison, Wisconsin, Minneapolis, Minnesota and the UK.

We believe our facilities are well maintained, suitable for our business and occupy sufficient space to meet our operating needs. As part of our normal business, we regularly evaluate sales center performance and site suitability. Leases covering our currently occupied leased properties expire at varying dates, generally within the next ten years. We anticipate no difficulty in retaining occupancy through lease renewals, month-to-month occupancy or replacing the leased properties with equivalent properties. We believe that suitable additional or substitute leased properties will be available as required.

Item 3. Legal Proceedings

We are party to various legal proceedings that arise in the ordinary course of our business, which include commercial, intellectual property, employment, tort and other litigation matters. We are also subject to audit by federal, state, international, national, provincial and local authorities, and by various partners, group purchasing organizations and customers, including government agencies, relating to purchases and sales under various contracts. In addition, we are subject to indemnification claims under various contracts. From time to time, certain of our customers file voluntary petitions for reorganization or liquidation under the US bankruptcy laws or similar laws of the jurisdictions for our business activities outside of the US. In such cases, certain pre-petition payments received by us could be considered preference items and subject to return to the bankruptcy administrator.

As of December 31, 2018, we do not believe that there is a reasonable possibility that any material loss exceeding the amounts already recognized for these proceedings and matters, if any, has been incurred. However, the ultimate resolutions of these proceedings and matters are inherently unpredictable. As such, our financial condition and results of operations could be adversely affected in any particular period by the unfavorable resolution of one or more of these proceedings or matters.

Item 4. Mine Safety Disclosures

Not applicable.

Executive Officers

The following table lists the name, age as of February 27, 2019 and positions of each executive officer of the Company.

Name	Age	Position
Christine A. Leahy	54	President and Chief Executive Officer and member of our Board of Directors since January 2019; Chief Revenue Officer from July 2017 to December 2018; Senior Vice President - International, Chief Legal Officer, and Corporate Secretary from May 2016 to July 2017; Senior Vice President, General Counsel and Corporate Secretary from January 2007 to May 2016.
Thomas E. Richards	64	Executive Chairman of our Board of Directors since January 2019; President and Chief Executive Officer from October 2011 to December 2018; Chairman of the Board of Directors from January 2013 to December 2018.
Jill M. Billhorn	57	Senior Vice President, Corporate Sales since January 2019; Vice President, Strategic Solution Sales of CDW Direct, LLC from January 2018 to December 2018; Vice President, East Region of CDW Direct, LLC from August 2015 to January 2018; Vice President - Small Business of CDW Direct, LLC from August 2010 to August 2015.
Mark C. Chong	48	Senior Vice President of Strategy and Marketing since November 2016; Partner, Bain & Company from January 2010 to September 2016 and Principal from September 2007 to December 2009.
Elizabeth H. Connelly	54	Chief Human Resources Officer and Senior Vice President, Coworker Services since December 2018; Managing Director and Head, Commercial Bank Healthcare, Higher Education and Not-for-Profit Banking at J.P. Morgan Chase & Company from March 2012 to December 2018.
Christina M. Corley	51	Chief Operating Officer since January 2019; Senior Vice President, Commercial and International Markets from July 2017 to December 2018; Senior Vice President, Corporate Sales from September 2011 to July 2017.
Douglas E. Eckrote	54	Senior Vice President, Small Business Sales and eCommerce since August 2016; Senior Vice President, Strategic Solutions and Services from November 2009 to August 2016.
Collin B. Kebo	52	Senior Vice President and Chief Financial Officer since January 2018; Vice President, Financial Planning and Analysis from December 2008 to December 2017; Chief Financial Officer - International from May 2016 to December 2017.
Robert F. Kirby	53	Senior Vice President, Public Sales since July 2018; Vice President, Federal and State and Local Sales of CDW Government LLC from June 2011 to August 2018.
Frederick J. Kulevich	53	Senior Vice President, General Counsel and Corporate Secretary since October 2017; Vice President and Deputy General Counsel from May 2016 to October 2017; Vice President and Assistant General Counsel from May 2014 to May 2016; Senior Director, Ethics and Compliance from July 2006 to May 2014.
Christina V. Rother	55	Senior Vice President, Integrated Technology Solutions since July 2018; Senior Vice President, Public and Advanced Technology Sales from September 2011 to July 2018.
Jonathan J. Stevens	49	Senior Vice President, Operations and Chief Information Officer since November 2009.
Matthew A. Troka	48	Senior Vice President, Product and Partner Management since March 2011.

PART II

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

Market Information

Our common stock has been listed on the Nasdaq Global Select Market since June 27, 2013 under the symbol "CDW."

Holders

As of February 22, 2019, there were 19 holders of record of our common stock. The number of beneficial stockholders is substantially greater than the number of holders of record because a portion of our common stock is held through brokerage firms.

Dividends

On February 7, 2019, we announced that our Board of Directors declared a quarterly cash dividend on our common stock of \$0.295 per share. The dividend will be paid on March 12, 2019 to all stockholders of record as of the close of business on February 25, 2019.

We expect to continue to pay quarterly cash dividends on our common stock in the future, but such payments remain at the discretion of our Board of Directors and will depend upon our results of operations, financial condition, business prospects, capital requirements, contractual restrictions, any potential indebtedness we may incur, restrictions imposed by applicable law, tax considerations and other factors that our Board of Directors deems relevant. In addition, our ability to pay dividends on our common stock will be limited by restrictions on our ability to pay dividends or make distributions to our stockholders and on the ability of our subsidiaries to pay dividends or make distributions to us, in each case, under the terms of our current and any future agreements governing our indebtedness. For a discussion of our cash resources and needs and restrictions on our ability to pay dividends, see "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources" included elsewhere in this report. For additional discussion of restrictions on our ability to pay dividends, see Note 9 (Long-Term Debt) to the accompanying Consolidated Financial Statements.

Issuer Purchases of Equity Securities

On August 3, 2017, we announced that our Board of Directors authorized a \$750 million increase to our share repurchase program under which we may repurchase shares of our common stock in the open market through privately negotiated or other transactions, depending on share price, market conditions and other factors. On February 7, 2019, we announced that our Board of Directors authorized a \$1.0 billion increase to our share repurchase program.

Information relating to the Company's purchases of its common stock during the quarter ended December 31, 2018 is as follows:

Period	Total Number of Shares Purchased (in millions)	Average Price Paid per Share	Total Number of Shares Purchased as Part of a Publicly Announced Program (in millions)	Maximum Dollar Value of Shares that May Yet be Purchased Under the Program ⁽¹⁾ (in millions)
October 1 through October 31, 2018	1.1	\$ 83.58	1.1	\$ 532.4
November 1 through November 30, 2018	1.1	\$ 89.22	1.1	\$ 433.4
December 1 through December 31, 2018	1.1	\$ 89.24	1.1	\$ 335.8
Total	3.3		3.3	

(1) The amounts presented in this column are the remaining total authorized value to be spent after each month's repurchases.

Stock Performance Graph

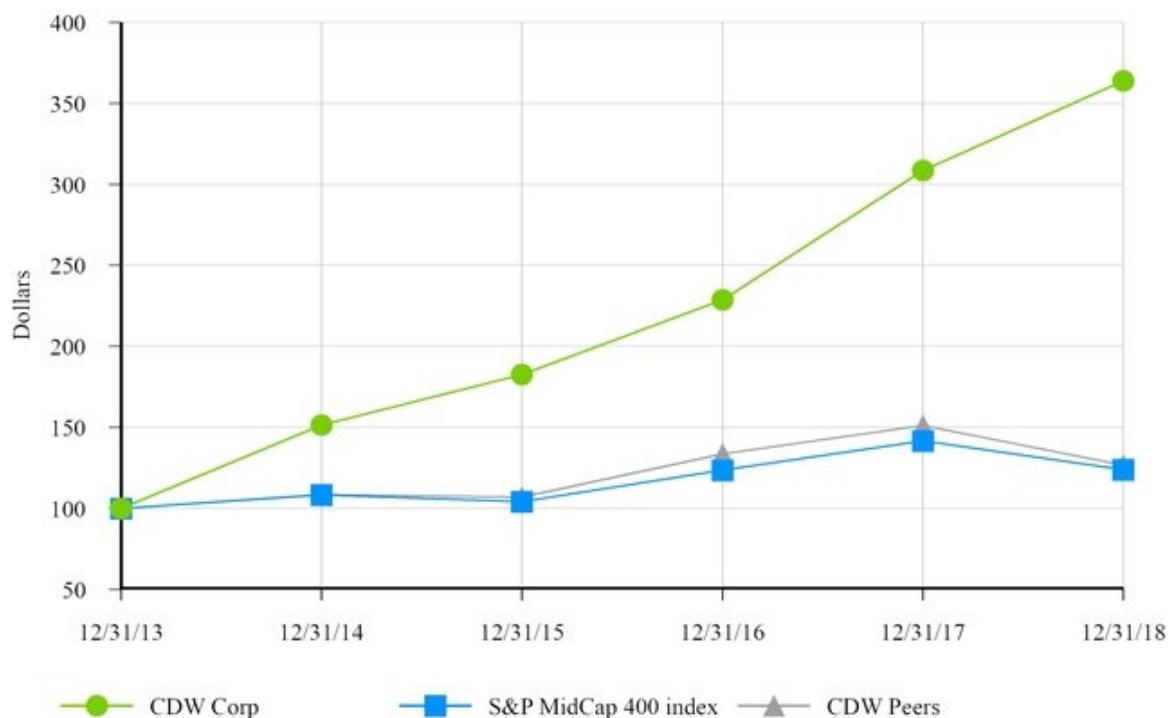
The information contained in this Stock Performance Graph section shall not be deemed to be "soliciting material" or "filed" or incorporated by reference in future filings with the SEC, or subject to the liabilities of Section 18 of the Securities Exchange Act of 1934, except to the extent that we specifically incorporate it by reference into a document filed under the Securities Act of 1933 or the Securities Exchange Act of 1934.

The following graph compares the cumulative total shareholder return, calculated on a dividend reinvested basis, on \$100.00 invested at the closing of the market on December 31, 2013 through and including the market close on December 31,

2018, with the cumulative total return for the same time period of the same amount invested in the S&P MidCap 400 index and a peer group index. Our peer group index for 2018 consists of the following companies: Anixter International, Inc., Arrow Electronics, Inc., Avnet, Inc., CGI Group Inc., Cognizant Technology Solutions Corporation, DXC Technology Company, Genuine Parts Company, Henry Schein, Inc., Insight Enterprises, Inc., LKQ Corporation, Patterson Companies, Inc., SYNEX Corporation, Tech Data Corporation, W.W. Grainger, Inc. and Wesco International, Inc. This peer group was selected based on a review of publicly available information about these companies and our determination that they met one or more of the following criteria: (i) similar size in terms of revenue and/or enterprise value (one-third to three times our revenue or enterprise value); (ii) operates in a business-to-business distribution environment; (iii) members of the technology industry; (iv) similar customers (*i.e.*, business, government, healthcare, and education); (v) companies that provide services and/or solutions; (vi) similar EBITDA margins; (vii) comparable percentage of international sales; (viii) frequently identified as a peer by the other peer companies or Institutional Shareholder Services Inc.; or (ix) identified by the Company as a competitor.

Shareholder returns over the indicated period are based on historical data and should not be considered indicative of future shareholder returns.

Stock Performance Graph



	December 31, 2013	December 31, 2014	December 31, 2015	December 31, 2016	December 31, 2017	December 31, 2018
CDW Corp	\$ 100	\$ 152	\$ 183	\$ 229	\$ 308	\$ 364
S&P MidCap 400 index	\$ 100	\$ 108	\$ 104	\$ 124	\$ 142	\$ 124
CDW Peers	\$ 100	\$ 109	\$ 107	\$ 133	\$ 151	\$ 127

Recent Sales of Unregistered Securities

None.

Item 6. Selected Financial Data

The selected financial data set forth below are not necessarily indicative of the results of future operations and should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our Consolidated Financial Statements and the related notes.

We have derived the selected financial data presented below as of December 31, 2018 and 2017 and for the years ended December 31, 2018, 2017 and 2016 from our Consolidated Financial Statements and related notes included elsewhere in this report. The selected financial data as of December 31, 2016, 2015 and 2014 and for the years ended December 31, 2015 and 2014 have been derived from our Consolidated Financial Statements as of and for those periods and are not included in this report.

(dollars in millions, except per share amounts)	Years Ended December 31,				
	2018	2017 ⁽¹⁾	2016 ⁽¹⁾	2015 ⁽²⁾	2014
Statement of Operations Data:					
Net sales	\$ 16,240.5	\$ 14,832.9	\$ 13,672.7	\$ 12,988.7	\$ 12,074.5
Cost of sales	13,533.6	12,382.7	11,344.4	10,872.9	10,153.2
Gross profit	2,706.9	2,450.2	2,328.3	2,115.8	1,921.3
Selling and administrative expenses	1,537.1	1,410.0	1,345.4	1,226.0	1,110.3
Advertising expense	182.5	173.7	162.9	147.8	138.0
Operating income	987.3	866.5	820.0	742.0	673.0
Interest expense, net	(148.6)	(150.5)	(146.5)	(159.5)	(197.3)
Net loss on extinguishments of long-term debt	—	(57.4)	(2.1)	(24.3)	(90.7)
Gain on remeasurement of equity investment	—	—	—	98.1	—
Other income (expense), net	1.8	2.1	1.8	(9.3)	2.7
Income before income taxes	840.5	660.7	673.2	647.0	387.7
Income tax expense	(197.5)	(137.6)	(248.1)	(243.9)	(142.8)
Net income	\$ 643.0	\$ 523.1	\$ 425.1	\$ 403.1	\$ 244.9
Net income per common share:					
Basic	\$ 4.26	\$ 3.37	\$ 2.60	\$ 2.37	\$ 1.44
Diluted	\$ 4.19	\$ 3.31	\$ 2.56	\$ 2.35	\$ 1.42
Cash dividends declared per common share	\$ 0.9250	\$ 0.6900	\$ 0.4825	\$ 0.3100	\$ 0.1950

Balance Sheet Data (at period end):					
Cash and cash equivalents	\$ 205.8	\$ 144.2	\$ 263.7	\$ 37.6	\$ 344.5
Working capital	993.7	874.2	959.9	903.5	985.4
Total assets	7,167.7	6,966.7	6,958.4	6,755.3	6,075.9
Total debt and capitalized lease obligations ⁽³⁾	3,209.1	3,236.7	3,236.6	3,262.9	3,166.1
Total stockholders' equity	975.2	985.6	1,047.9	1,095.9	936.5

Other Financial Data:					
Capital expenditures	\$ 86.1	\$ 81.1	\$ 63.5	\$ 90.1	\$ 55.0
Gross profit as a percentage of Net sales	16.7%	16.5%	17.0%	16.3%	15.9%
EBITDA ⁽⁴⁾	\$ 1,254.7	\$ 1,072.1	\$ 1,074.2	\$ 1,033.9	\$ 792.9
Adjusted EBITDA ⁽⁴⁾	1,302.2	1,186.0	1,118.1	1,018.5	907.0
Non-GAAP net income ⁽⁵⁾	794.3	605.9	569.7	503.5	409.9

Statement of Cash Flows Data:					
Net cash provided by (used in):					
Operating activities	\$ 905.9	\$ 777.7	\$ 604.0	\$ 277.5	\$ 435.0
Investing activities	(86.1)	(81.1)	(65.9)	(354.4)	(164.8)
Financing activities	(754.8)	(818.7)	(304.6)	(226.5)	(112.0)

- (1) Amounts for 2017 and 2016 have been adjusted to reflect the adoption of Topic 606.
- (2) Includes the impact of consolidating five months of CDW UK's financial results for the year ended December 31, 2015.
- (3) Excludes borrowings of \$429 million, \$498 million, \$580 million, \$440 million and \$332 million as of December 31, 2018, 2017, 2016, 2015 and 2014, respectively, under our inventory financing agreements. We do not include these

borrowings in total debt because we have not in the past incurred, and in the future do not expect to incur, any interest expense or late fees under these agreements.

- (4) EBITDA is defined as consolidated net income before interest expense, income tax expense, depreciation and amortization. Adjusted EBITDA, which is a measure defined in our credit agreements, means EBITDA adjusted for certain items which are described in the table below. We have included a reconciliation of EBITDA and Adjusted EBITDA in the table below. Both EBITDA and Adjusted EBITDA are considered non-GAAP financial measures. Generally, a non-GAAP financial measure is a numerical measure of a company's performance or financial position that either excludes or includes amounts that are not normally included or excluded in the most directly comparable measure calculated and presented in accordance with GAAP. Non-GAAP measures used by management may differ from similar measures used by other companies, even when similar terms are used to identify such measures.

We believe that EBITDA and Adjusted EBITDA provide analysts, investors and management with helpful information regarding the underlying operating performance of our business, as they remove the impact of items that management believes are not reflective of underlying operating performance. Management uses these measures to evaluate period-over-period performance as management believes they provide a more comparable measure of the underlying business. Additionally, Adjusted EBITDA is a measure in the credit agreement governing our senior secured term loan facility (the "Term Loan") used to evaluate our ability to make certain investments, incur additional debt, and make restricted payments, such as dividends and share repurchases, as well as whether we are required to make additional principal prepayments on the Term Loan beyond the quarterly amortization payments. For further details regarding the Term Loan, see Note 9 (Long-Term Debt) to the accompanying Consolidated Financial Statements.

The following unaudited table sets forth reconciliations of Net income to EBITDA and Adjusted EBITDA for the periods presented:

(in millions)	Years Ended December 31,				
	2018	2017 ⁽¹⁾	2016 ⁽¹⁾	2015 ⁽²⁾	2014
Net income	\$ 643.0	\$ 523.1	\$ 425.1	\$ 403.1	\$ 244.9
Depreciation and amortization	265.6	260.9	254.5	227.4	207.9
Income tax expense	197.5	137.6	248.1	243.9	142.8
Interest expense, net	148.6	150.5	146.5	159.5	197.3
EBITDA	1,254.7	1,072.1	1,074.2	1,033.9	792.9
Non-cash equity-based compensation	40.7	43.7	39.2	31.2	16.4
Net loss on extinguishments of long-term debt ⁽³⁾	—	57.4	2.1	24.3	90.7
Gain on remeasurement of equity investment ⁽⁴⁾	—	—	—	(98.1)	—
Other adjustments ⁽⁵⁾	6.8	12.8	2.6	27.2	7.0
Adjusted EBITDA	\$ 1,302.2	\$ 1,186.0	\$ 1,118.1	\$ 1,018.5	\$ 907.0

- (1) Amounts for 2017 and 2016 have been adjusted to reflect the adoption of Topic 606.
- (2) Includes the impact of consolidating five months of CDW UK's financial results for the year ended December 31, 2015.
- (3) During the years ended December 31, 2017, 2016, 2015 and 2014, we recorded net losses on extinguishments of long-term debt. The losses represented the difference between the amount paid upon extinguishment, including call premiums and expenses paid to the debt holders and agents, and the net carrying amount of the extinguished debt, adjusted for a portion of the unamortized deferred financing costs.
- (4) Represents the gain resulting from the remeasurement of our previously held 35% equity investment to fair value upon the completion of the acquisition of CDW UK.
- (5) Includes other expenses such as payroll taxes on equity-based compensation for the years ended December 31, 2018 and 2017, expenses related to the acquisition of Scalar Decisions Inc. incurred during 2018, integration expenses related to CDW UK during 2017, and the reinstatement of prior year unclaimed property balances as a result of a retroactive Illinois state law change enacted during 2017. The year ended December 31, 2016 includes our share of the settlement payments received from the Dynamic Random Access Memory class actions lawsuits and the favorable resolution of a local sales tax matter, offset by integration expenses related to CDW.

UK and expenses related to the consolidation of office locations north of Chicago. The year ended December 31, 2015 includes our 35% share of CDW UK's net loss, which entails our 35% share of an expense related to certain equity awards granted by one of the sellers to CDW UK coworkers in July 2015 prior to the acquisition. The years ended December 31, 2015 and 2014 also includes certain historical retention costs, expenses related to litigation matters, secondary-offering-related expenses and expenses related to the consolidation of office locations north of Chicago.

- (5) Non-GAAP net income excludes, among other things, charges related to the amortization of acquisition-related intangible assets, equity-based compensation and the associated tax benefits, acquisition and integration expenses, and gains and losses from the extinguishments of long-term debt. Non-GAAP net income is considered a non-GAAP financial measure. Generally, a non-GAAP financial measure is a numerical measure of a company's performance or financial position that either excludes or includes amounts that are not normally included or excluded in the most directly comparable measure calculated and presented in accordance with GAAP. Non-GAAP measures used by management may differ from similar measures used by other companies, even when similar terms are used to identify such measures. We believe that non-GAAP net income provides analysts, investors and management with helpful information regarding the underlying operating performance of our business, as this measure removes the impact of items that management believes are not reflective of underlying operating performance. Management uses this measure to evaluate period-over-period performance as management believes it provides a more comparable measure of the underlying business.

The following unaudited table sets forth a reconciliation of Net income to non-GAAP net income for the periods presented:

(in millions)	Years Ended December 31,				
	2018	2017 ⁽¹⁾	2016 ⁽¹⁾	2015 ⁽²⁾	2014
Net income	\$ 643.0	\$ 523.1	\$ 425.1	\$ 403.1	\$ 244.9
Amortization of intangibles ⁽³⁾	182.7	185.1	187.2	173.9	161.2
Equity-based compensation	40.7	43.7	39.2	31.2	16.4
Net loss on extinguishments of long-term debt	—	57.4	2.1	24.3	90.7
Gain on remeasurement of equity investment ⁽⁴⁾	—	—	—	(98.1)	—
Other adjustments ⁽⁵⁾	5.9	11.5	1.9	33.9	(0.3)
Aggregate adjustment for income taxes ⁽⁶⁾	(78.0)	(214.9)	(85.8)	(64.8)	(103.0)
Non-GAAP net income	\$ 794.3	\$ 605.9	\$ 569.7	\$ 503.5	\$ 409.9

- (1) Amounts for 2017 and 2016 have been adjusted to reflect the adoption of Topic 606.
- (2) Includes the impact of consolidating five months for the year ended December 31, 2015 of CDW UK's financial results.
- (3) Includes amortization expense for acquisition-related intangible assets, primarily customer relationships, customer contracts and trade names.
- (4) Represents the gain resulting from the remeasurement of our previously held 35% equity investment to fair value upon the completion of the acquisition of CDW UK.
- (5) Includes other expenses such as payroll taxes on equity-based compensation for the years ended December 31, 2018 and 2017, expenses related to the acquisition of Scalar Decisions Inc. incurred during 2018, integration expenses related to CDW UK during 2017, and the reinstatement of prior year unclaimed property balances as a result of a retroactive Illinois state law change enacted during 2017. The year ended December 31, 2016 includes our share of the settlement payments received from the Dynamic Random Access Memory class actions lawsuits and the favorable resolution of a local sales tax matter, offset by integration expenses related to CDW UK and expenses related to the consolidation of office locations north of Chicago. The year ended December 31, 2015 includes our 35% share of CDW UK's net loss, which entails our 35% share of an expense related to certain equity awards granted by one of the sellers to CDW UK coworkers in July 2015 prior to the acquisition. The years ended December 31, 2015 and 2014 include secondary-offering-related expenses and expenses related to the consolidation of office locations north of Chicago.

(6) Aggregate adjustment for income taxes consists of the following:

	Years Ended December 31,				
	2018	2017	2016	2015	2014
Total Non-GAAP adjustments	\$ 229.3	\$ 297.7	\$ 230.4	\$ 165.2	\$ 268.0
Weighted-average statutory effective rate	25.0%	36.0%	36.0%	38.0%	39.0%
Income tax	(57.3)	(107.2)	(82.9)	(62.8)	(104.5)
Deferred tax adjustment due to law changes	0.5	1.3	(1.5)	(4.0)	—
Excess tax benefits from equity-based compensation	(19.1)	(36.2)	(1.8)	—	—
Tax Cuts and Jobs Act	(1.9)	(75.5)	—	—	—
Withholding tax expense on the unremitted earnings of our Canadian subsidiary	—	—	—	3.3	—
Non-deductible adjustments and other	(0.2)	2.7	0.4	(1.3)	1.5
Total aggregate adjustment for income taxes	\$ (78.0)	\$ (214.9)	\$ (85.8)	\$ (64.8)	\$ (103.0)

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

Unless otherwise indicated or the context otherwise requires, as used in this "Management's Discussion and Analysis of Financial Condition and Results of Operations," the terms "we," "us," "the Company," "our," "CDW" and similar terms refer to CDW Corporation and its subsidiaries. "Management's Discussion and Analysis of Financial Condition and Results of Operations" should be read in conjunction with the Consolidated Financial Statements and the related notes included elsewhere in this report. This discussion contains forward-looking statements that are subject to numerous risks and uncertainties. Actual results may differ materially from those contained in any forward-looking statements. See "Forward-Looking Statements" above.

Overview

CDW Corporation is a Fortune 500 company and a leading provider of integrated IT solutions to small, medium and large business, and government, education and healthcare customers in the US, the UK and Canada. Our broad array of offerings ranges from discrete hardware and software products to integrated IT solutions such as mobility, security, data center optimization, cloud computing, virtualization and collaboration.

We are technology "agnostic," with a product portfolio including more than 100,000 products and services from more than 1,000 leading and emerging brands. Our solutions are delivered in physical, virtual and cloud-based environments through over 6,000 customer-facing coworkers, including sellers, highly-skilled technology specialists and advanced service delivery engineers. We are a leading sales channel partner for many original equipment manufacturers ("OEMs"), software publishers and cloud providers (collectively, our "vendor partners"), whose products we sell or include in the solutions we offer. We provide our vendor partners with a cost-effective way to reach customers and deliver a consistent brand experience through our established end-market coverage, technical expertise and extensive customer access.

We have three reportable segments, Corporate, Small Business and Public. Our Corporate segment primarily serves US private sector business customers with more than 250 employees. Our Small Business segment primarily serves US private sector business customers with up to 250 employees. Our Public segment is comprised of government agencies and education and healthcare institutions in the US. We also have two other operating segments: CDW UK and Canada, each of which do not meet the reportable segment quantitative thresholds and, accordingly, are included in an all other category ("Other").

We may sell all or only select products that our vendor partners offer. Each vendor partner agreement provides for specific terms and conditions, which may include one or more of the following: product return privileges, price protection policies, purchase discounts and vendor incentive programs, such as purchase or sales rebates and cooperative advertising reimbursements. We also resell software for major software publishers. Our agreements with software publishers allow the end-user customer to acquire software or licensed products and services. In addition to helping our customers determine the best software solutions for their needs, we help them manage their software agreements, including warranties and renewals. A significant portion of our advertising and marketing expenses are reimbursed through cooperative advertising programs with our vendor partners. These programs are at the discretion of our vendor partners and are typically tied to sales or other commitments to be met by us within a specified period of time.

Effective January 1, 2018, we adopted the requirements of ASU 2014-09, Revenue from Contracts with Customers, as amended ("Topic 606"), utilizing the full retrospective method. Prior period amounts have been adjusted accordingly.

Trends and Key Factors Affecting our Financial Performance

We believe the following key factors may have a meaningful impact on our business performance, influencing our ability to generate sales and achieve our targeted financial and operating results:

- General economic conditions are a key factor affecting our results as they impact our customers' willingness to spend on information technology. This is particularly the case for business customers, as their purchases tend to reflect confidence in their business prospects, which are driven by their perceptions of business conditions. Purchasing behavior may be different between our Corporate customers and Small Business customers due to their perception of business conditions. Additionally, changes in trade policy and product constraints from suppliers could have an adverse impact on our business. There continues to be substantial uncertainty regarding the impact of Brexit. Potential adverse consequences of Brexit such as global market uncertainty, volatility in currency exchange rates, greater restrictions on imports and exports between UK and EU countries and increased regulatory complexities could have a negative impact on our business, financial condition and results of operations. To date, CDW UK is not seeing significant changes in the buying behavior of its customers even with the uncertainty related to the timing and terms of Brexit.
- Changes in spending policies, budget priorities and funding levels are a key factor influencing the purchasing levels of government, healthcare and education customers. A prolonged partial shutdown of the US Government could have an adverse impact to our sales to Government customers and sales to our other customers that do business with the areas of the US Government affected by a partial shutdown. Additionally, a prolonged partial shutdown could impact cash collections from contracts with customers who do business with areas of the US Government affected by a partial shutdown.
- Technology trends drive customer purchasing behaviors in the market. Current technology trends are focused on delivering greater flexibility and efficiency, as well as designing IT securely. These trends are driving customer adoption of solutions such as those delivered via cloud, software defined architectures and hybrid on-premise and off-premise combinations, as well as the evolution of the IT consumption model to more "as-a-service" offerings, including Device-as-a-Service ("DaaS") and managed services.

Key Business Metrics

We monitor a number of financial and non-financial measures and ratios on a regular basis in order to track the progress of our business and make adjustments as necessary. We believe that the most important of these measures and ratios include average daily sales, gross margin, operating margin, Net income, Non-GAAP income before income taxes, Non-GAAP net income, Net income per common share, Non-GAAP net income per diluted share, EBITDA, Adjusted EBITDA, Adjusted EBITDA margin, free cash flow, return on working capital, Cash and cash equivalents, net working capital, cash conversion cycle (defined to be days of sales outstanding in Accounts receivable plus days of supply in Inventory minus days of purchases outstanding in Accounts payable, based on a rolling three-month average), debt levels including available credit and leverage ratios, sales per coworker and coworker turnover. These measures and ratios are compared to standards or objectives set by management, so that actions can be taken, as necessary, in order to achieve the standards and objectives.

In this Form 10-K, we discuss Non-GAAP income before income taxes, Non-GAAP net income, Non-GAAP net income per diluted share, EBITDA, Adjusted EBITDA and Adjusted EBITDA margin which are non-GAAP financial measures.

We believe these measures provide analysts, investors and management with helpful information regarding the underlying operating performance of our business, as they remove the impact of items that management believes are not reflective of underlying operating performance. Management uses these measures to evaluate period-over-period performance as management believes they provide a more comparable measure of the underlying business. Additionally, Adjusted EBITDA is a measure in the credit agreement governing our senior secured term loan facility (the "Term Loan") used to evaluate our ability to make certain investments, incur additional debt, and make restricted payments, such as dividends and share repurchases, as well as whether we are required to make additional principal prepayments on the Term Loan beyond the quarterly amortization payments. For further details regarding the Term Loan, see Long-Term Debt and Financing Arrangements within Management's Discussion and Analysis of Financial Condition and Results of Operations and Note 9 (Long-Term Debt) to the accompanying Consolidated Financial Statements. For the definitions of Non-GAAP income before income taxes, Non-GAAP net income and Adjusted EBITDA and reconciliations to Net income, see "Results of Operations."

The results of certain key business metrics are as follows:

(dollars in millions)	Years Ended December 31,		
	2018	2017 ⁽¹⁾	2016 ⁽¹⁾
Net sales	\$ 16,240.5	\$ 14,832.9	\$ 13,672.7
Gross profit	2,706.9	2,450.2	2,328.3
Operating income	987.3	866.5	820.0
Net income	643.0	523.1	425.1
Non-GAAP net income	794.3	605.9	569.7
Adjusted EBITDA	1,302.2	1,186.0	1,118.1
Average daily sales ⁽²⁾	63.9	58.4	53.8
Net debt ⁽³⁾	3,002.8	3,091.3	2,970.7
Cash conversion cycle (in days) ⁽⁴⁾	19	19	19

(1) Amounts for 2017 and 2016 have been adjusted to reflect the adoption of Topic 606.

(2) There were 254 selling days for each of the years ended December 31, 2018, 2017 and 2016.

(3) Defined as Total debt minus Cash and cash equivalents.

(4) Cash conversion cycle is defined as days of sales outstanding in Accounts receivable and certain receivables due from vendors plus days of supply in Merchandise inventory minus days of purchases outstanding in Accounts payable and Accounts payable-inventory financing, based on a rolling three-month average.

Results of Operations

Year Ended December 31, 2018 Compared to Year Ended December 31, 2017

Results of operations, in dollars and as a percentage of Net sales are as follows:

	Years Ended December 31,			
	2018		2017 ⁽¹⁾	
	Dollars in Millions	Percentage of Net Sales	Dollars in Millions	Percentage of Net Sales
Net sales	\$ 16,240.5	100.0 %	\$ 14,832.9	100.0 %
Cost of sales	13,533.6	83.3	12,382.7	83.5
Gross profit	2,706.9	16.7	2,450.2	16.5
Selling and administrative expenses	1,537.1	9.5	1,410.0	9.5
Advertising expense	182.5	1.1	173.7	1.2
Operating income	987.3	6.1	866.5	5.8
Interest expense, net	(148.6)	(0.9)	(150.5)	(1.0)
Net loss on extinguishments of long-term debt	—	—	(57.4)	(0.4)
Other income, net	1.8	—	2.1	—
Income before income taxes	840.5	5.2	660.7	4.5
Income tax expense	(197.5)	(1.2)	(137.6)	(0.9)
Net income	\$ 643.0	4.0 %	\$ 523.1	3.5 %

(1) Amounts for 2017 have been adjusted to reflect the adoption of Topic 606.

Net sales

Net sales by segment, in dollars and as a percentage of total Net sales, and the year-over-year dollar and percentage change in Net sales are as follows:

(dollars in millions)	Years Ended December 31,					
	2018		2017 ⁽¹⁾		Dollar Change	Percent Change ⁽²⁾
	Net Sales	Percentage of Total Net Sales	Net Sales	Percentage of Total Net Sales		
Corporate	\$ 6,842.5	42.1%	\$ 6,172.8	41.6%	\$ 669.7	10.8 %
Small Business	1,359.6	8.4	1,220.5	8.2	139.1	11.4
Public:						
Government	2,097.3	12.9	2,109.8	14.2	(12.5)	(0.6)
Education	2,327.4	14.3	2,184.5	14.7	142.9	6.5
Healthcare	1,730.0	10.7	1,612.2	10.9	117.8	7.3
Total Public	6,154.7	37.9	5,906.5	39.8	248.2	4.2
Other	1,883.7	11.6	1,533.1	10.4	350.6	22.9
Total Net sales	\$ 16,240.5	100.0%	\$ 14,832.9	100.0%	\$ 1,407.6	9.5 %

(1) Amounts for 2017 have been adjusted to reflect the adoption of Topic 606.

(2) There were 254 selling days for each of the years ended December 31, 2018 and 2017.

Total Net sales for the year ended December 31, 2018 increased \$1,408 million, or 9.5%, to \$16,241 million, compared to \$14,833 million for the year ended December 31, 2017. Excluding the impact of foreign currency fluctuations, constant currency Net sales growth was 9.2%.

For the year ended December 31, 2018, sales growth was driven by ongoing focus on client device refresh, the underlying demand for solutions and strong growth from our international operations.

Corporate segment Net sales for the year ended December 31, 2018 increased \$670 million, or 10.8%, compared to the year ended December 31, 2017. Growth was primarily driven by client device refresh, as well as continued success helping customers with solutions, including data center and software.

Small Business segment Net sales for the year ended December 31, 2018 increased by \$139 million, or 11.4%, between periods. Sales growth was primarily driven by client device refresh.

Public segment Net sales for the year ended December 31, 2018 increased \$248 million, or 4.2%, compared to the year ended December 31, 2017. Education Net sales increased 6.5%, primarily driven by continued success addressing client device and networking needs for both K-12 and Higher Education customers. Net sales in Healthcare increased 7.3%, primarily driven by performance in client devices and video as customers moved forward on refresh projects. Net sales to Government customers were flat compared to the prior year. Federal Net sales were lower due to the prior year success of meeting the Department of Defense mandate to move to new client devices with stronger security features. Federal Net sales were nearly fully offset by the success of executing against contracts to State and Local government customers, including meeting public safety needs.

Net sales in Other, which is comprised of results from our UK and Canadian operations, for the year ended December 31, 2018 increased \$351 million, or 22.9%, compared to the year ended December 31, 2017. Both operations had strong growth in local currency as we continued to take share in the local markets. In addition, UK growth was driven in part by increased sales from referrals for US-based customers. The impact of foreign currency exchange increased Other sales growth by approximately 270 basis points, primarily due to the favorable translation of the British pound to US dollar.

Gross profit

Gross profit increased \$257 million, or 10.5%, to \$2,707 million for the year ended December 31, 2018, compared to \$2,450 million for the year ended December 31, 2017. As a percentage of Net sales, Gross profit margin increased 20 basis points to 16.7% for the year ended December 31, 2018. Gross profit margin was impacted by an increase in the mix of revenue recognized on a net basis, such as Software as a Service and warranties, as well as improved product margin. This was partially offset by year-over-year Net sales growth out-pacing the year-over-year growth rate in partner funding.

Gross profit margin may fluctuate based on various factors, including vendor incentive and inventory price protection programs, cooperative advertising funds classified as a reduction of cost of sales, product mix, revenue recognized on a net basis, pricing strategies, market conditions and other factors.

Selling and administrative expenses

Selling and administrative expenses increased \$127 million, or 9.0%, to \$1,537 million for the year ended December 31, 2018, compared to \$1,410 million for the year ended December 31, 2017. The increase was driven by higher sales payroll expenses, including sales commissions, primarily due to higher Gross profit dollars and higher coworker costs due to higher attainment of performance-based compensation.

As a percentage of total Net sales, Selling and administrative expenses remained flat at 9.5% for the year ended December 31, 2018.

Operating income

Operating income by segment, in dollars and as a percentage of Net sales, and the year-over-year percentage change was as follows:

	Years Ended December 31,				
	2018		2017 ⁽¹⁾		Percent Change in Operating Income
	Dollars in Millions	Operating Margin	Dollars in Millions	Operating Margin	
Segments: ⁽²⁾					
Corporate	\$ 536.9	7.8%	\$ 487.9	7.9%	10.0%
Small Business	95.7	7.0	74.3	6.1	28.8
Public	410.8	6.7	374.4	6.3	9.7
Other ⁽³⁾	82.2	4.4	57.1	3.7	43.9
Headquarters ⁽⁴⁾	(138.3)	nm*	(127.2)	nm*	8.7
Total Operating income	\$ 987.3	6.1%	\$ 866.5	5.8%	13.9%

* Not meaningful

- (1) Amounts for 2017 have been adjusted to reflect the adoption of Topic 606.
- (2) Segment operating income includes the segment's direct operating income, allocations for certain Headquarters costs, allocations for income and expenses from logistics services, certain inventory adjustments and volume rebates and cooperative advertising from vendors.
- (3) Includes the financial results for our other operating segments, CDW UK and CDW Canada, which do not meet the reportable segment quantitative thresholds.
- (4) Includes Headquarters function costs that are not allocated to the segments.

Operating income was \$987 million for the year ended December 31, 2018, an increase of \$120 million, or 13.9%, compared to \$867 million for the year ended December 31, 2017. Operating income increased primarily due to higher Gross profit dollars, partially offset by higher sales payroll expenses and higher coworker costs due to higher attainment on performance-based compensation. Total operating margin percentage increased 30 basis points to 6.1% for the year ended December 31, 2018, from 5.8% for the year ended December 31, 2017. The increase was primarily due to Gross profit margin expansion driven by a higher mix into revenue recognized on a net basis, as well as improved product margin. Lower intangible asset amortization and equity-based compensation expense and the associated payroll taxes as a percentage of Net sales, which do not trend in line with sales movement, also had a favorable impact on the operating margin percentage. This was partially offset by higher attainment on performance-based compensation expense as a percentage of Net sales.

Corporate segment Operating income was \$537 million for the year ended December 31, 2018, an increase of \$49 million, or 10.0%, compared to \$488 million for the year ended December 31, 2017. Corporate segment Operating income increased primarily due to higher Gross profit dollars driven by higher sales, partially offset by higher sales payroll expenses. Corporate segment operating margin percentage decreased 10 basis points to 7.8% for the year ended December 31, 2018, from 7.9% for the year ended December 31, 2017. The decrease was driven by higher attainment on performance-based compensation expense as a percentage of Net sales.

Small Business segment Operating income was \$96 million for the year ended December 31, 2018, an increase of \$22 million, or 28.8%, compared to \$74 million for the year ended December 31, 2017. Small Business segment Operating income increased primarily due to higher Gross profit dollars. Small Business segment operating margin percentage increased 90 basis points to 7.0% for the year ended December 31, 2018, from 6.1% for the year ended December 31, 2017. This increase in operating margin percentage was primarily driven by a higher mix into revenue recognized on a net basis and the benefit of lower sales payroll expenses as a percentage of Net sales. This was partially offset by higher attainment on performance-based compensation expense as a percentage of Net sales.

Public segment Operating income was \$411 million for the year ended December 31, 2018, an increase of \$37 million, or 9.7%, compared to \$374 million for the year ended December 31, 2017. Public segment Operating income increased primarily due to higher Gross profit dollars, partially offset by higher sales payroll expenses. Public segment operating margin percentage increased 40 basis points to 6.7% for the year ended December 31, 2018, from 6.3% for the year ended December 31, 2017. This

increase in operating margin percentage was primarily driven by a higher mix into revenue recognized on a net basis, partially offset by higher performance-based compensation expense as a percentage of Net sales.

Other Operating income was \$82 million for the year ended December 31, 2018, an increase of \$25 million, or 43.9%, compared to \$57 million for the year ended December 31, 2017. Other Operating income increased primarily due to higher Gross profit dollars, partially offset by higher sales payroll expenses. Foreign exchange translation also had a favorable impact on Operating income. Other operating margin percentage increased 70 basis points to 4.4% for the year ended December 31, 2018, from 3.7% for the year ended December 31, 2017. This increase was primarily due to lower sales payroll expenses and lower intangible asset amortization as a percentage of Net sales, which does not trend in line with sales movement.

Net loss on extinguishments of long-term debt

For information regarding our debt, see Note 9 (Long-Term Debt) to the accompanying Consolidated Financial Statements. During 2017, we recorded a net loss on extinguishments of long-term debt of \$57 million.

Net loss on extinguishments of long-term debt are as follows:

Month of Extinguishment	Debt Instrument	(in millions)	
		Amount Extinguished	Loss Recognized
February 2017	Senior Secured Term Loan Facility	\$ 1,483.0	\$ (13.7)
March 2017	Senior Notes due 2022	600.0	(42.5) ⁽¹⁾
March 2017	Senior Secured Asset-based Revolving Credit Facility	—	(1.2)
Total Loss Recognized			<u>\$ (57.4)</u>

- (1) We repaid all of the remaining aggregate principal amount outstanding. The loss recognized represents the difference between the aggregate principal amount and the net carrying amount of the purchased debt, adjusted for the remaining unamortized deferred financing fees and premium.

Income tax expense

On December 22, 2017, the Tax Cuts and Jobs Act was enacted into law. The Tax Cuts and Jobs Act changed several aspects of US federal tax law including: reducing the US corporate income tax rate from 35.0% to 21.0% beginning on January 1, 2018; applying a one-time tax on the deemed mandatory repatriation of the Company's unremitted foreign earnings which have not been subject to US tax; imposing a minimum US tax on foreign earnings; providing for the immediate expensing of certain qualified property; and changing the tax treatment of performance-based executive compensation and certain employee fringe benefits.

The SEC issued Staff Accounting Bulletin 118 allowing for provisional amounts to be recorded during a measurement period not to exceed one year. During the year ended December 31, 2017, the Company recorded provisional amounts for the impact of revaluing deferred tax assets and liabilities, the deemed mandatory repatriation tax on the Company's unremitted foreign earnings and the state income tax effects from the changes in federal tax law. The Company adjusted the US federal and state provisional amounts during 2018, recording a net tax benefit of \$2 million. The adjustment was primarily driven by the rate differential on adjustments to temporary book-tax differences made in finalizing the 2017 federal income tax return and finalizing the deemed mandatory repatriation tax on the Company's unremitted foreign earnings.

Income tax expense was \$198 million in 2018, compared to \$138 million in 2017. The effective income tax rate, expressed by calculating income tax expense as a percentage of Income before income taxes, was 23.5% and 20.8% for 2018 and 2017, respectively.

For 2018, the effective tax rate differed from the US federal statutory rate primarily due to state income taxes, partially offset by excess tax benefits on equity compensation. For 2017, the effective tax rate differed from the US federal statutory rate primarily due to a one-time benefit of \$96 million to reflect the revaluation of deferred tax assets and liabilities, excess tax benefits on equity compensation and lower corporate tax rates on our international income, partially offset by state income taxes and a one-time charge of \$20 million for the mandatory repatriation tax. The 2018 effective tax rate was higher than 2017 primarily due to the benefits recorded in 2017 for the Tax Cuts and Jobs Act and excess tax benefits, which exceeded the benefit in 2018 from the lower federal income rate in 2018 and partially offset by a higher state income taxes.

Non-GAAP Financial Measure Reconciliations

We have included reconciliations of Non-GAAP income before income taxes, Non-GAAP net income, EBITDA, Adjusted EBITDA, Adjusted EBITDA margin and consolidated Net sales growth on a constant currency basis for the years ended December 31, 2018 and 2017 below.

Non-GAAP income before income taxes and Non-GAAP net income exclude, among other things, charges related to the amortization of acquisition-related intangible assets, equity-based compensation and the associated tax benefits, integration expenses, and gains and losses from the extinguishment of long-term debt. EBITDA is defined as consolidated net income before interest expense, net, income tax expense, depreciation and amortization. Adjusted EBITDA, which is a measure defined in our credit agreements, means EBITDA adjusted for certain items which are described in the table below. Adjusted EBITDA margin is defined as Adjusted EBITDA as a percentage of Net sales. Consolidated Net sales growth on a constant currency basis is defined as consolidated Net sales growth excluding the impact of foreign currency translation on net sales compared to the prior period.

Non-GAAP income before income taxes, Non-GAAP net income, EBITDA, Adjusted EBITDA, Adjusted EBITDA margin and consolidated Net sales growth on a constant currency basis are considered non-GAAP financial measures. Generally, a non-GAAP financial measure is a numerical measure of a company's performance or financial position that either excludes or includes amounts that are not normally included or excluded in the most directly comparable measure calculated and presented in accordance with GAAP. Non-GAAP measures used by management may differ from similar measures used by other companies, even when similar terms are used to identify such measures.

We believe these measures provide analysts, investors and management with helpful information regarding the underlying operating performance of our business, as they remove the impact of items that management believes are not reflective of underlying operating performance. Management uses these measures to evaluate period-over-period performance as management believes they provide a more comparable measure of the underlying business. Additionally, Adjusted EBITDA is a measure in the credit agreement governing our Term Loan used to evaluate our ability to make certain investments, incur additional debt, and make restricted payments, such as dividends and share repurchases, as well as whether we are required to make additional principal prepayments on the Term Loan beyond the quarterly amortization payments. For further details regarding the Term Loan, see Note 9 (Long-Term Debt) to the accompanying Consolidated Financial Statements.

Non-GAAP net income

Non-GAAP net income was \$794 million for the year ended December 31, 2018, an increase of \$188 million, or 31.1%, compared to \$606 million for the year ended December 31, 2017.

(in millions)	Year Ended December 31, 2018			Year Ended December 31, 2017 ⁽¹⁾		
	Income before income taxes	Income tax expense ⁽²⁾	Net income	Income before income taxes	Income tax expense ⁽²⁾	Net income
GAAP (as reported)	\$ 840.5	\$ (197.5)	\$ 643.0	\$ 660.7	\$ (137.6)	\$ 523.1
Amortization of intangibles ⁽³⁾	182.7	(45.7)	137.0	185.1	(66.6)	118.5
Equity-based compensation	40.7	(29.2)	11.5	43.7	(51.9)	(8.2)
Net loss on extinguishments of long-term debt	—	—	—	57.4	(20.7)	36.7
Tax Cuts and Jobs Act ⁽⁴⁾	—	(1.9)	(1.9)	—	(75.5)	(75.5)
Other adjustments ⁽⁵⁾	5.9	(1.2)	4.7	11.5	(0.2)	11.3
Non-GAAP	\$ 1,069.8	\$ (275.5)	\$ 794.3	\$ 958.4	\$ (352.5)	\$ 605.9

(1) Amounts for 2017 have been adjusted to reflect the adoption of Topic 606.

(2) Income tax on non-GAAP adjustments includes excess tax benefits associated with equity compensation. Additionally, 2018 includes the impact of global intangible low tax income ("GILTI") on equity-based compensation and amortization of intangibles.

(3) Includes amortization expense for acquisition-related intangible assets, primarily customer relationships, customer contracts and trade names.

(4) 2018 is comprised of adjustments to the provisional amounts recorded to finalize the US federal and state impact of revaluing deferred tax assets and liabilities and mandatory repatriation tax due to the completion of the 2017 US federal

and state tax returns.

- (5) Includes other expenses such as payroll taxes on equity-based compensation for the year ended December 31, 2018 and 2017, expenses related to the acquisition of Scalar Decisions Inc. incurred during 2018, integration expenses related to CDW UK during 2017, the reinstatement of prior year unclaimed property balances in 2017 and tax benefits due to state law changes for the year ended December 31, 2017.

Adjusted EBITDA

Adjusted EBITDA was \$1,302 million for the year ended December 31, 2018, an increase of \$116 million, or 9.8%, compared to \$1,186 million for the year ended December 31, 2017. As a percentage of Net sales, Adjusted EBITDA was 8.0% for each of the years ended December 31, 2018 and 2017.

(in millions)	Years Ended December 31,			
	2018	Percentage of Net Sales	2017 ⁽¹⁾	Percentage of Net Sales
Net income	\$ 643.0	4.0%	\$ 523.1	3.5%
Depreciation and amortization	265.6		260.9	
Income tax expense	197.5		137.6	
Interest expense, net	148.6		150.5	
EBITDA	1,254.7	7.7%	1,072.1	7.2%
Adjustments:				
Equity-based compensation	40.7		43.7	
Net loss on extinguishments of long-term debt	—		57.4	
Other adjustments ⁽²⁾	6.8		12.8	
Total adjustments	47.5		113.9	
Adjusted EBITDA	\$ 1,302.2	8.0%	\$ 1,186.0	8.0%

(1) Amounts for 2017 have been adjusted to reflect the adoption of Topic 606.

(2) Includes other expenses such as payroll taxes on equity-based compensation and our share of net income from our equity investment during the years ended December 31, 2018 and 2017, expenses related to the acquisition of Scalar Decisions Inc. incurred during 2018, integration expenses related to CDW UK during 2017, and the reinstatement of prior year unclaimed property balances as a result of a retroactive Illinois state law change enacted during 2017. Also includes historical retention costs during the year ended December 31, 2017.

Consolidated Net sales growth on a constant currency basis

Consolidated Net sales increased \$1,408 million, or 9.5%, to \$16,241 million for the year ended December 31, 2018, compared to \$14,833 million for the year ended December 31, 2017. Consolidated Net sales on a constant currency basis, which excludes the impact of foreign currency translation, increased \$1,374 million, or 9.2%.

(in millions)	Years Ended December 31,		% Change	Average Daily % Change ⁽²⁾
	2018	2017 ⁽¹⁾		
Net sales, as reported	\$ 16,240.5	\$ 14,832.9	9.5%	9.5%
Foreign currency translation ⁽³⁾	—	34.1		
Consolidated Net sales, on a constant currency basis	\$ 16,240.5	\$ 14,867.0	9.2%	9.2%

(1) Amounts for 2017 have been adjusted to reflect the adoption of Topic 606.

(2) There were 254 selling days for each of the years ended December 31, 2018 and 2017.

(3) Represents the effect of translating the prior year results of CDW UK and CDW Canada at the average exchange rates applicable in the current year.

Year Ended December 31, 2017 Compared to Year Ended December 31, 2016

Results of operations, in dollars and as a percentage of Net sales are as follows:

	Years Ended December 31,			
	2017 ⁽¹⁾		2016 ⁽¹⁾	
	Dollars in Millions	Percentage of Net Sales	Dollars in Millions	Percentage of Net Sales
Net sales	\$ 14,832.9	100.0 %	\$ 13,672.7	100.0 %
Cost of sales	12,382.7	83.5	11,344.4	83.0
Gross profit	2,450.2	16.5	2,328.3	17.0
Selling and administrative expenses	1,410.0	9.5	1,345.4	9.8
Advertising expense	173.7	1.2	162.9	1.2
Operating income	866.5	5.8	820.0	6.0
Interest expense, net	(150.5)	(1.0)	(146.5)	(1.1)
Net loss on extinguishments of long-term debt	(57.4)	(0.4)	(2.1)	—
Other income, net	2.1	—	1.8	—
Income before income taxes	660.7	4.5	673.2	4.9
Income tax expense	(137.6)	(0.9)	(248.1)	(1.8)
Net income	\$ 523.1	3.5 %	\$ 425.1	3.1 %

(1) Amounts for 2017 and 2016 have been adjusted to reflect the adoption of Topic 606.

Net sales

Net sales by segment, in dollars and as a percentage of total Net sales, and the year-over-year dollar and percentage change in Net sales are as follows:

	Years Ended December 31,					
	2017 ⁽¹⁾		2016 ⁽¹⁾			
(dollars in millions)	Net Sales	Percentage of Total Net sales	Net Sales	Percentage of Total Net Sales	Dollar Change	Percent Change ⁽²⁾
Corporate	\$ 6,172.8	41.6%	\$ 5,734.9	41.9%	\$ 437.9	7.6 %
Small Business	1,220.5	8.2	1,118.1	8.2	102.4	9.1
Public:						
Government	2,109.8	14.2	1,813.6	13.3	296.2	16.3
Education	2,184.5	14.7	1,994.4	14.6	190.1	9.5
Healthcare	1,612.2	10.9	1,669.4	12.2	(57.2)	(3.4)
Total Public	5,906.5	39.8	5,477.4	40.1	429.1	7.8
Other	1,533.1	10.4	1,342.3	9.8	190.8	14.2
Total Net sales	\$ 14,832.9	100.0%	\$ 13,672.7	100.0%	\$ 1,160.2	8.5 %

(1) Amounts for 2017 and 2016 have been adjusted to reflect the adoption of Topic 606.

(2) There were 254 selling days for each of the years ended December 31, 2017 and 2016.

Total Net sales in 2017 increased \$1,160 million, or 8.5%, to \$14,833 million, compared to \$13,673 million for the year ended December 31, 2016. Net sales on a constant currency basis, which excludes the impact of currency translation, for the year ended December 31, 2017 increased \$1,188 million, or 8.7%, to \$14,833 million, compared to \$13,645 million for the year ended December 31, 2016.

For the year ended December 31, 2017, sales growth was driven by gains in all our customer markets except Healthcare, which saw a Net sales decline year over year. During 2017, and in contrast to 2016, we saw an acceleration of hardware sales, driven by strong growth within client device sales due to customer refresh, which impacted categories such as notebooks, mobile devices and desktops. Additionally, we saw growth in several other categories, including video and networking. We also saw ongoing customer focus on designing IT securely, which led to strong sales growth across our entire security portfolio and the adoption of more efficient architectures, which drove strong growth in hyper-converged infrastructure and solutions delivered via the cloud, as well as the continuing trend of greater integration of software into solutions.

Corporate segment Net sales in 2017 increased \$438 million, or 7.6%, compared to 2016, as customer confidence improved throughout the year. Growth was primarily driven by customer refresh of client devices and networking.

Small Business segment Net sales in 2017 increased by \$102 million, or 9.1%, compared to 2016. Sales growth was primarily driven by customer refresh of client devices and video.

Public segment Net sales in 2017 increased \$429 million, or 7.8%, compared to 2016. The growth was primarily driven by Government and Education customers. Net sales to Federal government customers reflected a focus on spending existing budgets on planned projects and ongoing successful alignment with strategic programs, as well as success meeting the Department of Defense mandated move to new client devices with stronger security features. Strong Net sales to our State and Local government customers was driven by a continued focus on public safety and the on-going success executing against recently added contracts. Net sales to our Higher Education customers were driven by networking and software as we continued to see the benefit from "connected campus" strategies to ensure network infrastructures can handle multiple devices used by students, faculty and visitors across the entire campus. K-12 growth was driven by success in delivering collaborative learning environments and networking. Net sales to Healthcare customers decreased 3.4%, reflecting continued customer uncertainty related to reimbursements and funding.

Net sales in Other for 2017 increased \$191 million, or 14.2%, compared to 2016. Other is comprised of results from our UK and Canadian operations. Both operations had strong growth in local currency as we continued to take share in the local

markets, as well as the benefit from increased sales for referrals from US customers to the UK. The impact of foreign currency exchange decreased Other sales growth by approximately 250 basis points, due to the impact resulting from the British pound to US dollar translation, partially offset by favorable translation of the Canadian to US dollar.

Gross profit

Gross profit increased \$122 million, or 5.2%, to \$2,450 million in 2017, compared to \$2,328 million in 2016. As a percentage of Net sales, Gross profit decreased 50 basis points to 16.5% in 2017, down from 17.0% in 2016. Although there was an increase in Gross profit due to higher sales volumes, we experienced a decline in our Gross profit margin. This decline was primarily driven by product margin compression due to increased hardware sales, which generally have lower profit margins, and an ongoing competitive marketplace.

Gross profit margin may fluctuate based on various factors, including vendor incentive and inventory price protection programs, cooperative advertising funds classified as a reduction of cost of sales, product mix, revenue recognized on a net basis, pricing strategies, market conditions and other factors.

Selling and administrative expenses

Selling and administrative expenses increased \$65 million, or 4.8%, to \$1,410 million in 2017, compared to \$1,345 million in 2016. This was driven by higher sales payroll expenses, including sales commissions, primarily due to higher Gross profit, as well as higher coworker costs consistent with increased coworker count. Total coworker count was 8,726 at December 31, 2017, up 210 from 8,516 at December 31, 2016. Additionally, equity-based compensation expense and the associated payroll taxes increased \$8 million, or 19.8%, during 2017 compared to 2016, primarily due to the impact of annual equity awards granted under our Long-Term Incentive Plan and the vesting of an equity grant made at the time of our initial public offering. Also during 2017, a retroactive Illinois state law change was enacted which required the reinstatement of unclaimed property balances, resulting in an additional \$4 million of expenses. These increases were partially offset by lower senior management incentive compensation.

As a percentage of total Net sales, Selling and administrative expenses decreased 30 basis points to 9.5% in 2017, down from 9.8% in 2016.

Operating income

Operating income by segment, in dollars and as a percentage of Net sales, and the year-over-year percentage change was as follows:

	Years Ended December 31,				
	2017 ⁽¹⁾		2016 ⁽¹⁾		Percent Change in Operating Income
	Dollars in Millions	Operating Margin	Dollars in Millions	Operating Margin	
Segments: ⁽²⁾					
Corporate	\$ 487.9	7.9%	\$ 453.5	7.9%	7.6%
Small Business	74.3	6.1	69.1	6.2	7.4
Public	374.4	6.3	367.7	6.7	1.8
Other ⁽³⁾	57.1	3.7	44.6	3.3	28.2
Headquarters ⁽⁴⁾	(127.2)	nm*	(114.9)	nm*	10.7
Total Operating income	\$ 866.5	5.8%	\$ 820.0	6.0%	5.7%

* Not meaningful

- (1) Amounts for 2017 and 2016 have been adjusted to reflect the adoption of Topic 606.
- (2) Segment operating income includes the segment's direct operating income, allocations for certain Headquarters costs, allocations for income and expenses from logistics services, certain inventory adjustments and volume rebates and cooperative advertising from vendors.
- (3) Includes the financial results for our other operating segments, CDW UK and CDW Canada, which do not meet the reportable segment quantitative thresholds.
- (4) Includes Headquarters function costs that are not allocated to the segments.

Operating income was \$867 million in 2017, an increase of \$47 million, or 5.7%, compared to \$820 million in 2016. Although Operating income increased, total operating margin percentage decreased 20 basis points to 5.8% in 2017, from 6.0% in 2016. The decrease was primarily due to Gross profit margin compression from higher hardware sales and an ongoing competitive marketplace. Also contributing to lower operating margin percentage was the reinstatement of prior year unclaimed property balances in 2017 and the non-recurrence of the settlement payments received from the Dynamic Random Access Memory class action lawsuits in 2016. Partially offsetting these decreases were lower sales payroll, consistent with our variable compensation cost structure, lower senior management incentive compensation and a decline in intangible asset amortization expense as a percentage of Net sales.

Corporate segment Operating income was \$488 million in 2017, an increase of \$34 million, or 7.6%, compared to \$454 million in 2016. Corporate segment operating margin remained flat at 7.9% for 2017 and 2016. Although Operating income increased, primarily due to an increase in sales volume, Corporate segment operating margin percentage remained flat. The flat operating margin percentage reflects higher hardware sales and an ongoing competitive marketplace, which were fully offset by lower sales payroll expenses.

Small Business segment Operating income was \$74 million in 2017, an increase of \$5 million, or 7.4%, compared to \$69 million in 2016. Operating income increased due to an increase in sales volume, while operating margin decreased 10 basis points to 6.1% for 2017. The decrease in operating margin percentage reflects higher hardware sales and an ongoing competitive marketplace, which were offset by lower sales payroll expenses.

Public segment Operating income was \$374 million in 2017, an increase of \$6 million, or 1.8%, compared to \$368 million in 2016. Public segment operating margin decreased 40 basis points to 6.3% in 2017, from 6.7% in 2016. This decrease in operating margin percentage was primarily driven by higher hardware sales, which were partially offset by lower sales payroll expenses.

Other Operating income was \$57 million in 2017, an increase of \$12 million, or 28.2%, compared to \$45 million in 2016. Other Operating income increased primarily due to higher sales volumes and Gross profit as we continued to take share in the local markets. Other operating margin percentage increased 40 basis points to 3.7% in 2017, from 3.3% in 2016. This increase was primarily driven by a decline in intangible asset amortization expense as a percentage of Net sales.

Interest expense, net

Net interest expense in 2017 was \$151 million, an increase of \$4 million, compared to \$147 million in 2016. This increase was primarily driven by mark-to-market gains recognized on our interest rate cap agreements in 2016, with no comparable activity in 2017 due to the election of hedge accounting in February 2017 and by a rising interest rate environment which resulted in higher interest expense on the Term Loan. This was partially offset by a reduced coupon rate due to the refinancing activity that occurred during 2017.

Net loss on extinguishments of long-term debt

For information regarding our debt, see Note 9 (Long-Term Debt) to the accompanying Consolidated Financial Statements. During 2017, we recorded a net loss on extinguishments of long-term debt of \$57 million compared to \$2 million in 2016.

Net loss on extinguishments of long-term debt are as follows:

Month of Extinguishment		Debt Instrument	(in millions)	
			Amount Extinguished	Loss Recognized
For the Year Ended December 31, 2017				
February 2017	Senior Secured Term Loan Facility	\$	1,483.0	\$ (13.7)
March 2017	Senior Notes due 2022		600.0	(42.5) ⁽¹⁾
March 2017	Senior Secured Asset-based Revolving Credit Facility		—	(1.2)
	Total Loss Recognized			<u>\$ (57.4)</u>
For the Year Ended December 31, 2016				
August 2016	Senior Secured Term Loan Facility	\$	1,490.4	\$ (2.1)
	Total Loss Recognized			<u>\$ (2.1)</u>

- (1) We repaid all of the remaining aggregate principal amount outstanding. The loss recognized represents the difference between the aggregate principal amount and the net carrying amount of the purchased debt, adjusted for the remaining unamortized deferred financing costs and premium.

Income tax expense

On December 22, 2017, the Tax Cuts and Jobs Act was enacted into law. The Tax Cuts and Jobs Act changed several aspects of US federal tax law including: reducing the US corporate income tax rate from 35% to 21% beginning on January 1, 2018; establishing a territorial tax system, which includes a one-time tax on the deemed mandatory repatriation of our international operations' unremitted earnings which have not been subject to US tax; imposing a minimum US tax on foreign earnings; providing for the immediate expensing of certain qualified property; and changing the tax treatment of performance based executive compensation and certain employee fringe benefits. GAAP requires the income tax effects of the Tax Cuts and Jobs Act to be accounted for in the period of enactment.

The SEC issued Staff Accounting Bulletin 118 allowing for provisional amounts to be recorded during a measurement period not to exceed one year. We recorded provisional amounts for the impact of revaluing deferred tax assets and liabilities, the deemed mandatory repatriation tax of our international operations' unremitted earnings and the state income tax effects from the change in federal tax law.

Income tax expense was \$138 million in 2017, compared to \$248 million in 2016. The effective income tax rate, expressed by calculating income tax expense as a percentage of Income before income taxes, was 20.8% and 36.9% for 2017 and 2016, respectively.

For 2017, the effective tax rate differed from the US federal statutory rate primarily due to a one-time benefit of \$96 million to reflect the revaluation of deferred tax assets and liabilities under the Tax Cuts and Jobs Act, excess tax benefits on equity compensation and lower corporate tax rates on our international income, partially offset by state income taxes and a one-time charge of \$20 million for the mandatory repatriation tax under the Tax Cuts and Jobs Act. For 2016, the effective tax rate differed from the US federal statutory rate primarily due to state income taxes and non-deductible meals and entertainment expenses, which were partially offset by lower corporate tax rates on our international income, a deferred tax benefit as a result of a tax rate reduction in the UK and excess tax benefits on equity-based compensation as a result of adopting ASU 2016-09, Compensation - Stock Compensation. The lower effective tax rate for 2017 as compared to 2016 was primarily attributable to the impact of revaluing deferred tax assets and liabilities, and excess tax benefits on equity compensation, offset by a one-time charge for the mandatory repatriation tax.

Non-GAAP Financial Measure Reconciliations

We have included reconciliations of Non-GAAP income before income taxes, Non-GAAP net income, EBITDA, Adjusted EBITDA, Adjusted EBITDA margin and consolidated Net sales growth on a constant currency basis for the years ended December 31, 2017 and 2016 below. See the "Non-GAAP Financial Measure Reconciliations" section included above for the years ended December 31, 2018 and 2017 for all Non-GAAP measure definitions.

Non-GAAP net income

Non-GAAP net income was \$606 million for the year ended December 31, 2017, an increase of \$36 million, or 6.3%, compared to \$570 million for the year ended December 31, 2016.

(in millions)	Year Ended December 31, 2017 ⁽¹⁾			Year Ended December 31, 2016 ⁽¹⁾		
	Income before income taxes	Income tax expense	Net income	Income before income taxes	Income tax expense	Net income
GAAP (as reported)	\$ 660.7	\$ (137.6)	\$ 523.1	\$ 673.2	\$ (248.1)	\$ 425.1
Amortization of intangibles ⁽²⁾	185.1	(66.6)	118.5	187.2	(67.4)	119.8
Equity-based compensation	43.7	(51.9)	(8.2)	39.2	(15.9)	23.3
Net loss on extinguishments of long-term debt	57.4	(20.7)	36.7	2.1	(0.8)	1.3
Tax Cuts and Jobs Act	—	(75.5)	(75.5)	—	—	—
Other adjustments ⁽³⁾	11.5	(0.2)	11.3	1.9	(1.7)	0.2
Non-GAAP	\$ 958.4	\$ (352.5)	\$ 605.9	\$ 903.6	\$ (333.9)	\$ 569.7

- (1) Amounts for 2017 and 2016 have been adjusted to reflect the adoption of Topic 606.
- (2) Includes amortization expense for acquisition-related intangible assets, primarily customer relationships, customer contracts and trade names.
- (3) Includes other expenses such as payroll taxes on equity-based compensation and tax benefits due to state law changes for the year ended December 31, 2017 and 2016, integration expenses related to CDW UK, and the reinstatement of prior year unclaimed property balances as a result of a retroactive Illinois state law change enacted in the third quarter of 2017.

Adjusted EBITDA

Adjusted EBITDA was \$1,186 million for the year ended December 31, 2017, an increase of \$68 million, or 6.1%, compared to \$1,118 million for the year ended December 31, 2016. As a percentage of Net sales, Adjusted EBITDA was 8.0% and 8.2% for the years ended December 31, 2017 and 2016, respectively.

(in millions)	Years Ended December 31,			
	2017 ⁽¹⁾	Percentage of Net Sales	2016 ⁽¹⁾	Percentage of Net Sales
Net income	\$ 523.1	3.5%	\$ 425.1	3.1%
Depreciation and amortization	260.9		254.5	
Income tax expense	137.6		248.1	
Interest expense, net	150.5		146.5	
EBITDA	1,072.1	7.2%	1,074.2	7.9%
Adjustments:				
Equity-based compensation	43.7		39.2	
Net loss on extinguishments of long-term debt	57.4		2.1	
Other adjustments ⁽²⁾	12.8		2.6	
Total adjustments	113.9		43.9	
Adjusted EBITDA	\$ 1,186.0	8.0%	\$ 1,118.1	8.2%

(1) Amounts for 2017 and 2016 have been adjusted to reflect the adoption of Topic 606.

(2) Primarily includes expenses related to payroll taxes on equity-based compensation, our share of net income from our equity investment, and historical retention costs during 2017. The year ended December 31, 2016 primarily includes our share of the settlement payments received from the Dynamic Random Access Memory class action lawsuits and the favorable resolution of a local sales tax matter, partially offset by expenses related to the consolidation of office locations north of Chicago. Also comprised of integration expenses related to CDW UK and the reinstatement of prior year unclaimed property balances as a result of a retroactive Illinois state law change enacted during 2017.

Consolidated Net sales growth on a constant currency basis

Consolidated Net sales increased \$1,160 million, or 8.5%, to \$14,833 million for the year ended December 31, 2017, compared to \$13,673 million for the year ended December 31, 2016. Consolidated Net sales on a constant currency basis, which excludes the impact of foreign currency translation, increased \$1,188 million, or 8.7%, to \$14,833 million for the year ended December 31, 2017, compared to \$13,645 million for the year ended December 31, 2016.

(in millions)	Years Ended December 31,		% Change	Average Daily % Change ⁽²⁾
	2017 ⁽¹⁾	2016 ⁽¹⁾		
Net sales, as reported	\$ 14,832.9	\$ 13,672.7	8.5%	8.5%
Foreign currency translation ⁽³⁾	—	(28.1)		
Consolidated Net sales, on a constant currency basis	\$ 14,832.9	\$ 13,644.6	8.7%	8.7%

(1) Amounts for 2017 and 2016 have been adjusted to reflect the adoption of Topic 606.

(2) There were 254 selling days for each of the years ended December 31, 2017 and 2016.

(3) Represents the effect of translating the prior year results of CDW UK and CDW Canada at the average exchange rates applicable in the current year.

Seasonality

While we have not historically experienced significant seasonality throughout the year, sales in our Corporate segment, which primarily serves private sector business customers with more than 250 employees, are typically higher in the fourth quarter than in other quarters due to customers spending their remaining technology budget dollars at the end of the year. Additionally,

sales in our Public segment have historically been higher in the third quarter than in other quarters primarily due to the buying patterns of the federal government and education customers.

Liquidity and Capital Resources

Overview

We finance our operations and capital expenditures with internally generated cash from operations. As of December 31, 2018, we also have \$1.1 billion of availability for borrowings under our senior secured asset-based revolving credit facility and an additional £50 million (\$64 million at December 31, 2018) under the CDW UK revolving credit facility. Our liquidity and borrowing plans are established to align with our financial and strategic planning processes and ensure we have the necessary funding to meet our operating commitments, which primarily include the purchase of inventory, payroll and general expenses. We also take into consideration our overall capital allocation strategy, which includes investment for future growth, dividend payments, acquisitions and stock repurchases. We believe we have adequate sources of liquidity and funding available for at least the next year; however, there are a number of factors that may negatively impact our available sources of funds. The amount of cash generated from operations will be dependent upon factors such as the successful execution of our business plan and general economic conditions.

Long-Term Debt and Financing Arrangements

As of December 31, 2018, we had total indebtedness of \$3.2 billion, of which \$1.5 billion was secured indebtedness. At December 31, 2018, we were in compliance with the covenants under our various credit agreements and indentures. The amount of CDW's restricted payment capacity under the Senior Secured Term Loan Facility was \$1.5 billion at December 31, 2018. The amount of restricted payment capacity for the CDW UK term loan was \$163 million.

For additional details regarding our debt and refinancing activities, refer to Note 9 (Long-Term Debt) to the accompanying Consolidated Financial Statements.

Inventory Financing Agreements

We have entered into agreements with certain financial intermediaries to facilitate the purchase of inventory from various suppliers under certain terms and conditions. These amounts are classified separately as Accounts payable-inventory financing on the Consolidated Balance Sheets. We do not incur any interest expense associated with these agreements as balances are paid when they are due. For further details, see Note 5 (Inventory Financing Agreements) to the accompanying Consolidated Financial Statements.

Share Repurchase Program

During 2018, we repurchased 6.3 million shares of our common stock for \$522 million under the previously announced share repurchase program. On February 7, 2019, we announced that our Board of Directors authorized a \$1.0 billion increase to our share repurchase program. For more information on our share repurchase program, see Item 5, "Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities."

Dividends

Dividend Amount	Declaration Date	Record Date	Payment Date
\$0.210	February 7, 2018	February 26, 2018	March 12, 2018
\$0.210	May 2, 2018	May 25, 2018	June 11, 2018
\$0.210	August 2, 2018	August 24, 2018	September 10, 2018
\$0.295	October 31, 2018	November 26, 2018	December 10, 2018
\$0.925			

On February 7, 2019, we announced that our Board of Directors declared a quarterly cash dividend on our common stock of \$0.295 per share. The dividend will be paid on March 12, 2019 to all stockholders of record as of the close of business on February 25, 2019.

The payment of any future dividends will be at the discretion of our Board of Directors and will depend upon our results of operations, financial condition, business prospects, capital requirements, contractual restrictions, any potential indebtedness we may incur, restrictions imposed by applicable law, tax considerations and other factors that our Board of Directors deems relevant. In addition, our ability to pay dividends on our common stock will be limited by restrictions on our ability to pay dividends.

or make distributions to our stockholders and on the ability of our subsidiaries to pay dividends or make distributions to us, in each case, under the terms of our current and any future agreements governing our indebtedness.

Cash Flows

Cash flows from operating, investing and financing activities are as follows:

(in millions)	Years Ended December 31,		
	2018	2017	2016
Net cash provided by (used in):			
Operating activities	\$ 905.9	\$ 777.7	\$ 604.0
Investing activities	(86.1)	(81.1)	(65.9)
Net change in accounts payable - inventory financing	(67.4)	(84.0)	143.6
Other financing activities	(687.4)	(734.7)	(448.2)
Financing activities	(754.8)	(818.7)	(304.6)
Effect of exchange rate changes on cash and cash equivalents	(3.4)	2.6	(7.4)
Net increase (decrease) in cash and cash equivalents	\$ 61.6	\$ (119.5)	\$ 226.1

Operating Activities

Cash flows from operating activities are as follows:

(in millions)	Years Ended December 31,		
	2018	2017 ⁽¹⁾	Change
Net income	\$ 643.0	\$ 523.1	\$ 119.9
Adjustments for the impact of non-cash items ⁽²⁾	261.1	194.4	66.7
Net income adjusted for the impact of non-cash items ⁽³⁾	904.1	717.5	186.6
Changes in assets and liabilities:			
Accounts receivable ⁽⁴⁾	(365.1)	(136.8)	(228.3)
Merchandise inventory ⁽⁵⁾	(46.8)	16.9	(63.7)
Accounts payable-trade ⁽⁶⁾	271.2	231.5	39.7
Other ⁽⁷⁾	142.5	(51.4)	193.9
Net cash provided by operating activities	\$ 905.9	\$ 777.7	\$ 128.2

- (1) Amounts for 2017 have been adjusted to reflect the adoption of Topic 606.
- (2) Includes items such as deferred income taxes, depreciation and amortization, equity-based compensation expense and Net loss on extinguishments of long-term debt.
- (3) The change is primarily due to stronger operating results driven by Net sales and Gross profit growth, partially offset by higher sales payroll.
- (4) The change in Accounts receivable is primarily due to increased sales volume in 2018 compared to 2017 and longer payment cycles for certain Public segment customers.
- (5) The change in Merchandise inventory is primarily due to growth in business and timing of shipments to customers in 2018, as well as lower inventory levels at the end of 2017.
- (6) The change in Accounts payable-trade is due to increased sales in 2018 and the timing of inventory purchases.
- (7) The change in Other is driven by improved collection performance of our receivables from vendors, higher accrued compensation expense in 2018 and the settlement of our Restricted Debt Unit Plan liability in 2017.

(in millions)	Years Ended December 31,		
	2017 ⁽¹⁾	2016 ⁽¹⁾	Change
Net income	\$ 523.1	\$ 425.1	\$ 98.0
Adjustments for the impact of non-cash items ⁽²⁾	194.4	202.9	(8.5)
Net income adjusted for the impact of non-cash items ⁽³⁾	717.5	628.0	89.5
Changes in assets and liabilities:			
Accounts receivable ⁽⁴⁾	(136.8)	(178.9)	42.1
Merchandise inventory ⁽⁵⁾	16.9	(68.0)	84.9
Accounts payable-trade	231.5	225.1	6.4
Other ⁽⁶⁾	(51.4)	(2.2)	(49.2)
Net cash provided by operating activities	\$ 777.7	\$ 604.0	\$ 173.7

- (1) Amounts for 2017 and 2016 have been adjusted to reflect the adoption of Topic 606.
- (2) Includes items such as deferred income taxes, depreciation and amortization, equity-based compensation expense and Net loss on extinguishments of long-term debt.
- (3) The change is primarily due to stronger operating results driven by Net sales and Gross profit growth and excess tax benefits recognized related to equity-based compensation.
- (4) The change in Accounts receivable was primarily due to the timing of sales compared to the same period in 2016.

- (5) The change in Merchandise inventory was primarily due to higher inventory levels in 2016 as a result of the timing of inventory shipments to customers, increased returns and higher bill-and-hold orders.
- (6) The change in Other is driven by an increase in the receivables from vendors due to the growth in business and the settlement of our Restricted Debt Unit Plan liability, partially offset by an increase in accrued marketing expenses.

In order to manage our working capital and operating cash needs, we monitor our cash conversion cycle, defined as days of sales outstanding in accounts receivable plus days of supply in inventory minus days of purchases outstanding in accounts payable, based on a rolling three-month average. Components of our cash conversion cycle are as follows:

(in days)	December 31,		
	2018	2017 ⁽¹⁾	2016 ⁽¹⁾
Days of sales outstanding (DSO) ⁽²⁾	56	53	52
Days of supply in inventory (DIO) ⁽³⁾	13	13	13
Days of purchases outstanding (DPO) ⁽⁴⁾	(50)	(47)	(46)
Cash conversion cycle	19	19	19

- (1) Amounts for 2017 and 2016 have been adjusted to reflect the adoption of Topic 606.
- (2) Represents the rolling three-month average of the balance of Accounts receivable, net at the end of the period, divided by average daily Net sales for the same three-month period. Also incorporates components of other miscellaneous receivables.
- (3) Represents the rolling three-month average of the balance of Merchandise inventory at the end of the period divided by average daily Cost of sales for the same three-month period.
- (4) Represents the rolling three-month average of the combined balance of Accounts payable-trade, excluding cash overdrafts, and Accounts payable-inventory financing at the end of the period divided by average daily Cost of sales for the same three-month period.

The cash conversion cycle was 19 days at December 31, 2018 and 2017. The increase in DSO was primarily driven by higher Net sales and related Accounts receivable recognized on a net basis such as SaaS, software assurance and warranties and longer payment cycles for certain Public segment customers. The third-party services have an unfavorable impact on DSO as the receivable is recognized on the Consolidated Balance Sheet on a gross basis while the corresponding sales amount in the Consolidated Statement of Operations is recorded on a net basis. This also results in a favorable impact on DPO as the payable is recognized on the Consolidated Balance Sheet without a corresponding Cost of sales in the Statement of Operations because the cost paid to the vendor or third-party service provider is recorded as a reduction to Net sales. DPO was also impacted by the timing of inventory purchases.

The cash conversion cycle was 19 days at December 31, 2017 and 2016. The increase in DSO was primarily driven by higher Net sales and related Accounts receivable recognized on a net basis such as SaaS, software assurance and warranties. These services have an unfavorable impact on DSO as the receivable is recognized on the Consolidated Balance Sheet on a gross basis while the corresponding sales amount in the Consolidated Statement of Operations is recorded on a net basis. This also results in a favorable impact on DPO as the payable is recognized on the Consolidated Balance Sheet without a corresponding Cost of sales in the Statement of Operations because the cost paid to the vendor or third-party service provider is recorded as a reduction to Net sales. In addition, DPO also increased due to the mix of payables with certain vendors that have longer payment terms.

Investing Activities

Net cash used in investing activities increased \$5 million in 2018 compared to 2017. The increase in cash used primarily related to improvements to our information technology systems.

Net cash used in investing activities increased \$15 million in 2017 compared to 2016. The increase in cash used was primarily related to improvements to our information technology systems.

Financing Activities

Net cash used in financing activities decreased \$64 million in 2018 compared to 2017. The decrease was primarily driven by 2017 payments to extinguish long-term debt which did not repeat in 2018, an increase in stock options exercised and lower incentive compensation plan withholding taxes, partially offset by an increase in dividends paid.

Net cash used in financing activities increased \$514 million in 2017 compared to 2016. The increase was primarily driven by changes in accounts payable-inventory financing, which resulted in an increase in cash used in financing activities of \$228 million and by share repurchases during 2017, which resulted in an increase in cash used in financing activities of \$167 million. The increase in cash used for Accounts payable-inventory financing was primarily driven by the termination of one of our inventory financing agreements in the fourth quarter of 2016, with amounts owed subsequently reported as Accounts payable - trade on the Consolidated Balance Sheet, which reduced cash flows reported as financing activities during 2017. In addition, an increase in incentive compensation plan tax withholdings paid of \$50 million, coupled with an increase in dividends paid of \$28 million, contributed to the increase in cash used in financing activities.

Contractual Obligations

We have future obligations under various contracts relating to debt and interest payments, operating leases and asset retirement obligations. Our estimated future payments, based on undiscounted amounts, under contractual obligations that existed as of December 31, 2018, are as follows:

(in millions)	Payments Due by Period				
	Total	2019	2020-2021	2022-2023	2024 & Thereafter

Term Loan ⁽¹⁾	\$	1,738.6	\$	77.7	\$	153.7	\$	1,507.2	\$	—
CDW UK Term Loan ⁽¹⁾		68.8		8.2		60.6		—		—
Senior Notes due 2023 ⁽²⁾		656.3		26.3		52.5		577.5		—
Senior Notes due 2024 ⁽²⁾		764.8		31.6		63.3		63.3		606.6
Senior Notes due 2025 ⁽²⁾		810.0		30.0		60.0		60.0		660.0
Operating leases ⁽³⁾		264.7		29.7		49.7		36.7		148.6
Mandatory repatriation tax ⁽⁴⁾		10.7		—		—		1.0		9.7
Total	\$	4,313.9	\$	203.5	\$	439.8	\$	2,245.7	\$	1,424.9

- (1) Includes future principal and cash interest payments on long-term borrowings through scheduled maturity dates. Interest payments for variable rate debt were calculated using interest rates as of December 31, 2018. Excluded from these amounts are the amortization of debt issuance and other costs related to indebtedness.
- (2) Includes future principal and cash interest payments on long-term borrowings through scheduled maturity dates. Interest on the Senior Notes is calculated using the stated interest rates. Excluded from these amounts are the amortization of debt issuance and other costs related to indebtedness.
- (3) Includes the minimum lease payments for non-cancelable operating leases of properties and equipment used in our operations. Capital leases included in property and equipment are not material.
- (4) Represents future cash tax payments for the one-time mandatory repatriation tax on the earnings of international operations previously deferred for US tax purposes, as required by the Tax Cuts and Jobs Act.

Off-Balance Sheet Arrangements

We have no off-balance sheet arrangements that have or are reasonably likely to have a material current or future effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources.

Inflation

Inflation has not had a material impact on our operating results. We generally have been able to pass along price increases to our customers, though certain economic factors and technological advances in recent years have tended to place downward pressure on pricing. We also have been able to generally offset the effects of inflation on operating costs by continuing to emphasize

productivity improvements. There can be no assurances, however, that inflation would not have a material impact on our sales or operating costs in the future.

Commitments and Contingencies

The information set forth in Note 15 (Commitments and Contingencies) to the accompanying Consolidated Financial Statements included in Part II, Item 8 of this Form 10-K is incorporated herein by reference.

Critical Accounting Policies and Estimates

The preparation of the Consolidated Financial Statements in accordance with GAAP requires management to make use of certain estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses, as well as related disclosure of contingent assets and liabilities in the Consolidated Financial Statements and accompanying notes. We base our estimates on historical experience and on various other assumptions that we believe are reasonable under the circumstances. Historically, we have not made significant changes to the methods for determining these estimates as our actual results have not differed materially from our estimates. We do not believe it is reasonably likely that the estimates and related assumptions will change materially in the foreseeable future; however, actual results could differ from those estimates under different assumptions, judgments or conditions. We have reviewed our critical accounting policies with the Audit Committee of our Board of Directors.

Critical accounting policies and estimates are those that are most important to the portrayal of our financial condition and results of operations, and which require us to make our most difficult and subjective judgments, often as a result of the need to make estimates of matters that are inherently uncertain. Based on this definition, we have identified the critical accounting policies and estimates addressed below. For more information related to significant accounting policies used in the preparation of our Consolidated Financial Statements, see Note 1 (Description of Business and Summary of Significant Accounting Policies) to the accompanying Consolidated Financial Statements.

Revenue Recognition

We sell some of our products and services as part of bundled contract arrangements containing multiple deliverables, which may include a combination of different products and services. Significant judgment may be required when determining whether products and services are considered distinct performance obligations that should be accounted for separately versus together.

For each deliverable that represents a distinct performance obligation, total arrangement consideration is allocated based upon the standalone selling prices of each performance obligation. Judgment is required to determine the standalone selling price for each distinct performance obligation. For certain performance obligations, we will use a combination of methods to estimate the standalone selling price based on recent transactions. When evidence from recent transactions is not available to confirm that the prices are representative of the standalone selling price, an expected cost plus a margin approach is used.

Additional judgment is required in determining whether we are the principal, and report revenues on a gross basis, or agent, and report revenues on a net basis. We evaluate the following indicators amongst others when determining whether we are acting as a principal in the transaction and recording revenue on a gross basis: (i) we are primarily responsible for fulfilling the promise to provide the specified goods or service, (ii) we have inventory risk before the specified good or service has been transferred to a customer or after transfer of control to the customer and (iii) we have discretion in establishing the price for the specified good or service. If the terms of a transaction do not indicate we are acting as a principal in the transaction, then we are acting as an agent in the transaction and the associated revenues are recognized on a net basis.

The nature of our contracts give rise to variable consideration in the form of sales returns and allowances. We estimate variable consideration at the most likely amount to which we are expected to be entitled. The estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based on an assessment of our anticipated performance and all information that is reasonably available.

We generally recognize revenue on the sale of hardware and software products upon delivery to the customer. As a result, we perform an analysis to estimate the amount of Net sales in-transit at the end of the period and adjust revenue and the related costs to reflect only what has been delivered to the customer. This analysis requires judgment whereby we perform an analysis of the estimated number of days of sales in-transit to customers at the end of each reporting period based on a weighted-average analysis of commercial delivery terms that include drop-shipment arrangements. Changes in delivery patterns may result in a different number of business days estimated to make this adjustment.

Vendor Programs

We receive incentives from certain vendors related to cooperative advertising, volume rebates, bid programs, price protection and other programs. These incentives generally relate to written agreements with specified performance requirements with the vendors and are recorded as adjustments to Cost of sales or Merchandise inventory, depending on the nature of the incentive. We record vendor partner receivables related to these programs when the amounts are probable and reasonably estimable. Some programs are based on the achievement of specific targets, and we base our estimates on information provided by our vendors and internal information to assess our progress toward achieving those targets.

We also record reserves for vendor partner receivables for estimated losses due to vendors' inability to pay or rejections by vendors of claims. In estimating the required allowance, we take into consideration collections performance and the aging of the incentive receivables, as well as specific vendor circumstances.

Goodwill

Goodwill is allocated to reporting units expected to benefit from the business combination. Goodwill is not amortized but is subject to periodic testing for impairment at the reporting unit level on an annual basis each December 1, or more frequently if events or changes in circumstances indicate that the asset may be impaired. These events or circumstances could include a significant change in the business climate, legal factors, operating performance indicators, competition or sale or disposition of a significant portion of a reporting unit.

We may elect to utilize a qualitative assessment to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value. As part of our qualitative assessment, judgment is required in weighing the effect of various positive and negative factors that may affect the fair value. We consider various factors, including the excess of fair value over carrying value from the last quantitative test, macroeconomic conditions, industry and market considerations, the projected financial performance and actual financial performance compared to prior year projected financial performance, as well as other factors.

If we elect to bypass the qualitative assessment, or if indicators of impairment exist, a quantitative impairment test is performed. As part of the quantitative assessment, application of the goodwill impairment test requires judgment, including the identification of reporting units, assignment of assets and liabilities to reporting units, assignment of goodwill to reporting units, and determination of the fair value of each reporting unit. Fair value of a reporting unit is determined by using a weighted combination of an income approach and a market approach, as this combination is considered the most indicative of our fair value in an orderly transaction between market participants. This analysis requires significant judgments, including estimation of future cash flows, which is dependent on internal forecasts, estimation of the long-term rate of growth for our business, estimation of the useful life over which cash flows will occur, determination of our weighted average cost of capital, future market conditions and profitability of future business strategies. The estimates used to calculate the fair value of a reporting unit change from year to year based on operating results, market conditions and other factors. Changes in these estimates and assumptions could materially affect the determination of fair value and goodwill impairment for each reporting unit. However, our past estimates of fair value would not have been materially different when revised to include subsequent years' actual results.

Intangible Assets

Intangible assets include customer relationships, trade names, internally developed software and other intangibles. Intangible assets are amortized on a straight-line basis over the estimated useful life of the asset and reviewed for impairment when events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. The valuation and classification of these assets and the assignment of useful lives involve significant judgment and the use of estimates. The valuation, classification and assignment of useful lives were derived using market inputs, historic experience and third-party guidance.

Income Taxes

The determination of our provision for income taxes and evaluating our tax positions requires significant judgment, the use of estimates and the interpretation and application of complex tax laws. Our provision for income taxes primarily reflects a combination of income earned and taxed in the various U.S. federal and state, as well as foreign, jurisdictions. Our annual effective tax rate is based on our income, the jurisdiction(s) in which the income is earned and subjected to taxation, the tax laws in those various jurisdictions which can be affected by tax law changes, increases or decreases in permanent differences between book and tax items, and accruals or adjustments of accruals for unrecognized tax benefits or valuation allowances.

We establish reserves to remove some or all of the tax benefit of any of our tax positions at the time we determine that the position becomes uncertain based upon one of the following: (1) the tax position is not "more likely than not" to be sustained,

(2) the tax position is "more likely than not" to be sustained, but for a lesser amount, or (3) the tax position is "more likely than not" to be sustained, but not in the financial period in which the tax position was originally taken. Reserves related to tax accruals and valuations allowances related to deferred tax assets can be impacted by changes in tax law in the relevant jurisdiction(s) and our future taxable income levels in the relevant jurisdiction(s) with respect to valuation allowances.

Recent Accounting Pronouncements

The information set forth in Note 2 (Recent Accounting Pronouncements) to the accompanying Consolidated Financial Statements included in Part II, Item 8 of this Form 10-K is incorporated herein by reference.

Subsequent Events

The information set forth in Note 19 (Subsequent Events) to the accompanying Consolidated Financial Statements included in Part II, Item 8 of this Form 10-K is incorporated herein by reference.

Item 7A. Quantitative and Qualitative Disclosures of Market Risks

Interest Rate Risk

Our market risks relate primarily to changes in interest rates. The interest rates on borrowings under our senior secured asset-based revolving credit facility, our senior secured term loan facility and the CDW UK term loan are floating and, therefore, are subject to fluctuations. In order to manage the risk associated with changes in interest rates on borrowings under our senior secured term loan facility, we have entered into interest rate caps to add stability to interest expense and to manage our exposure to interest rate fluctuations.

As of December 31, 2018, we have interest rate cap agreements in effect with a combined notional amount of \$1.4 billion. For additional details, see Note 8 (Financial Instruments) to the accompanying Consolidated Financial Statements.

See "Management's Discussion and Analysis of Financial Condition and Results of Operations - Liquidity and Capital Resources - Contractual Obligations" for information on cash flows, interest rates and maturity dates of our debt obligations.

Foreign Currency Risk

We transact business in foreign currencies other than the US dollar, primarily the British pound and the Canadian dollar, which exposes us to foreign currency exchange rate fluctuations. Revenue and expenses generated from our international operations are generally denominated in the local currencies of the corresponding countries. The functional currency of our international operating subsidiaries is the same as the corresponding local currency. Upon consolidation, as results of operations are translated, operating results may differ from expectations. The direct effect of foreign currency fluctuations on our results of operations has not been material as the majority of our results of operations are denominated in US dollars.

Item 8. Financial Statements and Supplementary Data

Index to Consolidated Financial Statements

	<u>Page</u>
Report of Independent Registered Public Accounting Firm	53
Consolidated Balance Sheets as of December 31, 2018 and 2017	54
Consolidated Statements of Operations for the years ended December 31, 2018, 2017 and 2016	55
Consolidated Statements of Comprehensive Income for the years ended December 31, 2018, 2017 and 2016	56
Consolidated Statements of Stockholders' Equity for the years ended December 31, 2018, 2017 and 2016	57
Consolidated Statements of Cash Flows for the years ended December 31, 2018, 2017 and 2016	58
Notes to Consolidated Financial Statements	59

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of CDW Corporation and subsidiaries

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of CDW Corporation and subsidiaries (the Company) as of December 31, 2018, and 2017, the related statements of consolidated statements of operations, comprehensive income, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2018, and the related notes and financial statement schedule listed in the Index at Item 15(a) (2) (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with US generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), and our report dated February 27, 2019 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the US 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 include 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/ Ernst & Young LLP

We have served as the Company's auditor since 2011.

Chicago, Illinois

February 27, 2019

CDW CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(in millions, except per-share amounts)

	December 31,	
	2018	2017
Assets		(as adjusted)
Current assets:		
Cash and cash equivalents	\$ 205.8	\$ 144.2
Accounts receivable, net of allowance for doubtful accounts of \$7.0 and \$6.2, respectively	2,671.2	2,329.3
Merchandise inventory	454.3	411.5
Miscellaneous receivables	316.4	343.0
Prepaid expenses and other	149.1	168.3
Total current assets	3,796.8	3,396.3
Property and equipment, net	156.1	161.1
Goodwill	2,462.8	2,479.6
Other intangible assets, net	712.2	897.0
Other assets	39.8	32.7
Total Assets	\$ 7,167.7	\$ 6,966.7
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable-trade	\$ 1,577.1	\$ 1,317.7
Accounts payable-inventory financing	429.3	498.0
Current maturities of long-term debt	25.3	25.5
Contract liabilities	178.3	158.8
Accrued expenses and other current liabilities:		
Compensation	186.4	129.5
Advertising	119.2	89.2
Sales and income taxes	55.5	60.0
Other	232.0	243.4
Total current liabilities	2,803.1	2,522.1
Long-term liabilities:		
Debt	3,183.3	3,210.0
Deferred income taxes	141.9	196.3
Other liabilities	64.2	52.7
Total long-term liabilities	3,389.4	3,459.0
Stockholders' equity:		
Preferred stock, \$0.01 par value, 100.0 shares authorized; no shares issued or outstanding for both periods	—	—
Common stock, \$0.01 par value, 1,000.0 shares authorized; 147.7 and 153.1 shares issued, respectively	1.5	1.5
Less: treasury stock, \$0.01 par value, 0.0 and 0.1 shares held, respectively	—	—
Outstanding common stock, \$0.01 par value, 147.7 and 153.0 shares outstanding, respectively	1.5	1.5
Paid-in capital	2,996.9	2,911.6
Accumulated deficit	(1,892.6)	(1,831.6)
Accumulated other comprehensive loss	(130.6)	(95.9)
Total stockholders' equity	975.2	985.6
Total Liabilities and Stockholders' Equity	\$ 7,167.7	\$ 6,966.7

The accompanying notes are an integral part of the Consolidated Financial Statements.

CDW CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
(in millions, except per-share amounts)

	Year Ended December 31,		
	2018	2017	2016
		(as adjusted)	(as adjusted)
Net sales	\$ 16,240.5	\$ 14,832.9	\$ 13,672.7
Cost of sales	13,533.6	12,382.7	11,344.4
Gross profit	2,706.9	2,450.2	2,328.3
Selling and administrative expenses	1,537.1	1,410.0	1,345.4
Advertising expense	182.5	173.7	162.9
Operating income	987.3	866.5	820.0
Interest expense, net	(148.6)	(150.5)	(146.5)
Net loss on extinguishments of long-term debt	—	(57.4)	(2.1)
Other income, net	1.8	2.1	1.8
Income before income taxes	840.5	660.7	673.2
Income tax expense	(197.5)	(137.6)	(248.1)
Net income	\$ 643.0	\$ 523.1	\$ 425.1
Net income per common share:			
Basic	\$ 4.26	\$ 3.37	\$ 2.60
Diluted	\$ 4.19	\$ 3.31	\$ 2.56
Weighted-average common shares outstanding:			
Basic	150.9	155.4	163.6
Diluted	153.6	158.2	166.0
Cash dividends declared per common share	\$ 0.9250	\$ 0.6900	\$ 0.4825

The accompanying notes are an integral part of the Consolidated Financial Statements.

CDW CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(in millions)

	Year Ended December 31,		
	2018	2017	2016
		(as adjusted)	(as adjusted)
Net income	\$ 643.0	\$ 523.1	\$ 425.1
Other comprehensive (loss) income:			
Unrealized loss from hedge accounting, net of tax	(5.9)	(0.1)	—
Reclassification of hedge accounting gain to net income, net of tax	3.9	0.3	—
Foreign currency translation, net of tax	(32.7)	43.7	(78.7)
Other comprehensive (loss) income:	(34.7)	43.9	(78.7)
Comprehensive income	\$ 608.3	\$ 567.0	\$ 346.4

The accompanying notes are an integral part of the Consolidated Financial Statements.

CDW CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in millions)

	Preferred Stock		Common Stock		Treasury Stock						
	Shares	Amount	Shares	Amount	Shares	Amount	Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Total Stockholders' Equity	
Balance as of December 31, 2015 (as reported)	—	\$ —	168.2	\$ 1.7	—	\$ —	\$ 2,806.9	\$ (1,651.6)	\$ (61.1)	\$ 1,095.9	
Adjustment upon adoption of ASC 606	—	—	—	—	—	—	—	1.9	—	1.9	
Balance as of December 31, 2015 (as adjusted)	—	—	168.2	1.7	—	—	2,806.9	(1,649.7)	(61.1)	1,097.8	
Net income	—	—	—	—	—	—	—	425.1	—	425.1	
Common stock issued for equity-based compensation	—	—	0.2	—	—	—	—	—	—	—	
Equity-based compensation expense	—	—	—	—	—	—	33.2	—	—	33.2	
Stock option exercises	—	—	0.4	—	—	—	7.4	—	—	7.4	
Coworker Stock Purchase Plan	—	—	0.2	—	—	—	9.3	—	—	9.3	
Repurchases of common stock	—	—	(8.7)	(0.1)	—	—	—	(367.4)	—	(367.5)	
Dividends paid	—	—	—	—	—	—	0.5	(79.2)	—	(78.7)	
Foreign currency translation	—	—	—	—	—	—	—	—	(78.7)	(78.7)	
Balance as of December 31, 2016 (as adjusted)	—	\$ —	160.3	\$ 1.6	—	\$ —	\$ 2,857.3	\$ (1,671.2)	\$ (139.8)	\$ 1,047.9	
Net income	—	—	—	—	—	—	—	523.1	—	523.1	
Equity-based compensation expense	—	—	—	—	—	—	37.9	—	—	37.9	
Stock option exercises	—	—	1.5	—	—	—	13.0	—	—	13.0	
Coworker Stock Purchase Plan	—	—	0.2	—	—	—	10.3	—	—	10.3	
Repurchases of common stock	—	—	(8.9)	(0.1)	—	—	—	(533.9)	—	(534.0)	
Dividends paid	—	—	—	—	—	—	0.7	(107.6)	—	(106.9)	
Incentive compensation plan stock withheld for taxes	—	—	—	—	0.1	—	(7.6)	(42.0)	—	(49.6)	
Foreign currency translation	—	—	—	—	—	—	—	—	43.7	43.7	
Unrealized gain from hedge accounting	—	—	—	—	—	—	—	—	0.2	0.2	
Balance as of December 31, 2017 (as adjusted)	—	\$ —	153.1	\$ 1.5	0.1	\$ —	\$ 2,911.6	\$ (1,831.6)	\$ (95.9)	\$ 985.6	
Net income	—	—	—	—	—	—	—	643.0	—	643.0	
Equity-based compensation expense	—	—	—	—	—	—	36.5	—	—	36.5	
Stock option exercises	—	—	0.8	—	—	—	28.6	—	—	28.6	
Coworker Stock Purchase Plan	—	—	0.1	—	—	—	11.8	—	—	11.8	
Repurchases of common stock	—	—	(6.3)	—	—	—	—	(522.3)	—	(522.3)	
Dividends paid	—	—	—	—	—	—	0.8	(140.2)	—	(139.4)	
Incentive compensation plan stock withheld for taxes	—	—	—	—	(0.1)	—	7.6	(41.5)	—	(33.9)	
Foreign currency translation	—	—	—	—	—	—	—	—	(32.7)	(32.7)	
Unrealized loss from hedge accounting	—	—	—	—	—	—	—	—	(2.0)	(2.0)	
Balance as of December 31, 2018	—	\$ —	147.7	\$ 1.5	—	\$ —	\$ 2,996.9	\$ (1,892.6)	\$ (130.6)	\$ 975.2	

The accompanying notes are an integral part of the Consolidated Financial Statements.

CDW CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in millions)

	Years Ended December 31,		
	2018	2017	2016
Cash flows from operating activities:		(as adjusted)	(as adjusted)
Net income	\$ 643.0	\$ 523.1	\$ 425.1
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	265.6	260.9	254.5
Equity-based compensation expense	40.7	43.7	39.2
Deferred income taxes	(56.1)	(172.7)	(97.2)
Net loss on extinguishments of long-term debt	—	57.4	2.1
Other	10.9	5.0	4.3
Changes in assets and liabilities:			
Accounts receivable	(365.1)	(136.8)	(178.9)
Merchandise inventory	(46.8)	16.9	(68.0)
Other assets	25.2	(117.8)	(51.8)
Accounts payable-trade	271.2	231.5	225.1
Other liabilities	117.3	66.5	49.6
Net cash provided by operating activities	905.9	777.7	604.0
Cash flows used in investing activities:			
Capital expenditures	(86.1)	(81.1)	(63.5)
Premium payments on interest rate cap agreements	—	—	(2.4)
Net cash used in investing activities	(86.1)	(81.1)	(65.9)
Cash flows used in financing activities:			
Proceeds from borrowings under revolving credit facility	686.7	1,560.7	338.8
Repayments of borrowings under revolving credit facility	(686.7)	(1,560.7)	(338.8)
Repayments of long-term debt	(21.6)	(14.9)	(20.6)
Proceeds from issuance of long-term debt	—	2,083.0	1,483.0
Payments to extinguish long-term debt	—	(2,121.3)	(1,490.4)
Net change in accounts payable-inventory financing	(67.4)	(84.0)	143.6
Repurchases of common stock	(522.3)	(534.0)	(367.4)
Payment of incentive compensation plan withholding taxes	(33.9)	(49.6)	—
Dividends	(139.4)	(106.9)	(78.7)
Other	29.8	9.0	25.9
Net cash used in financing activities	(754.8)	(818.7)	(304.6)
Effect of exchange rate changes on cash and cash equivalents	(3.4)	2.6	(7.4)
Net increase (decrease) in cash and cash equivalents	61.6	(119.5)	226.1
Cash and cash equivalents – beginning of period	144.2	263.7	37.6
Cash and cash equivalents – end of period	<u>\$ 205.8</u>	<u>\$ 144.2</u>	<u>\$ 263.7</u>
Supplementary disclosure of cash flow information:			
Interest paid	\$ (148.8)	\$ (148.5)	\$ (144.3)
Taxes paid, net	\$ (261.2)	\$ (275.7)	\$ (329.2)

The accompanying notes are an integral part of the Consolidated Financial Statements.

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Description of Business and Summary of Significant Accounting Policies

Description of Business

CDW Corporation ("Parent") is a Fortune 500 company with multi-national capabilities and a leading provider of integrated information technology ("IT") solutions to small, medium and large business, government, education and healthcare customers in the United States ("US"), the United Kingdom ("UK") and Canada. The Company's offerings range from discrete hardware and software products to integrated IT solutions such as mobility, security, data center optimization, cloud computing, virtualization and collaboration.

Throughout this report, the terms "the Company" and "CDW" refer to Parent and its 100% owned subsidiaries.

Parent has two 100% owned subsidiaries, CDW LLC and CDW Finance Corporation. CDW LLC is an Illinois limited liability company that, together with its 100% owned subsidiaries, holds all material assets and conducts all business activities and operations of the Company. CDW Finance Corporation is a Delaware corporation formed for the sole purpose of acting as co-issuer of certain debt obligations as described in Note 17 (Supplemental Guarantor Information) and does not hold any material assets or engage in any business activities or operations.

Basis of Presentation

The Consolidated Financial Statements have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP") and the rules and regulations of the US Securities and Exchange Commission ("SEC").

Effective January 1, 2018, the Company adopted the requirements of ASU 2014-09, Revenue from Contracts with Customers, as amended ("Topic 606") utilizing the full retrospective method. Prior period amounts have been adjusted accordingly.

Principles of Consolidation

The Consolidated Financial Statements include the accounts of Parent and its 100% owned subsidiaries. All intercompany transactions and accounts are eliminated in consolidation.

Use of Estimates

The preparation of the Consolidated Financial Statements in accordance with GAAP requires management to make use of certain estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the Consolidated Financial Statements and the reported amounts of revenue and expenses during the reported periods. The Company bases its estimates on historical experience and on various other assumptions that management believes are reasonable under the circumstances, the results of which form the basis for making judgments about carrying values of assets and liabilities that are not readily apparent from other sources. Actual results could differ from those estimates.

Business Combinations

The Company accounts for all business combinations using the acquisition method of accounting, which allocates the fair value of the purchase consideration to the tangible and intangible assets acquired and liabilities assumed based on their estimated fair values. The excess of the purchase consideration over the fair values of these identifiable assets and liabilities is recorded as goodwill. When determining the fair values of assets acquired and liabilities assumed, management makes significant estimates and assumptions. The Company may utilize third-party valuation specialists to assist the Company in the allocation. Initial purchase price allocations are subject to revision within the measurement period, not to exceed one year from the date of acquisition. Acquisition-related expenses and transaction costs associated with business combinations are expensed as incurred.

Cash and Cash Equivalents

Cash and cash equivalents include all deposits in banks and short-term (original maturities of three months or less at the time of purchase), highly liquid investments that are readily convertible to known amounts of cash and are so near maturity that there is insignificant risk of changes in value due to interest rate changes.

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Accounts Receivable

Trade accounts receivable are recorded at the invoiced amount and typically do not bear interest. The Company provides allowances for doubtful accounts related to accounts receivable for estimated losses resulting from the inability of its customers to make required payments. The Company takes into consideration the overall quality of the receivable portfolio along with specifically-identified customer risks in establishing the allowance.

Merchandise Inventory

Inventory is valued at the lower of cost and net realizable value. Cost is determined using a weighted-average cost method. Price protection is recorded when earned as a reduction to the cost of inventory. The Company decreases the value of inventory for estimated obsolescence equal to the difference between the cost of inventory and the net realizable value, based upon an aging analysis of the inventory on hand, specifically known inventory-related risks and assumptions about future demand and market conditions.

Miscellaneous Receivables

Miscellaneous receivables primarily consist of amounts due from vendors. The Company receives incentives from vendors related to cooperative advertising, volume rebates, bid programs, price protection and other programs. These incentives generally relate to written vendor agreements with specified performance requirements and are recorded as adjustments to Cost of sales or Merchandise inventory, depending on the nature of the incentive.

Property and Equipment

Property and equipment are stated at cost, less accumulated depreciation. The Company calculates depreciation expense using the straight-line method over the estimated useful lives of the assets. Property and equipment are reviewed annually to determine whether there is any impairment. Determination of recoverability is based on an estimate of undiscounted future cash flows resulting from the use of the asset and its eventual disposition. If the carrying amount of an asset exceeds its estimated future undiscounted cash flows, an impairment loss is recorded for the excess of the asset's carrying amount over its fair value. Leasehold improvements are amortized over the shorter of their estimated useful lives or the remaining lease term. Expenditures for major renewals and improvements that extend the useful life of property and equipment are capitalized. Expenditures for maintenance and repairs are charged to expense as incurred. The estimated useful lives of property and equipment are as follows:

Classification	Estimated Useful Lives
Machinery and equipment	5 to 10 years
Building and leasehold improvements	5 to 25 years
Computer and data processing equipment	3 to 5 years
Computer software	3 to 5 years
Furniture and fixtures	5 to 10 years

Goodwill

The Company performs an evaluation of goodwill, utilizing either a qualitative or quantitative impairment test. A qualitative assessment is performed at least on an annual basis to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value. The Company performs a quantitative impairment test for each reporting unit every three years, or more frequently if circumstances indicate a potential impairment. The annual test for impairment is conducted as of December 1. The Company's reporting units included in the assessment of potential goodwill impairment are the same as its operating segments. Goodwill is not amortized but is subject to periodic testing for impairment at the reporting unit level.

Under a qualitative assessment, the most recent quantitative assessment is used to determine if it is more-likely-than-not that the reporting unit's goodwill is impaired. As part of this qualitative assessment, the Company assesses relevant events and circumstances including macroeconomic conditions, industry and market conditions, cost factors, overall financial performance, changes in share price and entity-specific events to determine if there is an indication of impairment.

Under a quantitative assessment, goodwill impairment is identified by comparing the fair value of a reporting unit to its carrying amount, including goodwill. If the carrying amount of a reporting unit exceeds its fair value, goodwill is considered impaired and an impairment charge is recognized in an amount equal to that excess, not to exceed the carrying amount.

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

of goodwill. Fair value of a reporting unit is determined by using a weighted combination of an income approach (75%) and a market approach (25%), as this combination is considered the most indicative of the Company's fair value in an orderly transaction between market participants.

Under the income approach, the Company determines fair value based on estimated future cash flows of a reporting unit, discounted by an estimated weighted-average cost of capital, which reflects the overall level of inherent risk of a reporting unit and the rate of return an outside investor would expect to earn. The estimated future cash flows of each reporting unit are based on internally generated forecasts for the remainder of the respective reporting period and the next five years.

Under the market approach, the Company utilizes valuation multiples derived from publicly available information for guideline companies to provide an indication of how much a knowledgeable investor in the marketplace would be willing to pay for a company. The valuation multiples are applied to the reporting units.

Determining the fair value of a reporting unit is judgmental in nature and requires the use of significant estimates and assumptions, including Net sales growth rates, gross profit margins, operating margins, discount rates and future market conditions, among others. Any changes in the judgments, estimates or assumptions used could produce significantly different results.

Intangible Assets

Intangible assets with determinable lives are amortized on a straight-line basis over their respective estimated useful lives. The cost of computer software developed or obtained for internal use is capitalized and amortized on a straight-line basis over the estimated useful life of the software. Intangible assets are reviewed for impairment when events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. Determination of recoverability is based on an estimate of undiscounted future cash flows resulting from the use of the asset and its eventual disposition. If the carrying amount of an asset exceeds its estimated future undiscounted cash flows, an impairment loss is recorded for the excess of the asset's carrying amount over its fair value. In addition, each quarter, the Company evaluates whether events and circumstances warrant a revision to the remaining estimated useful life of each of these intangible assets. If the Company were to determine that a change to the remaining estimated useful life of an intangible asset was necessary, then the remaining carrying amount of the intangible asset would be amortized prospectively over that revised remaining useful life.

The following table shows estimated useful lives of definite-lived intangible assets:

Classification	Estimated Useful Lives
Customer relationships and contracts	3 to 14 years
Trade name	generally 20 years
Internally developed software	3 to 5 years
Other	1 to 10 years

Deferred Financing Costs

Deferred financing costs, such as underwriting, financial advisory, professional fees and other similar fees are capitalized and recognized in Interest expense, net over the estimated life of the related debt instrument using the effective interest method or straight-line method, as applicable. The Company classifies deferred financing costs as a direct deduction from the carrying value of the Long-term debt liability on the Consolidated Balance Sheets, except for deferred financing costs associated with revolving credit facilities which are presented as an asset, within Other assets on the Consolidated Balance Sheets.

Derivative Instruments

The Company has interest rate cap agreements for the purpose of hedging its exposure to fluctuations in interest rates. The interest rate cap agreements are designated as cash flow hedges of interest rate risk and recorded at fair value in Other assets on the Consolidated Balance Sheets. Changes in fair value of the derivative instruments, along with the change in the fair value of the hedged item, are reported as a component of Accumulated other comprehensive loss until reclassified to Interest expense in the same period the hedge transaction affects earnings.

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Fair Value Measurements

Fair value is defined under GAAP as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. A fair value hierarchy has been established for valuation inputs to prioritize the inputs into three levels based on the extent to which inputs used in measuring fair value are observable in the market. Each fair value measurement is reported in one of the three levels which is determined by the lowest level input that is significant to the fair value measurement in its entirety. These levels are:

Level 1 – observable inputs such as quoted prices for identical instruments traded in active markets.

Level 2 – inputs are based on quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active and model-based valuation techniques for which all significant assumptions are observable in the market or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3 – inputs are generally unobservable and typically reflect management's estimates of assumptions that market participants would use in pricing the asset or liability. The fair values are therefore determined using model-based techniques that include option pricing models, discounted cash flow models and similar techniques.

Revenue Recognition

The Company is a primary distribution channel for a large group of vendors and suppliers, including original equipment manufacturers ("OEMs"), software publishers and wholesale distributors.

The Company accounts for a contract when it has approval and commitment from both parties, the rights of the parties are identified, payment terms are established, the contract has commercial substance and collectability of consideration is probable. The Company evaluates the following indicators amongst others when determining whether it is acting as a principal in the transaction and recording revenue on a gross basis: (i) the Company is primarily responsible for fulfilling the promise to provide the specified goods or service, (ii) the Company has inventory risk before the specified good or service has been transferred to a customer or after transfer of control to the customer and (iii) the Company has discretion in establishing the price for the specified good or service. If the terms of a transaction do not indicate the Company is acting as a principal in the transaction, then the Company is acting as an agent in the transaction and the associated revenues are recognized on a net basis.

The Company recognizes revenue once control has passed to the customer. The following indicators are evaluated in determining when control has passed to the customer: (i) the Company has a right to payment for the product or service, (ii) the customer has legal title to the product, (iii) the Company has transferred physical possession of the product to the customer, (iv) the customer has the significant risk and rewards of ownership of the product and (v) the customer has accepted the product. The Company's products can be delivered to customers in a variety of ways, including (i) as physical product shipped from the Company's warehouse, (ii) via drop-shipment by the vendor or supplier or (iii) via electronic delivery of keys for software licenses. The Company's shipping terms typically allow for the Company to recognize revenue when the product reaches the customer's location.

The Company leverages drop-shipment arrangements with many of its vendors and suppliers to deliver products to its customers without having to physically hold the inventory at its warehouses. The Company is the principal in the transaction and recognizes revenue for drop-shipment arrangements on a gross basis.

Revenue Recognition for Hardware

Revenues from sales of hardware products are recognized on a gross basis as the Company is acting as a principal in these transactions, with the selling price to the customer recorded as Net sales and the acquisition cost of the product recorded as Cost of sales. The Company recognizes revenue from these transactions when control has passed to the customer, which is usually upon delivery of the product to the customer.

In some instances, the customer agrees to buy the product from the Company but requests delivery at a later date, commonly known as bill-and-hold arrangements. For these transactions, the Company deems that control passes to the customer when the product is ready for delivery. The Company views products ready for delivery when the customer has a signed agreement, significant risk and rewards for the products, the ability to direct the assets, the products have been set aside specifically for the customer, cannot be redirected to another customer and for customer orders that include configuration services, when such services have been completed.

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The Company's vendor partners warrant most of the products the Company sells. These manufacturer warranties are assurance-type warranties and are not considered separate performance obligations. The warranties are not sold separately and only provide assurance that products will conform with the manufacturer's specifications. In some transactions, a third-party will provide the customer with an extended warranty. These extended warranties are sold separately and provide the customer with a service in addition to assurance that the product will function as expected. The Company considers these warranties to be separate performance obligations from the underlying product. For warranties, the Company is arranging for those services to be provided by the third-party and therefore is acting as an agent in the transaction and records revenue on a net basis at the point of sale.

The Company sells cloud computing solutions which include Infrastructure as a Service ("IaaS"). IaaS solutions utilize third-party partners to enable customers to access data center functionality in a cloud-based solution, including storage, computing and networking. The Company recognizes revenue for cloud computing solutions for arrangements with one-time invoicing to the customer at the time of invoice on a net basis as the Company is acting as an agent in the transaction. For monthly subscription-based arrangements, the Company is acting as an agent in the transaction and recognizes revenue as it invoices the customer for its monthly usage on a net basis.

Revenue Recognition for Software

Revenues from most software license sales are recognized as a single performance obligation on a gross basis as the Company is acting as a principal in these transactions at the point the software license is delivered to the customer. Generally, software licenses are sold with accompanying third-party delivered software assurance, which is a product that allows customers to upgrade, at no additional cost, to the latest technology if new capabilities are introduced during the period that the software assurance is in effect. The Company evaluates whether the software assurance is a separate performance obligation by assessing if the third-party delivered software assurance is critical or essential to the core functionality of the software itself. This involves considering if the software provides its original intended functionality to the customer without the updates, if the customer would ascribe a higher value to the upgrades versus the up-front deliverable, if the customer would expect frequent intelligence updates to the software (such as updates that maintain the original functionality), and if the customer chooses to not delay or always install upgrades. If the Company determines that the accompanying third-party delivered software assurance is critical or essential to the core functionality of the software license, the software license and the accompanying third-party delivered software assurance are recognized as a single performance obligation. The value of the product is primarily the accompanying support delivered by a third-party and therefore the Company is acting as an agent in these transactions and recognizes them on a net basis at the point the associated software license is delivered to the customer. For software licenses where the accompanying third-party delivered software assurance is not critical or essential to the core functionality, the software assurance is recognized as a separate performance obligation, with the associated revenue recognized on a net basis at the point the related software license is delivered to the customer. For additional details regarding the accounting for bundled arrangements, see "Revenue Recognition for Bundled Arrangements" below.

The Company sells cloud computing solutions which include Software as a Service ("SaaS"). SaaS solutions utilize third-party partners to offer the Company's customers access to software in the cloud that enhances office productivity, provides security or assists in collaboration. The Company recognizes revenue for cloud computing solutions for arrangements with one-time invoicing to the customer at the time of invoice on a net basis as the Company is acting as an agent in the transaction. For monthly subscription-based arrangements, the Company is acting as an agent in the transaction and recognizes revenue as it invoices the customer for its monthly usage on a net basis.

The Company's customers are offered the opportunity by certain of its vendors to purchase software licenses and software assurance under enterprise agreements ("EAs"). For most EA transactions, the Company's obligation to the customer is that of a distributor or sales agent of the services, where all obligations for providing the services to customers are passed to the Company's vendors. The Company's performance obligations are satisfied at the time of the sale. In other EA transactions, the Company is responsible for fulfilling the promised services to the customer and providing remedy or refund for work if the customer is not satisfied with the delivered services, has inventory risk in the arrangement and has full control to set the price for the customer. With most EAs, the Company's vendors will transfer the license and invoice the customer directly, paying resellers an agency fee or commission on these sales. The Company records these fees as a component of Net sales as earned and there is no corresponding Cost of sales amount.

Revenue Recognition for Services

The Company provides professional services, which include project managers and consultants recommending, designing and implementing IT solutions. Revenue from professional services is recognized either on a time and materials basis or

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

proportionally as costs are incurred for fixed fee project work. Revenue is recognized on a gross basis each month as work is performed and the Company transfers those services.

Revenues from the sale of data center services, such as managed and remote managed services, server co-location, internet connectivity and data backup and storage provided by the Company, are recognized over the period the service is provided. Most hosting and managed service obligations are based on the quantity and pricing parameters established in the agreement. As the customer receives the benefit of the service each month, the Company recognizes the respective revenue on a gross basis as the Company is acting as a principal in the transaction. Additionally, the Company's managed services team provides project support to customers that are billed on a fixed fee basis. The Company is acting as the principal in the transaction and recognizes revenue on a gross basis based on the total number of hours incurred for the period over the total expected hours for the project. Total expected hours to complete the project is updated for each period and best represents the transfer of control of the service to the customer.

Revenue Recognition for Bundled Arrangements

The Company also sells some of its products and services as part of bundled contract arrangements containing multiple deliverables, which may include a combination of products and services. For each deliverable that represents a distinct performance obligation, total arrangement consideration is allocated based upon the standalone selling prices of each performance obligation. The Company excludes amounts collected on behalf of third-parties, such as sales taxes, when determining the transaction price. For certain performance obligations, the Company will use a combination of methods to estimate the standalone selling price. When evidence from recent transactions is not available to confirm that the prices are representative of the standalone selling price, an expected cost plus a margin approach is used.

Sales In-Transit

The Company performs an analysis of the estimated number of days of sales in-transit to customers at the end of each reporting period based on a weighted-average analysis of commercial delivery terms that include drop-shipment arrangements. This analysis is the basis upon which the Company estimates the amount of Net sales in-transit at the end of the period and adjusts revenue and the related costs to reflect only what has been delivered to the customer. Changes in delivery patterns may result in a different number of business days estimated to make this adjustment.

Freight Costs

The Company records freight billed to its customers as Net sales and the related freight costs as Cost of sales when the underlying product revenue is recognized. For freight not billed to its customers, the Company records the freight costs as Cost of sales. The Company's typical shipping terms result in shipping being performed before the customer obtains control of the product. The Company considers shipping to be a fulfillment activity and not a separate performance obligation.

Other

The nature of the Company's contracts give rise to variable consideration in the form of sales returns and allowances. The Company estimates variable consideration at the most likely amount to which it is expected to be entitled. This estimated amount is 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. The estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based on an assessment of the Company's anticipated performance and all information that is reasonably available. At the time of sale, the Company records an estimate for sales returns and allowances and an associated right of return asset based on historical experience.

When a contract results in revenue being recognized in excess of the amount the Company has the right to invoice to the customer, a contract asset is recorded on the balance sheet. Contract assets are comprised primarily of professional services with fixed fee arrangements.

Contract liabilities consist of payments received from customers, or such consideration that is contractually due, in advance of providing the product or performing services. Contract liabilities are comprised primarily of professional services with fixed fee arrangements, bill-and-hold transactions where control has not passed to the customer and certain governmental contracts.

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Trade accounts receivable are recorded at the point of sale (or in accordance with the Statement of Work for services) for the total amount payable by the customer to the Company for sale of goods. Taxes to be collected from the customer as part of the sale are included in Accounts receivable.

Any incremental direct costs of obtaining a contract, primarily sales commissions, are deferred on the Consolidated Balance Sheets and amortized over the period of contract performance.

The Company typically does not enter into long-term contracts. The Company has elected to use the practical expedient for its performance obligations table to show only those contracts that are longer than 12 months at the time of contract inception and those contracts that are non-cancelable. Additionally, for certain governmental contracts where there are annual renewals, the Company has excluded these contracts since there is only a one-year legal obligation. Typically, the only contracts that are longer than 12 months in duration are related to the Company's managed services business.

The Company requests payments for its products and services at the point of sale. The Company generally does not enter into any long-term financing arrangements or payment plans with customers or contracts with customers that have non-cash consideration.

Sales Taxes

Sales tax amounts collected from customers for remittance to governmental authorities are presented on a net basis in the Consolidated Statements of Operations.

Advertising

Advertising costs are generally charged to expense in the period incurred. Cooperative reimbursements from vendors are recorded in the period the related advertising expenditure is incurred. The Company classifies vendor consideration as a reduction to Cost of sales.

Equity-Based Compensation

The Company measures all equity-based payments using a fair-value-based method and records compensation expense over the requisite service period using the straight-line method in its Consolidated Financial Statements. The expense calculation includes estimated forfeiture rates which have been developed based upon historical experience.

Interest Expense

Interest expense is recognized in the period incurred at the applicable interest rate in effect.

Foreign Currency Translation

The Company's functional currency is the US dollar. The functional currency of the Company's international operating subsidiaries is generally the same as the corresponding local currency. Assets and liabilities of the international operating subsidiaries are translated at the spot rate in effect at the applicable reporting date. Revenues and expenses of the international operating subsidiaries are translated at the average exchange rates in effect during the applicable period. The resulting foreign currency translation adjustment is recorded as Accumulated other comprehensive loss, which is reflected as a separate component of Stockholders' equity.

Income Taxes

Deferred income taxes are provided to reflect the differences between the tax bases of assets and liabilities and their reported amounts in the Consolidated Financial Statements using enacted tax rates in effect for the year in which the differences are expected to reverse. The Company performs an evaluation of the realizability of deferred tax assets on a quarterly basis. This evaluation requires management to make use of estimates and assumptions and considers all positive and negative evidence and factors, such as the scheduled reversal of temporary differences, the mix of earnings in the jurisdictions in which the Company operates, and prudent and feasible tax planning strategies.

The Company accounts for unrecognized tax benefits based upon its assessment of whether a tax benefit is more likely than not to be sustained upon examination by tax authorities. The Company reports a liability for unrecognized tax benefits resulting from unrecognized tax benefits taken or expected to be taken in a tax return and recognizes interest and penalties, if any, related to its unrecognized tax benefits in income tax expense.

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The Tax Cuts and Jobs Act contains a provision which subjects a US parent of a foreign subsidiary to current US tax on its global intangible low-tax income ("GILTI"). The GILTI income is eligible for a deduction, which lowers the effective tax rate to 10.5% for taxable years 2018 through 2025 and 13.125% after 2025. The Company will report the tax impact of GILTI as a period cost when incurred. Accordingly, the Company is not providing deferred taxes for basis differences expected to reverse as GILTI.

2. Recent Accounting Pronouncements

Accounting for Hedging Activities

In August 2017, the Financial Accounting Standards Board (the "FASB") issued Accounting Standards Update ("ASU") 2017-12, Derivatives and Hedging (Topic 815), intending to improve the transparency of information included in the financial statements by aligning cash flow and fair value hedge accounting with its risk management activities. The ASU eliminates the requirement to separately measure and report hedge ineffectiveness for cash flow hedges and net investment hedges, and generally requires the entire change in the fair value of a hedging instrument to be presented in the same income statement line as the hedged item. The ASU also simplifies certain documentation and assessment requirements and will incorporate new disclosure requirements and amendments to existing disclosures. The Company elected to early adopt this standard during the fourth quarter of 2018. The adoption of this ASU did not have an impact on the Company's Consolidated Financial Statements.

Measurement of Credit Losses on Financial Instruments

In June 2016, the FASB issued ASU 2016-13, Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments. This ASU introduces a new forward-looking approach, based on expected losses, to estimate credit losses on certain types of financial instruments, including trade receivables. The estimate of expected credit losses will require considerations of historical information, current information and reasonable and supportable forecasts. This ASU also expands the disclosure requirements to enable users of financial statements to understand the assumptions, models and methods for estimating expected credit losses. This ASU is effective for the Company beginning in the first quarter of 2020 and allows for early adoption beginning in the first quarter of 2019. The Company is currently evaluating the impact the ASU will have on its Consolidated Financial Statements.

Accounting for Leases

In February 2016, the FASB issued ASU 2016-02, Leases (Topic 842), which, together with amendments issued during 2018, requires lessees to recognize assets and liabilities on the balance sheet for the rights and obligations created by long-term leases and to disclose additional quantitative and qualitative information about leasing arrangements. This ASU is effective for the Company beginning in the first quarter of 2019 and allows for early adoption. Entities are required to use the modified retrospective approach, with the option of applying the requirements of the standard either (1) retrospectively to each prior comparative reporting period presented or (2) retrospectively at the beginning of the period of adoption.

The Company established a cross-functional implementation team to analyze the effect of the ASU. The Company utilized a combination of a bottom-up and top-down approach to identify and analyze its lease portfolio. The analysis included reviewing all forms of leases, performing a completeness assessment over the lease population, assessing the policy elections offered by the standard and evaluating its business processes and internal controls to meet the ASU's accounting, reporting and disclosure requirements. The Company adopted the standard on January 1, 2019 and applied it at the beginning of the period of adoption. Therefore, upon adoption, financial information and disclosures are not updated for comparative reporting periods under the new standard. Additionally, the Company has elected the transition package of practical expedients upon adoption which, among other things, allows an entity to not reassess the historical lease classification.

The adoption of the standard impacts the Company's Consolidated Balance Sheet. The adoption of the standard results in the recognition of right-of-use assets and additional lease liabilities of approximately \$81 million as of January 1, 2019, mainly related to operating leases for the Company's real estate portfolio. Along with the recognition of right-of-use assets and lease liabilities, the Company will be providing new disclosures for its leasing activities. The Company does not expect the adoption of the standard to impact the Consolidated Statements of Operations or the Consolidated Statements of Cash Flows. In addition, the standard will not have an impact on the Company's liquidity or debt covenant compliance under its current agreements.

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Revenue Recognition

On January 1, 2018, the Company adopted Topic 606 and utilized the full retrospective method.

The adoption of Topic 606 impacted the Company's results as follows:

(in millions) (except per share amounts)	December 31, 2017 ⁽¹⁾			December 31, 2016 ⁽¹⁾		
	As Reported	New Revenue Standard Adjustment	As Adjusted	As Reported	New Revenue Standard Adjustment	As Adjusted
Net sales	\$ 15,191.5	\$ (358.6)	\$ 14,832.9	\$ 13,981.9	\$ (309.2)	\$ 13,672.7
Gross profit	2,449.9	0.3	\$ 2,450.2	2,327.2	1.1	\$ 2,328.3
Gross margin	16.1%	40 bps	16.5%	16.6%	40 bps	17.0%
Income from operations	866.1	0.4	866.5	819.2	0.8	820.0
Income tax expense	(137.3)	(0.3)	(137.6)	(248.0)	(0.1)	(248.1)
Net income	\$ 523.0	\$ 0.1	\$ 523.1	\$ 424.4	\$ 0.7	\$ 425.1
Net income per common share						
Basic	\$ 3.37	\$ —	\$ 3.37	\$ 2.59	\$ 0.01	\$ 2.60
Diluted	\$ 3.31	\$ —	\$ 3.31	\$ 2.56	\$ —	\$ 2.56

(1) Amounts may not foot or cross-foot due to rounding.

The adoption of Topic 606 impacted the Company's Consolidated Balance Sheet as follows:

(in millions)	December 31, 2017 ⁽¹⁾			December 31, 2016 ⁽¹⁾		
	As Reported	New Revenue Standard Adjustment	As Adjusted	As Reported	New Revenue Standard Adjustment	As Adjusted
Accounts receivable	\$ 2,320.5	\$ 8.8	\$ 2,329.3	\$ 2,168.6	\$ 0.3	\$ 2,168.9
Merchandise inventory	449.5	(38.0)	411.5	452.0	(28.1)	423.9
Miscellaneous receivables	336.5	6.5	343.0	234.9	2.6	237.5
Prepaid expenses and other	127.4	40.9	168.3	118.9	35.3	154.2
Total current assets	3,378.1	18.2	3,396.3	3,238.1	10.1	3,248.2
Other assets	40.8	(8.1)	32.7	36.0	(0.1)	35.9
Total assets	6,956.6	10.1	6,966.7	6,948.4	10.0	6,958.4
Deferred revenue	194.0	(35.2)	158.8	172.6	(29.1)	143.5
Other accrued expenses	180.2	41.6	221.8	147.2	36.0	183.2
Income tax payable	15.1	1.1	16.2	2.6	0.7	3.3
Total current liabilities	2,514.6	7.5	2,522.1	2,280.7	7.6	2,288.3
Total liabilities	5,973.7	7.5	5,981.1	5,902.9	7.6	5,910.5
Total stockholders' equity	\$ 982.9	\$ 2.7	\$ 985.6	\$ 1,045.5	\$ 2.4	\$ 1,047.9

(1) Amounts may not foot or cross-foot due to rounding.

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

3. Property and Equipment

Property and equipment consists of the following:

(in millions)	December 31,	
	2018	2017
Building and leasehold improvements	\$ 129.1	\$ 123.0
Computer and data processing equipment	105.4	116.4
Machinery and equipment	44.1	45.6
Land	27.7	27.7
Construction in progress	24.5	17.9
Computer software	22.2	9.6
Furniture and fixtures	18.9	22.7
Property and equipment, gross	371.9	362.9
Less: accumulated depreciation	(215.8)	(201.8)
Property and equipment, net	<u>\$ 156.1</u>	<u>\$ 161.1</u>

During 2018, 2017 and 2016, the Company recorded disposals of \$25 million, \$23 million and \$50 million, respectively, to remove from Property and equipment, gross assets that were no longer in use.

Depreciation expense for the years ended December 31, 2018, 2017, and 2016 was \$42 million, \$40 million and \$38 million, respectively.

4. Goodwill and Other Intangible Assets

Goodwill

The changes in goodwill by reportable segment are as follows:

(in millions)	Corporate	Small Business	Public	Other ⁽¹⁾	Consolidated
Balance at December 31, 2016 ⁽²⁾	1,074.1	185.9	929.6	265.4	2,455.0
Foreign currency translation	—	—	—	24.6	24.6
Balances as of December 31, 2017 ⁽²⁾	1,074.1	185.9	929.6	290.0	2,479.6
Foreign currency translation	—	—	—	(16.8)	(16.8)
Balances as of December 31, 2018 ⁽²⁾	<u>\$ 1,074.1</u>	<u>\$ 185.9</u>	<u>\$ 929.6</u>	<u>\$ 273.2</u>	<u>\$ 2,462.8</u>

(1) Other is comprised of CDW UK and Canada reporting units.

(2) Goodwill is net of accumulated impairment losses of \$1,571 million, \$354 million and \$28 million related to the Corporate, Public and Other segments, respectively.

December 1, 2018 Impairment Analysis

The Company completed its annual impairment analysis as of December 1, 2018. For all reporting units, the Company performed a qualitative analysis. The Company determined that it was more-likely-than-not that the individual fair values of all reporting units exceeded the respective carrying values. As a result of this determination, the quantitative impairment analysis was not performed. There continues to be substantial uncertainty regarding the economic impact of the Referendum on the UK's Membership of the European Union ("EU") advising for the exit of the UK from the EU and the subsequent notice delivered by the UK to the EU of the UK's withdrawal (referred to as "Brexit"). Negotiations to determine the terms of the withdrawal, including the terms of trade between the UK and EU, are ongoing. The Company evaluated these facts when considering its qualitative analysis of the UK reporting unit and concluded it was more-likely-than-not that the fair value of the UK reporting unit exceeds its carrying value.

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

December 1, 2017 Impairment Analysis

The Company completed its annual impairment analysis as of December 1, 2017. For the Corporate, Small Business and UK reporting units, the Company performed a qualitative analysis. The Company determined that it was more-likely-than-not that the individual fair values of the Corporate, Small Business and UK reporting units exceeded the respective carrying values and therefore a quantitative impairment analysis was deemed unnecessary. The Company performed a quantitative analysis of the Public and Canada reporting units. Based on the results of the quantitative analysis, the Company determined that the fair value of the Public and Canada reporting units exceeded their carrying values by 179% and 153%, respectively, and no impairment existed.

Other Intangible Assets

A summary of intangible assets is as follows:

(in millions)

December 31, 2018	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Customer relationships and contracts	\$ 2,071.0	\$ (1,625.5)	\$ 445.5
Trade name	422.1	(237.3)	184.8
Internally developed software	205.8	(125.4)	80.4
Other	3.7	(2.2)	1.5
Total	\$ 2,702.6	\$ (1,990.4)	\$ 712.2

December 31, 2017

Customer relationships and contracts	\$ 2,106.8	\$ (1,490.8)	\$ 616.0
Trade name	422.2	(216.3)	205.9
Internally developed software	162.6	(89.6)	73.0
Other	2.9	(0.8)	2.1
Total	\$ 2,694.5	\$ (1,797.5)	\$ 897.0

During the years ended December 31, 2018, 2017 and 2016, the Company recorded disposals of \$26 million, \$24 million and \$29 million, respectively, to remove fully amortized intangible assets that were no longer in use.

Amortization expense related to intangible assets for the years ended December 31, 2018, 2017 and 2016 was \$223 million, \$221 million and \$216 million, respectively.

Estimated future amortization expense related to intangible assets is as follows:

(in millions)

Years ending December 31,	Estimated Future Amortization Expense
2019	\$ 215.9
2020	182.2
2021	85.1
2022	37.4
2023	37.4
Thereafter	154.2
Total future amortization expense	\$ 712.2

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

5. Inventory Financing Agreements

The Company has entered into agreements with certain financial intermediaries to facilitate the purchase of inventory from various suppliers under certain terms and conditions, as described below. These amounts are classified separately as Accounts payable-inventory financing on the Consolidated Balance Sheets. The Company does not incur any interest expense associated with these agreements as balances are paid when they are due.

Amounts included in accounts payable-inventory financing are as follows:

(in millions)	December 31,	
	2018	2017
Revolving Loan inventory financing agreement ⁽¹⁾	\$ 406.3	\$ 480.9
Other inventory financing agreements	23.0	17.1
Accounts payable-inventory financing	<u>\$ 429.3</u>	<u>\$ 498.0</u>

- (1) The Senior Secured Asset-Based Revolving Credit Facility includes an inventory floorplan sub-facility that enables the Company to maintain an inventory financing agreement with a financial intermediary to facilitate the purchase of inventory from certain vendors on more favorable terms than offered directly by the vendors.

6. Contract Liabilities and Remaining Performance Obligations

The Company's contract liabilities consist of payments received from customers, or such consideration that is contractually due, in advance of providing the product or performing services. The Company's contract liabilities are reported in a net position on a contract-by-contract basis at the end of each reporting period. As of December 31, 2018 and December 31, 2017, the contract liability balance was \$178 million and \$159 million, respectively. For the year ended December 31, 2018 and 2017, the Company recognized revenue of \$123 million and \$113 million, respectively, related to its contract liabilities.

A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. For more information regarding the Company's performance obligations, see Note 1 (Description of Business and Summary of Significant Accounting Policies). The following table represents the total transaction price for the remaining performance obligations as of December 31, 2018 related to non-cancelable contracts longer than 12 months in duration that is expected to be recognized over future periods.

(in millions)	Within 1 Year	Years 1-2	Years 2-3	Thereafter
Remaining performance obligations	\$ 37.8	\$ 23.7	\$ 5.4	\$ 0.4

7. Lease Commitments

The Company is obligated under various non-cancelable operating lease agreements for office facilities that generally provide for minimum rent payments and a proportionate share of operating expenses and property taxes and include certain renewal and expansion options. For the years ended December 31, 2018, 2017 and 2016, rent expense under these lease arrangements was \$30 million, \$29 million and \$27 million, respectively.

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Future minimum lease payments under non-cancelable operating leases as of December 31, 2018 are as follows:

(in millions)

Years ending December 31,	Future Minimum Lease Payments
2019	\$ 29.7
2020	27.0
2021	22.7
2022	19.5
2023	17.2
Thereafter	148.6
Total future minimum lease payments	<u>\$ 264.7</u>

8. Financial Instruments

The Company's indebtedness creates interest rate risk on its variable-rate debt. The Company uses derivative financial instruments to manage its exposure to interest rate risk. The Company does not hold or issue derivative financial instruments for trading or speculative purposes.

The Company has interest rate cap agreements that entitle it to payments from the counterparty of the amount, if any, by which three-month LIBOR exceeds the strike rates of the caps during the agreement period in exchange for an upfront premium. During 2018, the Company entered into interest rate cap agreements with a combined notional value of \$1.6 billion resulting in premiums paid to the counterparties of \$15 million. As of December 31, 2018 and December 31, 2017, the Company had the following interest rate cap agreements for which the fair values are classified within Other assets on the Consolidated Balance Sheets:

Notional Value (in millions)	Effective Date	Maturity Date	December 31, 2018	December 31, 2017
			Fair Value (in millions)	Fair Value (in millions)
\$ 1,400.0	January 17, 2017	December 31, 2018	\$ —	\$ 5.4
1,400.0	December 31, 2018	December 31, 2020	10.6	—
200.0	December 31, 2020	December 31, 2022	1.5	—
			<u>\$ 12.1</u>	<u>\$ 5.4</u>

The fair value of the Company's interest rate cap agreements is classified as Level 2 in the fair value hierarchy. The valuation of the interest rate cap agreements is derived by using a discounted cash flow analysis on the expected cash receipts that would occur if variable interest rates rise above the strike rates of the caps. This analysis reflects the contractual terms of the interest rate cap agreements, including the period to maturity, and uses observable market-based inputs, including LIBOR curves and implied volatilities. The Company also incorporates insignificant credit valuation adjustments to appropriately reflect the respective counterparty's nonperformance risk in the fair value measurements. The counterparty credit spreads are based on publicly available credit information obtained from a third-party credit data provider. For additional details, see Note 9 (Long-Term Debt).

The interest rate cap agreements are designated as cash flow hedges. The changes in the fair value of derivatives that qualify as cash flow hedges are recorded in Accumulated other comprehensive loss and are subsequently reclassified into Interest expense in the period when the hedged forecasted transaction affects earnings. The Company recorded a \$2 million loss and an insignificant gain, net of tax, into Accumulated other comprehensive loss for the years ended December 31, 2018 and 2017, respectively. During 2018 and 2017, the Company reclassified \$5 million and an insignificant amount, respectively, from Accumulated other comprehensive loss to earnings within Interest expense, net on the Consolidated Statement of Operations. The Company expects to reclassify \$4 million from Accumulated other comprehensive loss into Interest expense, net during the next 12 months.

Prior to the election of hedge accounting treatment during the first quarter of 2017, the Company recognized less than \$1 million of Interest income in the Company's Consolidated Statement of Operations related to the changes in the fair value of the interest rate cap agreements.

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

9. Long-Term Debt

(dollars in millions)	Maturities	As of December 31, 2018		As of December 31, 2017	
		Interest Rate	Amount	Interest Rate	Amount
Credit Facilities					
CDW UK revolving credit facility ⁽¹⁾	July 2021	—%	\$ —	—%	\$ —
Senior secured asset-based revolving credit facility	March 2022	—%	—	—%	—
Total credit facilities			—		—
Term Loans					
CDW UK term loan ⁽¹⁾	August 2021	2.3%	65.0	1.9%	75.7
Senior secured term loan facility	August 2023	4.1%	1,453.2	3.7%	1,468.0
Total term loans			1,518.2		1,543.7
Unsecured Senior Notes					
Senior notes due 2023	September 2023	5.0%	525.0	5.0%	525.0
Senior notes due 2024	December 2024	5.5%	575.0	5.5%	575.0
Senior notes due 2025	September 2025	5.0%	600.0	5.0%	600.0
Total unsecured senior notes			1,700.0		1,700.0
Other long-term obligations			8.3	12.2	
Unamortized deferred financing fees			(17.9)	(20.4)	
Current maturities of long-term debt			(25.3)	(25.5)	
Total long-term debt			\$ 3,183.3	\$ 3,210.0	

(1) British pound-denominated debt facilities.

As of December 31, 2018, the Company is in compliance with the covenants under the various credit agreements and indentures.

Credit Facilities

The Company has a variable rate CDW UK revolving credit facility that is denominated in British pounds. As of December 31, 2018, the Company could have borrowed up to an additional £50 million (\$64 million at December 31, 2018) under the CDW UK revolving credit facility.

The Company also has a variable rate senior secured asset-based revolving credit facility (the "Revolving Loan") that is denominated in US dollars. The Revolving Loan is used by the Company for borrowings, issuances of letters of credit and floorplan financing. The Revolving Loan has less than \$1 million of undrawn letters of credit, \$393 million reserved for the floorplan sub-facility and a borrowing base of \$1.8 billion which is based on the amount of eligible inventory and accounts receivable balances as of November 30, 2018. As of December 31, 2018, the Company could have borrowed up to an additional \$1.1 billion under the Revolving Loan.

The Revolving Loan is collateralized by a first priority interest in inventory (excluding inventory to the extent collateralized under the inventory financing arrangements as described in Note 5 (Inventory Financing Agreements)), deposits, and accounts receivable, and a second priority interest in substantially all US assets.

Term Loans

The CDW UK term loan agreement has a variable interest rate. The Company is required to make annual principal installments of £5 million (\$6 million at December 31, 2018), with the remaining principal amount due at the maturity date.

The CDW UK term loan agreement imposes restrictions on CDW UK's ability to transfer funds to the Company through the payment of dividends, repayment of intercompany loans, advances or subordinated debt that require, among other

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

things, the maintenance of a minimum net leverage ratio. As of December 31, 2018, the amount of restricted payment capacity under the CDW UK term loan was £128 million (\$163 million at December 31, 2018).

The senior secured term loan facility (the "Term Loan") has a variable interest rate, which has effectively been capped through the use of interest rate caps (see Note 8 (Financial Instruments)). The interest rate disclosed in the table above represents the variable interest rates in effect for 2018 and 2017, respectively. The Company is required to pay quarterly principal installments of \$4 million with the remaining principal amount due at the maturity date. As of December 31, 2018, the amount of CDW's restricted payment capacity under the Term Loan was \$1.5 billion.

The Term Loan is collateralized by a second priority interest in substantially all inventory (excluding inventory to the extent collateralized under the inventory financing arrangements as described in Note 5 (Inventory Financing Agreements)), deposits and accounts receivable, and by a first priority interest in substantially all other US assets.

Senior Notes

The senior notes have a fixed interest rate, which is paid semi-annually.

Debt Issuances and Extinguishments

On April 3, 2018, the Company amended the Term Loan, reducing interest margins by 25 basis points. Borrowings under the Term Loan continue to bear interest at a variable rate.

During 2017, the Company amended, extended and increased its prior revolving loan (the "Prior Revolving Loan") and recorded a loss on extinguishment of long-term debt of \$1 million in the Consolidated Statement of Operations, representing a write-off of a portion of unamortized deferred financing costs. Fees of \$4 million related to the Prior Revolving Loan were capitalized as deferred financing fees and are being amortized over the five-year term of the facility on a straight-line basis. These deferred financing fees are recorded in the Other assets line on the Consolidated Balance Sheets.

During 2017, the Company amended its prior \$1.5 billion senior secured term loan facility (the "Prior Term Loan Facility") and recorded a loss on extinguishment of long-term debt of \$14 million in the Consolidated Statement of Operations. This loss represented the write-off of a portion of the unamortized deferred financing fees of \$5 million and unamortized discount related to the Prior Term Loan Facility of \$9 million. In connection with the issuance of the Term Loan, the Company incurred and recorded \$2 million in deferred financing fees.

During 2017, the Company completed the issuance of the 2025 Senior Notes at par. The proceeds from the issuance of the 2025 Senior Notes along with cash on hand and proceeds from Revolving Loan borrowings were deposited to redeem all of the then remaining \$600 million aggregate principal amount of the 2022 Senior Notes. In connection with this redemption, the Company recorded a loss on extinguishment of long-term debt of \$43 million in the Consolidated Statement of Operations for the year ended December 31, 2017. This loss represents \$37 million in redemption premium and \$6 million for the write-off of the remaining deferred financing fees related to the 2022 Senior Notes.

Total Debt Maturities

A summary of total debt maturities is as follows:

(in millions)

Years ending December 31,	Total
2019	\$ 25.3
2020	25.5
2021	67.2
2022	14.9
2023	1,918.6
Thereafter	1,175.0
	<u>\$ 3,226.5</u>

Fair Value

The fair values of the Senior Notes were estimated using quoted market prices for identical liabilities that are traded in over-the-counter secondary markets that are not considered active. The fair value of the Term Loan was estimated using

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

dealer quotes for identical liabilities in markets that are not considered active. The Senior Notes, Term Loan and CDW UK term loan are classified as Level 2 within the fair value hierarchy. The carrying value of the Revolving Loan and CDW UK revolving credit facility approximate fair value if there are outstanding borrowings. The approximate fair values and related carrying values of the Company's long-term debt, including current maturities and excluding unamortized discount and unamortized deferred financing costs, were as follows:

(in millions)	December 31,	
	2018	2017
Fair value	\$ 3,145.8	\$ 3,366.5
Carrying value	3,226.5	3,255.9

10. Income Taxes

On December 22, 2017, the Tax Cuts and Jobs Act was enacted into law. The Tax Cuts and Jobs Act changed several aspects of US federal tax law including: reducing the US corporate income tax rate from 35.0% to 21.0% beginning on January 1, 2018; applying a one-time tax on the deemed mandatory repatriation of the Company's unremitted foreign earnings which have not been subject to US tax; imposing a minimum US tax on foreign earnings; providing for the immediate expensing of certain qualified property; and changing the tax treatment of performance-based executive compensation and certain employee fringe benefits.

The SEC issued Staff Accounting Bulletin 118 allowing for provisional amounts to be recorded during a measurement period not to exceed one year. During the year ended December 31, 2017, the Company recorded provisional amounts for the impact of revaluing deferred tax assets and liabilities, the deemed mandatory repatriation tax on the Company's unremitted foreign earnings and the state income tax effects from the changes in federal tax law during the year. The Company adjusted the US federal and state provisional amounts during 2018, recording a net tax benefit of \$2 million. The adjustment was primarily driven by the rate differential on adjustments to temporary book-tax differences made in finalizing the 2017 federal income tax return and finalizing the deemed mandatory repatriation tax on the Company's unremitted foreign earnings.

Income before income taxes was taxed under the following jurisdictions:

(in millions)	Year Ended December 31,		
	2018	2017	2016
		(as adjusted)	(as adjusted)
Domestic	\$ 762.3	\$ 608.3	\$ 635.5
Foreign	78.2	52.4	37.7
Total	<u>\$ 840.5</u>	<u>\$ 660.7</u>	<u>\$ 673.2</u>

Components of Income tax expense (benefit) consist of the following:

(in millions)	Year Ended December 31,		
	2018	2017	2016
		(as adjusted)	(as adjusted)
Current:			
Federal	\$ 192.6	\$ 258.9	\$ 295.6
State	43.3	29.8	34.9
Foreign	17.7	21.3	16.8
Total current	253.6	310.0	347.3
Deferred:			
Domestic	(52.7)	(167.6)	(90.5)
Foreign	(3.4)	(4.8)	(8.7)
Total deferred	(56.1)	(172.4)	(99.2)
Income tax expense	<u>\$ 197.5</u>	<u>\$ 137.6</u>	<u>\$ 248.1</u>

The reconciliation between the statutory tax rate expressed as a percentage of income before income taxes and the effective tax rate is as follows:

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(dollars in millions)	Year Ended December 31,					
	2018		2017		2016	
			(as adjusted)		(as adjusted)	
Statutory federal income tax rate	\$ 176.5	21.0 %	\$ 231.1	35.0 %	\$ 235.5	35.0 %
State taxes, net of federal effect	31.1	3.7	18.3	2.8	17.7	2.6
Excess tax benefit of equity awards	(19.7)	(2.3)	(36.2)	(5.5)	(1.6)	(0.2)
Effect of rates different than statutory	0.6	0.1	(6.3)	(1.0)	(4.6)	(0.7)
Tax on foreign earnings	2.8	0.3	1.0	0.1	0.8	0.1
Effect of UK tax rate change on deferred taxes	—	—	—	—	(1.5)	(0.2)
Effect of US Tax Cuts and Jobs Act on deferred taxes and repatriation tax	(1.9)	(0.2)	(75.5)	(11.4)	—	—
Other	8.1	0.9	5.2	0.8	1.8	0.3
Effective tax rate	<u>\$ 197.5</u>	<u>23.5 %</u>	<u>\$ 137.6</u>	<u>20.8 %</u>	<u>\$ 248.1</u>	<u>36.9 %</u>

The tax effect of temporary differences that give rise to net deferred income tax liabilities is presented below:

(in millions)	December 31,	
	2018	2017
Deferred tax assets:		
Equity compensation plans	\$ 17.7	\$ 18.7
Payroll and benefits	9.3	8.0
Deferred interest	—	6.8
Net operating loss and credit carryforwards, net	23.8	28.1
Rent	7.5	7.4
Accounts receivable	6.5	5.4
Other	10.0	9.5
Total deferred tax assets	<u>74.8</u>	<u>83.9</u>
Deferred tax liabilities:		
Software and intangibles	148.6	194.5
Deferred income	—	18.6
International investments	19.2	19.2
Property and equipment	20.0	20.4
Other	11.7	12.0
Total deferred tax liabilities	<u>199.5</u>	<u>264.7</u>
Deferred tax asset valuation allowance	17.2	15.5
Net deferred tax liabilities	<u>\$ 141.9</u>	<u>\$ 196.3</u>

The Company has state and international income tax net operating losses of \$11 million, which will expire at various dates from 2026 through 2032 and state and international tax credit carryforwards of \$25 million, which expire at various dates from 2021 through 2027.

Due to the nature of the CDW UK acquisition, the Company has provided US income taxes of \$19 million on the excess of the financial reporting value of the investment over the corresponding tax basis. The Company is indefinitely reinvested in its UK business, and therefore will not provide for any US deferred taxes on the earnings of the UK business. The Company is not permanently reinvested in its Canadian business and therefore has recognized deferred tax liabilities of \$3 million as of December 31, 2018 related to withholding taxes on earnings of its Canadian business.

In the ordinary course of business, the Company is subject to review by domestic and foreign taxing authorities, including the Internal Revenue Service ("IRS"). In general, the Company is no longer subject to audit by the IRS for tax years through 2014 and state, local or foreign taxing authorities for tax years through 2013. Various taxing authorities are in

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

the process of auditing income tax returns of the Company and its subsidiaries. The Company does not anticipate that any adjustments from the audits would have a material impact on its consolidated financial position, results of operations or cash flows.

Changes in the Company's unrecognized tax benefits at December 31, 2018, 2017 and 2016 were as follows:

(in millions)	Year Ended December 31,		
	2018	2017	2016
Balance as of January 1, 2018	\$ —	\$ —	\$ —
Additions for tax positions related to current year	15.1	—	—
Balance as of December 31, 2018	<u>\$ 15.1</u>	<u>\$ —</u>	<u>\$ —</u>

As of December 31, 2018, the Company had \$15 million of unrecognized tax benefits that, if recognized, would have decreased income taxes and the corresponding effective income tax rate and increased net earnings. The impact of recognizing these tax benefits, net of the federal income tax benefit related to unrecognized state income tax benefits, would be approximately \$12 million.

11. Stockholders' Equity

Share Repurchase Program

The Company has a share repurchase program under which it may repurchase shares of its common stock in the open market or through privately negotiated other transactions, depending on share price, market conditions and other factors. The share repurchase program does not obligate the Company to repurchase any dollar amount or number of shares, and repurchases may be commenced or suspended from time to time without prior notice.

During 2018, the Company repurchased 6.3 million shares of its common stock for \$522 million. These repurchases occurred under the program announced on August 3, 2017, by which the Board of Directors authorized a \$750 million increase to the Company's share repurchase program. As of December 31, 2018, the Company has \$336 million remaining under this program.

12. Equity-Based Compensation

Equity-based compensation expense, which is recorded in Selling and administrative expenses in the Consolidated Statements of Operations is as follows:

(in millions)	Year Ended December 31,		
	2018	2017	2016
Equity-based compensation expense	\$ 40.7	\$ 43.7	\$ 39.2
Income tax benefit ⁽¹⁾	(9.9)	(15.3)	(13.3)
Equity-based compensation expense (net of tax)	<u>\$ 30.8</u>	<u>\$ 28.4</u>	<u>\$ 25.9</u>

- (1) Represents equity-based compensation tax expense at the statutory tax rates. Excess tax benefits associated with equity awards are excluded from this disclosure and separately disclosed in Note 10 (Income Taxes).

The total unrecognized compensation cost related to nonvested awards was \$36 million at December 31, 2018 and is expected to be recognized over a weighted-average period of 1.7 years.

2013 Long-Term Incentive Plan

The 2013 Long-Term Incentive Plan ("2013 LTIP") provides for the grant of incentive stock options, nonqualified stock options, stock appreciation rights, restricted stock, restricted stock units, bonus stock and performance awards. The maximum aggregate number of shares that may be issued under the 2013 LTIP is 15,500,000 shares of the Company's common stock, in addition to the 3,798,508 shares of restricted stock granted in exchange for unvested Class B Common Units in connection with the Company's IPO. As of December 31, 2018, 4,978,336 shares were available for issuance under the 2013 LTIP, which was approved by the Company's pre-IPO shareholders. Authorized but unissued shares are reserved for issuance in connection with equity-based awards.

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Stock Options

The exercise price of a stock option granted is equal to the fair value of the underlying stock on the date of the grant. Stock options have a contractual term of 10 years and generally vest ratably over three years. To estimate the fair value of options granted, the Company uses the Black-Scholes option pricing model. The weighted-average assumptions used to value the stock options granted were as follows:

	Year Ended December 31,		
	2018	2017	2016
Grant date fair value	\$ 14.80	\$ 12.27	\$ 8.55
Volatility ⁽¹⁾	20.00%	22.00%	25.00%
Risk-free rate ⁽²⁾	2.75%	2.08%	1.47%
Expected dividend yield	1.14%	1.09%	1.08%
Expected term (in years) ⁽³⁾	6.0	6.0	6.0

- (1) Based upon an assessment of the two-year and five-year historical and implied volatility for the Company's selected peer group, adjusted for the Company's leverage.
- (2) Based on a composite US Treasury rate.
- (3) Calculated using the simplified method, which defines the expected term as the average of the option's contractual term and the option's weighted-average vesting period. The Company utilizes this method as it has limited historical stock option data that is sufficient to derive a reasonable estimate of the expected stock option term.

Stock option activity for the year ended December 31, 2018 was as follows:

Options	Number of Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (years)	Aggregate Intrinsic Value (millions)
Outstanding at January 1, 2018	4,457,996	\$ 37.41		
Granted	1,021,398	73.85		
Forfeited/Expired	(63,372)	59.85		
Exercised ⁽¹⁾	(935,250)	30.59		
Outstanding at December 31, 2018	4,480,772	\$ 46.82	7.04	\$ 153.5
Vested and exercisable at December 31, 2018	2,423,693	\$ 32.67	5.79	\$ 117.3
Expected to vest after December 31, 2018	2,031,401	\$ 63.43	8.52	\$ 35.9

- (1) The total intrinsic value of stock options exercised during the years ended December 31, 2018, 2017 and 2016 was \$47 million, \$17 million and \$7 million, respectively.

Restricted Stock Units ("RSUs")

Restricted stock units represent the right to receive unrestricted shares of the Company's stock at the time of vesting. RSUs generally cliff-vest at the end of four years. The fair value of RSUs is equal to the closing price of the Company's common stock on date of grant.

RSU activity for the year ended December 31, 2018 was as follows:

	Number of Units	Weighted-Average Grant-Date Fair Value
Nonvested at January 1, 2018	131,069	\$ 40.11
Granted ⁽¹⁾	177,525	73.95
Vested ⁽²⁾	(26,886)	60.18
Forfeited	(21,535)	60.25
Nonvested at December 31, 2018	260,173	\$ 59.56

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

- (1) The weighted-average grant date fair value of RSUs granted during the years ended December 31, 2018, 2017 and 2016 was \$73.95, \$58.90 and \$39.82, respectively.
- (2) The aggregate fair value of RSUs that vested during the years ended December 31, 2018, 2017 and 2016 was \$2 million, \$18 million and \$1 million, respectively.

Performance Share Units ("PSUs")

Performance share units represent the right to receive unrestricted shares of the Company's stock at the time of vesting. PSUs are granted under the 2013 LTIP which cliff-vest at the end of three years. The percentage of PSUs that shall vest will range from 0% to 200% of the number of PSUs granted based on the Company's performance against a cumulative adjusted free cash flow measure and cumulative non-GAAP net income per diluted share measure over a three-year performance period.

PSU activity for the year ended December 31, 2018 was as follows:

	Number of Units	Weighted-Average Grant-Date Fair Value
Nonvested at January 1, 2018	418,973	\$ 50.75
Granted ⁽¹⁾	204,890	73.74
Attainment Adjustment ⁽²⁾	154,234	37.84
Vested ⁽³⁾	(334,255)	39.92
Forfeited	(22,005)	59.87
Nonvested at December 31, 2018	<u>421,837</u>	<u>\$ 65.85</u>

- (1) The weighted-average grant date fair value of PSUs granted during the years ended December 31, 2018, 2017 and 2016 was \$73.74, \$59.00 and \$39.91, respectively.
- (2) During the year ended December 31, 2018, the attainment on PSUs vested at December 31, 2017 was adjusted to reflect actual performance. The weighted-average grant date fair value of PSUs included in the attainment adjustment is \$37.84.
- (3) The aggregate fair value of PSUs that vested during the years ended December 31, 2018, 2017 and 2016 was \$13 million, \$20 million and \$9 million, respectively.

Performance Share Awards ("PSAs")

Performance share awards represent the right to receive unrestricted shares of the Company's stock at the time of vesting. PSAs are granted under the 2013 LTIP which cliff-vest at the end of three years. The percentage of PSAs that shall vest will range from 0% to 200% of the number of PSAs granted based on the Company's performance against a cumulative adjusted free cash flow measure and cumulative non-GAAP net income per diluted share measure over a three-year performance period.

PSA activity for the year ended December 31, 2018 was as follows:

	Number of Units	Weighted-Average Grant-Date Fair Value
Nonvested at January 1, 2018	122,467	\$ 40.08
Granted ⁽¹⁾	1,279	—
Attainment Adjustment ⁽²⁾	111,565	37.79
Vested ⁽³⁾	(227,298)	40.12
Forfeited	(8,013)	39.79
Nonvested at December 31, 2018	<u>—</u>	<u>\$ —</u>

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

- (1) The weighted-average grant date fair value of PSAs granted during the year ended December 31, 2018 and 2017 was zero as the units granted consisted of only dividends on previously granted units. The weighted-average grant date fair value of PSAs granted during the year ended December 31, 2016 was \$40.06.
- (2) During the year ended December 31, 2018, the attainment on PSAs vested at December 31, 2017 was adjusted to reflect actual performance. The weighted-average grant date fair value of PSAs included in the attainment adjustment is \$37.79.
- (3) The aggregate fair value of PSAs that vested during the years ended December 31, 2018 and 2017 was \$9 million and \$5 million, respectively. No PSAs vested during the year ended December 31, 2016.

Equity Awards Granted by Seller of CDW UK

During 2018, 456,613 stock options granted by one of the sellers of CDW UK to certain CDW UK coworkers as part of the Company's acquisition of CDW UK vested. These equity awards had a weighted-average grant-date fair value of \$35.93 per option. In connection with the exercise of such options, the seller of CDW UK distributed shares of common stock to each participant and withheld the number of shares of common stock equal to the respective tax withholding for each participant. The seller of CDW UK then transferred such withheld shares to the Company to satisfy the tax withholding for participants. The Company was required to pay withholding taxes of \$19 million to Her Majesty's Revenue and Customs taxing authority related to the exercise of these options. This amount is reported as a financing activity in the Consolidated Statement of Cash Flows and as an increase to Accumulated Deficit in the Consolidated Statement of Stockholders' Equity for the year ended December 31, 2018.

13. Earnings Per Share

The numerator for both basic and diluted earnings per share is Net income. The denominator for basic earnings per share is the weighted-average shares outstanding during the period.

A reconciliation of basic weighted-average shares outstanding to diluted weighted-average shares outstanding is as follows:

(in millions)	Year Ended December 31,		
	2018	2017	2016
Basic weighted-average shares outstanding	150.9	155.4	163.6
Effect of dilutive securities ⁽¹⁾	2.7	2.8	2.4
Diluted weighted-average shares outstanding ⁽²⁾	153.6	158.2	166.0

- (1) The dilutive effect of outstanding stock options, restricted stock units, restricted stock, performance share units and Coworker Stock Purchase Plan units is reflected in the diluted weighted-average shares outstanding using the treasury stock method.
- (2) There were fewer than 0.2 million potential common shares excluded from diluted weighted-average shares outstanding for the years ended December 31, 2018, 2017 and 2016, respectively, as their inclusion would have had an anti-dilutive effect.

14. Coworker Retirement and Other Compensation Benefits

Profit Sharing Plan and Other Savings Plans

The Company has a profit sharing plan that includes a salary reduction feature established under the Internal Revenue Code Section 401(k) covering substantially all coworkers in the US. In addition, coworkers outside the US participate in other savings plans. Company contributions to the profit sharing and other savings plans are made in cash and determined at the discretion of the Board of Directors. For the years ended December 31, 2018, 2017 and 2016, the amounts expensed for these plans were \$34 million, \$20 million and \$23 million, respectively.

Coworker Stock Purchase Plan

The Company has a Coworker Stock Purchase Plan (the "CSPP") that provides the opportunity for eligible coworkers to acquire shares of the Company's common stock at a 5% discount from the closing market price on the final day of the offering period. There is no compensation expense associated with the CSPP.

15. Commitments and Contingencies

The Company is party to various legal proceedings that arise in the ordinary course of its business, which include commercial, intellectual property, employment, tort and other litigation matters. The Company is also subject to audit by federal, state, international, national, provincial and local authorities, and by various partners, group purchasing organizations and customers, including government agencies, relating to purchases and sales under various contracts. In addition, the Company is subject to indemnification claims under various contracts. From time to time, certain customers of the Company file voluntary petitions for reorganization or liquidation under the US bankruptcy laws or similar laws of the jurisdictions for the Company's business activities outside of the US. In such cases, certain pre-petition payments received by the Company could be considered preference items and subject to return to the bankruptcy administrator.

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

As of December 31, 2018, the Company does not believe that there is a reasonable possibility that any material loss exceeding the amounts already recognized for these proceedings and matters, if any, has been incurred. However, the ultimate resolutions of these proceedings and matters are inherently unpredictable. As such, the Company's financial condition and results of operations could be adversely affected in any particular period by the unfavorable resolution of one or more of these proceedings or matters.

16. Segment Information

The Company's segment information is presented in accordance with a "management approach," which designates the internal reporting used by the Chief Operating Decision-Maker for deciding how to allocate resources and for assessing performance.

The Company has three reportable segments: Corporate, which is comprised primarily of private sector business customers with more than 250 employees in the US, Small Business, primarily servicing private sector business customers with up to 250 employees in the US, and Public, which is comprised of government agencies and education and healthcare institutions in the US. The Company has two other operating segments: CDW UK and CDW Canada, both of which do not meet the reportable segment quantitative thresholds and, accordingly, are included in an all other category ("Other").

The Company has centralized logistics and headquarters functions that provide services to the segments. The logistics function includes purchasing, distribution and fulfillment services to support the Corporate, Small Business and Public segments. As a result, costs and intercompany charges associated with the logistics function are fully allocated to both of these segments based on a percent of Net sales. The centralized headquarters function provides services in areas such as accounting, information technology, marketing, legal and coworker services. Headquarters function costs that are not allocated to the segments are included under the heading of "Headquarters" in the tables below.

The Company allocates resources to and evaluates performance of its segments based on Net sales, Operating income and Adjusted EBITDA, a non-GAAP measure as defined in the Company's credit agreements. However, the Company has concluded that Operating income is the more useful measure in terms of discussion of operating results, as it is a GAAP measure.

Segment information for Total assets and capital expenditures is not presented, as such information is not used in measuring segment performance or allocating resources between segments.

Selected Segment Financial Information

Information about the Company's segments for the years ended December 31, 2018, 2017 and 2016 are as follows:

(in millions)	Corporate	Small Business	Public	Other	Headquarters	Total
2018:						
Net sales	\$ 6,842.5	\$ 1,359.6	\$ 6,154.7	\$ 1,883.7	\$ —	\$ 16,240.5
Operating income (loss)	536.9	95.7	410.8	82.2	(138.3)	987.3
Depreciation and amortization expense	(81.7)	(20.8)	(45.4)	(31.8)	(85.9)	(265.6)
2017⁽¹⁾:						
Net sales	\$ 6,172.8	\$ 1,220.5	\$ 5,906.5	\$ 1,533.1	\$ —	\$ 14,832.9
Operating income (loss)	487.9	74.3	374.4	57.1	(127.2)	866.5
Depreciation and amortization expense	(83.1)	(20.7)	(44.8)	(30.9)	(81.4)	(260.9)
2016⁽¹⁾:						
Net sales	\$ 5,734.9	\$ 1,118.1	\$ 5,477.4	\$ 1,342.3	\$ —	\$ 13,672.7
Operating income (loss)	453.5	69.1	367.7	44.6	(114.9)	820.0
Depreciation and amortization expense	(82.9)	(20.6)	(44.7)	(32.1)	(74.2)	(254.5)

(1) Amounts for 2017 and 2016 have been adjusted to reflect the adoption of Topic 606.

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Geographic Areas and Revenue Mix

	Year Ended December 31, 2018				
	Corporate	Small Business	Public	Other	Total
Geography⁽¹⁾					
United States	\$ 6,834.4	\$ 1,359.6	\$ 6,154.7	\$ 30.9	\$ 14,379.6
Rest of World	8.1	—	—	1,852.8	1,860.9
Total Net sales	6,842.5	1,359.6	6,154.7	1,883.7	16,240.5

Major Product and Services

Hardware	5,455.6	1,135.8	4,998.9	1,492.1	13,082.4
Software	982.3	174.5	976.4	213.8	2,347.0
Services	337.3	28.2	162.8	169.0	697.3
Other ⁽²⁾	67.3	21.1	16.6	8.8	113.8
Total Net sales	6,842.5	1,359.6	6,154.7	1,883.7	16,240.5

Sales by Channel

Corporate	6,842.5	—	—	—	6,842.5
Small Business	—	1,359.6	—	—	1,359.6
Government	—	—	2,097.3	—	2,097.3
Education	—	—	2,327.4	—	2,327.4
Healthcare	—	—	1,730.0	—	1,730.0
Other	—	—	—	1,883.7	1,883.7
Total Net sales	6,842.5	1,359.6	6,154.7	1,883.7	16,240.5

Timing of Revenue Recognition

Transferred at a point in time where CDW is principal	6,256.5	1,281.3	5,758.6	1,687.6	14,984.0
Transferred at a point in time where CDW is agent	389.1	69.4	211.5	49.8	719.8
Transferred over time where CDW is principal	196.9	8.9	184.6	146.3	536.7
Total Net sales	\$ 6,842.5	\$ 1,359.6	\$ 6,154.7	\$ 1,883.7	\$ 16,240.5

- (1) Net sales by geography is generally based on the ship-to address with the exception of certain services that may be performed at, or on behalf of, multiple locations. Such service arrangements are categorized based on the bill-to address.
- (2) Includes items such as delivery charges to customers.

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

	Year Ended December 31, 2017 ⁽¹⁾				
	Corporate	Small Business	Public	Other	Total
Geography⁽²⁾					
United States	\$ 6,167.4	\$ 1,220.5	\$ 5,906.5	\$ 25.5	\$ 13,319.9
Rest of World	5.4	—	—	1,507.6	1,513.0
Total Net sales	6,172.8	1,220.5	5,906.5	1,533.1	14,832.9
Major Product and Services					
Hardware	4,871.6	1,012.5	4,846.5	1,229.8	11,960.4
Software	918.5	163.1	908.3	167.0	2,156.9
Services	316.2	24.5	133.5	128.5	602.7
Other ⁽³⁾	66.5	20.4	18.2	7.8	112.9
Total Net sales	6,172.8	1,220.5	5,906.5	1,533.1	14,832.9
Sales by Channel					
Corporate	6,172.8	—	—	—	6,172.8
Small Business	—	1,220.5	—	—	1,220.5
Government	—	—	2,109.8	—	2,109.8
Education	—	—	2,184.5	—	2,184.5
Healthcare	—	—	1,612.2	—	1,612.2
Other	—	—	—	1,533.1	1,533.1
Total Net sales	6,172.8	1,220.5	5,906.5	1,533.1	14,832.9
Timing of Revenue Recognition					
Transferred at a point in time where CDW is principal	5,640.9	1,152.5	5,559.4	1,375.7	13,728.5
Transferred at a point in time where CDW is agent	344.2	59.4	184.1	27.9	615.6
Transferred over time where CDW is principal	187.7	8.6	163.0	129.5	488.8
Total Net sales	\$ 6,172.8	\$ 1,220.5	\$ 5,906.5	\$ 1,533.1	\$ 14,832.9

- (1) Amounts for 2017 have been adjusted to reflect the adoption of Topic 606.
- (2) Net sales by geography is generally based on the ship-to address with the exception of certain services that may be performed at, or on behalf of, multiple locations. Such service arrangements are categorized based on the bill-to address.
- (3) Includes items such as delivery charges to customers.

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Year Ended December 31, 2016 ⁽¹⁾					
	Corporate	Small Business	Public	Other	Total
Geography⁽²⁾					
United States	\$ 5,594.6	\$ 1,118.1	\$ 5,477.4	\$ 28.2	\$ 12,218.3
Rest of World	140.3	—	—	1,314.1	1,454.4
Total Net sales	<u>5,734.9</u>	<u>1,118.1</u>	<u>5,477.4</u>	<u>1,342.3</u>	<u>13,672.7</u>
Major Product and Services					
Hardware	4,495.6	908.3	4,481.2	1,030.9	10,916.0
Software	876.3	165.0	855.4	175.6	2,072.3
Services	291.5	24.1	119.6	129.0	564.2
Other ⁽³⁾	71.5	20.7	21.2	6.8	120.2
Total Net sales	<u>5,734.9</u>	<u>1,118.1</u>	<u>5,477.4</u>	<u>1,342.3</u>	<u>13,672.7</u>
Sales by Channel					
Corporate	5,734.9	—	—	—	5,734.9
Small Business	—	1,118.1	—	—	1,118.1
Government	—	—	1,813.6	—	1,813.6
Education	—	—	1,994.4	—	1,994.4
Healthcare	—	—	1,669.4	—	1,669.4
Other	—	—	—	1,342.3	1,342.3
Total Net sales	<u>5,734.9</u>	<u>1,118.1</u>	<u>5,477.4</u>	<u>1,342.3</u>	<u>13,672.7</u>
Timing of Revenue Recognition					
Transferred at a point in time where CDW is principal	5,279.8	1,061.3	5,182.4	1,201.8	12,725.3
Transferred at a point in time where CDW is agent	281.4	46.8	149.3	22.5	500.0
Transferred over time where CDW is principal	173.7	10.0	145.7	118.0	447.4
Total Net sales	<u>\$ 5,734.9</u>	<u>\$ 1,118.1</u>	<u>\$ 5,477.4</u>	<u>\$ 1,342.3</u>	<u>\$ 13,672.7</u>

- (1) Amounts for 2016 have been adjusted to reflect the adoption of Topic 606.
- (2) Net sales by geography is generally based on the ship-to address with the exception of certain services that may be performed at, or on behalf of, multiple locations. Such service arrangements are categorized based on the bill-to address.
- (3) Includes items such as delivery charges to customers.

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The following table presents Net sales by major category for the years ended December 31, 2018, 2017 and 2016. Categories are based upon internal classifications.

	Year Ended December 31,					
	2018		2017 ⁽¹⁾⁽²⁾		2016 ⁽¹⁾⁽²⁾	
	Dollars in Millions	Percentage of Total Net Sales	Dollars in Millions	Percentage of Total Net Sales	Dollars in Millions	Percentage of Total Net Sales
Notebooks/Mobile Devices \$	4,053.6	25.0%	\$ 3,519.8	23.7%	\$ 2,942.9	21.5%
Netcomm Products	2,119.8	13.1	2,040.3	13.8	1,957.0	14.3
Desktops	1,318.2	8.1	1,207.0	8.1	1,087.7	8.0
Video	1,185.6	7.3	1,078.4	7.3	963.0	7.0
Enterprise and Data Storage (Including Drives)	1,099.2	6.8	1,087.3	7.3	1,073.9	7.9
Other Hardware	3,306.0	20.3	3,027.6	20.4	2,891.5	21.1
Total Hardware	13,082.4	80.6	11,960.4	80.6	10,916.0	79.8
Software ⁽³⁾	2,347.0	14.4	2,156.9	14.5	2,072.3	15.2
Services ⁽³⁾	697.3	4.3	602.7	4.1	564.2	4.1
Other ⁽⁴⁾	113.8	0.7	112.9	0.8	120.2	0.9
Total Net sales	\$ 16,240.5	100.0%	\$ 14,832.9	100.0%	\$ 13,672.7	100.0%

- (1) Amounts for 2017 and 2016 have been adjusted to reflect the adoption of Topic 606.
- (2) Amounts have been reclassified for changes in individual product classifications to conform to the presentation for the year ended December 31, 2018.
- (3) Certain software and services revenues are recorded on a net basis for accounting purposes. As a result, the category percentage of net revenues is not representative of the category percentage of gross profits.
- (4) Includes items such as delivery charges to customers.

17. Supplemental Guarantor Information

The 2023 Senior Notes, the 2024 Senior Notes and the 2025 Senior Notes are, and, prior to being redeemed in full, the 2022 Senior Notes were, guaranteed by the Parent and each of CDW LLC's direct and indirect, 100% owned, domestic subsidiaries (the "Guarantor Subsidiaries"). All guarantees by the Parent and the Guarantor Subsidiaries are and were joint and several, and full and unconditional; provided that guarantees by the Guarantor Subsidiaries (i) are subject to certain customary release provisions contained in the indentures governing the 2023 Senior Notes, the 2024 Senior Notes and the 2025 Senior Notes and (ii) were subject to certain customary release provisions contained in the indenture governing the 2022 Senior Notes until such indenture was satisfied and discharged during 2017. CDW LLC's 100% owned foreign subsidiaries, CDW International Holdings Limited, which is comprised of CDW UK and CDW Canada (together the "Non-Guarantor Subsidiaries"), do not guarantee the debt obligations. CDW LLC and CDW Finance Corporation, as co-issuers, are 100% owned by Parent and each of the Guarantor Subsidiaries and the Non-Guarantor Subsidiaries are, directly or indirectly, 100% owned by CDW LLC.

The following tables set forth Condensed Consolidating Balance Sheets as of December 31, 2018 and 2017, Consolidating Statements of Operations for the years ended December 31, 2018, 2017 and 2016, Condensed Consolidating Statements of Comprehensive Income for the years ended December 31, 2018, 2017 and 2016, and Condensed Consolidating Statements of Cash Flows for the years ended December 31, 2018, 2017 and 2016, in accordance with Rule 3-10 of Regulation S-X. The consolidating financial information includes the accounts of CDW Corporation (the "Parent Guarantor"), which has no independent assets or operations, the accounts of CDW LLC (the "Subsidiary Issuer"), the combined accounts of the Guarantor Subsidiaries, the combined accounts of the Non-Guarantor Subsidiaries, and the accounts of CDW Finance Corporation (the "Co-Issuer") for the periods indicated. The information was prepared on the same basis as the Company's Consolidated Financial Statements.

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Condensed Consolidating Balance Sheet

	December 31, 2018						
(in millions)	Parent Guarantor	Subsidiary Issuer	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Co-Issuer	Consolidating Adjustments	Consolidated
Assets							
Current assets:							
Cash and cash equivalents	\$ —	\$ 176.0	\$ —	\$ 46.7	\$ —	\$ (16.9)	\$ 205.8
Accounts receivable, net	—	—	2,331.2	340.0	—	—	2,671.2
Merchandise inventory	—	—	387.4	66.9	—	—	454.3
Miscellaneous receivables	—	110.6	187.7	18.1	—	—	316.4
Prepaid expenses and other	—	17.1	93.8	38.2	—	—	149.1
Total current assets	—	303.7	3,000.1	509.9	—	(16.9)	3,796.8
Property and equipment, net	—	82.3	52.0	21.8	—	—	156.1
Goodwill	—	751.8	1,437.8	273.2	—	—	2,462.8
Other intangible assets, net	—	252.5	300.0	159.7	—	—	712.2
Other assets	1.4	49.8	9.6	140.2	—	(161.2)	39.8
Investment in and advances to subsidiaries	973.8	3,028.9	—	—	—	(4,002.7)	—
Total Assets	\$ 975.2	\$ 4,469.0	\$ 4,799.5	\$ 1,104.8	\$ —	\$ (4,180.8)	\$ 7,167.7
Liabilities and Stockholders' Equity							
Current liabilities:							
Accounts payable-trade	\$ —	\$ 39.2	\$ 1,387.9	\$ 166.9	\$ —	\$ (16.9)	\$ 1,577.1
Accounts payable-inventory financing	—	0.2	406.1	23.0	—	—	429.3
Current maturities of long-term debt	—	14.9	4.0	6.4	—	—	25.3
Contract liabilities	—	—	95.6	82.7	—	—	178.3
Accrued expenses and other current liabilities	—	217.6	306.7	68.8	—	—	593.1
Total current liabilities	—	271.9	2,200.3	347.8	—	(16.9)	2,803.1
Long-term liabilities:							
Debt	—	3,121.3	4.3	57.7	—	—	3,183.3
Deferred income taxes	—	55.9	60.5	26.9	—	(1.4)	141.9
Other liabilities	—	46.1	5.7	172.2	—	(159.8)	64.2
Total long-term liabilities	—	3,223.3	70.5	256.8	—	(161.2)	3,389.4
Total stockholders' equity	975.2	973.8	2,528.7	500.2	—	(4,002.7)	975.2
Total Liabilities and Stockholders' Equity	\$ 975.2	\$ 4,469.0	\$ 4,799.5	\$ 1,104.8	\$ —	\$ (4,180.8)	\$ 7,167.7

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Condensed Consolidating Balance Sheet

December 31, 2017
(as adjusted)

(in millions)	Parent Guarantor	Subsidiary Issuer	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Co-Issuer	Consolidating Adjustments	Consolidated
Assets							
Current assets:							
Cash and cash equivalents	\$ —	\$ 113.7	\$ —	\$ 32.4	\$ —	\$ (1.9)	\$ 144.2
Accounts receivable, net	—	—	2,015.7	313.6	—	—	2,329.3
Merchandise inventory	—	—	354.6	56.9	—	—	411.5
Miscellaneous receivables	—	103.9	211.1	28.0	—	—	343.0
Prepaid expenses and other	—	18.0	100.4	49.9	—	—	168.3
Total current assets	—	235.6	2,681.8	480.8	—	(1.9)	3,396.3
Property and equipment, net	—	95.0	43.5	22.6	—	—	161.1
Goodwill	—	751.8	1,439.0	288.8	—	—	2,479.6
Other intangible assets, net	—	280.1	424.5	192.4	—	—	897.0
Other assets	1.7	30.7	209.3	2.6	—	(211.6)	32.7
Investment in and advances to subsidiaries	983.9	3,066.1	—	—	—	(4,050.0)	—
Total Assets	\$ 985.6	\$ 4,459.3	\$ 4,798.1	\$ 987.2	\$ —	\$ (4,263.5)	\$ 6,966.7
Liabilities and Stockholders' Equity							
Current liabilities:							
Accounts payable-trade	\$ —	\$ 42.5	\$ 1,112.1	\$ 165.0	\$ —	\$ (1.9)	\$ 1,317.7
Accounts payable-inventory financing	—	1.0	480.9	16.1	—	—	498.0
Current maturities of long-term debt	—	14.9	3.8	6.8	—	—	25.5
Contract liabilities	—	—	87.5	71.3	—	—	158.8
Accrued expenses and other current liabilities	—	173.3	262.0	86.8	—	—	522.1
Total current liabilities	—	231.7	1,946.3	346.0	—	(1.9)	2,522.1
Long-term liabilities:							
Debt	—	3,134.2	8.3	67.5	—	—	3,210.0
Deferred income taxes	—	66.5	100.1	31.4	—	(1.7)	196.3
Other liabilities	—	43.0	4.7	214.9	—	(209.9)	52.7
Total long-term liabilities	—	3,243.7	113.1	313.8	—	(211.6)	3,459.0
Total stockholders' equity	985.6	983.9	2,738.7	327.4	—	(4,050.0)	985.6
Total Liabilities and Stockholders' Equity	\$ 985.6	\$ 4,459.3	\$ 4,798.1	\$ 987.2	\$ —	\$ (4,263.5)	\$ 6,966.7

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Consolidating Statement of Operations

Year Ended December 31, 2018

(in millions)	Parent Guarantor	Subsidiary Issuer	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Co-Issuer	Consolidating Adjustments	Consolidated
Net sales	\$ —	\$ —	\$ 14,356.8	\$ 1,883.7	\$ —	\$ —	\$ 16,240.5
Cost of sales	—	—	11,962.7	1,570.9	—	—	13,533.6
Gross profit	—	—	2,394.1	312.8	—	—	2,706.9
Selling and administrative expenses	—	138.3	1,176.8	222.0	—	—	1,537.1
Advertising expense	—	—	173.9	8.6	—	—	182.5
Operating income (loss)	—	(138.3)	1,043.4	82.2	—	—	987.3
Interest (expense) income, net	—	(146.7)	3.5	(5.4)	—	—	(148.6)
Other income (expense), net	—	(0.2)	0.7	1.3	—	—	1.8
Income (loss) before income taxes	—	(285.2)	1,047.6	78.1	—	—	840.5
Income tax (expense) benefit	(0.4)	67.0	(249.8)	(14.3)	—	—	(197.5)
Income (loss) before equity in earnings of subsidiaries	(0.4)	(218.2)	797.8	63.8	—	—	643.0
Equity in earnings of subsidiaries	643.4	861.6	—	—	—	(1,505.0)	—
Net income	\$ 643.0	\$ 643.4	\$ 797.8	\$ 63.8	\$ —	\$ (1,505.0)	\$ 643.0

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Consolidating Statement of Operations

Year Ended December 31, 2017

(as adjusted)

(in millions)	Parent Guarantor	Subsidiary Issuer	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Co-Issuer	Consolidating Adjustments	Consolidated
Net sales	\$ —	\$ —	\$ 13,299.8	\$ 1,533.1	\$ —	\$ —	\$ 14,832.9
Cost of sales	—	—	11,103.5	1,279.2	—	—	12,382.7
Gross profit	—	—	2,196.3	253.9	—	—	2,450.2
Selling and administrative expenses	—	127.2	1,093.3	189.5	—	—	1,410.0
Advertising expense	—	—	166.4	7.3	—	—	173.7
Operating income (loss)	—	(127.2)	936.6	57.1	—	—	866.5
Interest (expense) income, net	—	(148.3)	4.1	(6.3)	—	—	(150.5)
Net loss on extinguishments of long-term debt	—	(57.4)	—	—	—	—	(57.4)
Other income (expense), net	—	(0.1)	0.7	1.5	—	—	2.1
Income (loss) before income taxes	—	(333.0)	941.4	52.3	—	—	660.7
Income tax (expense) benefit	(0.9)	149.9	(270.2)	(16.4)	—	—	(137.6)
Income (loss) before equity in earnings of subsidiaries	(0.9)	(183.1)	671.2	35.9	—	—	523.1
Equity in earnings of subsidiaries	524.0	707.1	—	—	—	(1,231.1)	—
Net income	\$ 523.1	\$ 524.0	\$ 671.2	\$ 35.9	\$ —	\$ (1,231.1)	\$ 523.1

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Consolidating Statement of Operations

Year Ended December 31, 2016

(as adjusted)

(in millions)	Parent Guarantor	Subsidiary Issuer	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Co-Issuer	Consolidating Adjustments	Consolidated
Net sales	\$ —	\$ —	\$ 12,330.4	\$ 1,342.3	\$ —	\$ —	\$ 13,672.7
Cost of sales	—	—	10,225.5	1,118.9	—	—	11,344.4
Gross profit	—	—	2,104.9	223.4	—	—	2,328.3
Selling and administrative expenses	—	114.9	1,057.4	173.1	—	—	1,345.4
Advertising expense	—	—	157.2	5.7	—	—	162.9
Operating income (loss)	—	(114.9)	890.3	44.6	—	—	820.0
Interest (expense) income, net	—	(145.8)	6.7	(7.4)	—	—	(146.5)
Net loss on extinguishments of long-term debt	—	(2.1)	—	—	—	—	(2.1)
Other income, net	—	0.2	1.0	0.6	—	—	1.8
Income (loss) before income taxes	—	(262.6)	898.0	37.8	—	—	673.2
Income tax (expense) benefit	—	79.8	(319.8)	(8.1)	—	—	(248.1)
Income (loss) before equity in earnings of subsidiaries	—	(182.8)	578.2	29.7	—	—	425.1
Equity in earnings of subsidiaries	425.1	607.9	—	—	—	(1,033.0)	—
Net income	\$ 425.1	\$ 425.1	\$ 578.2	\$ 29.7	\$ —	\$ (1,033.0)	\$ 425.1

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Condensed Consolidating Statement of Comprehensive Income

Year Ended December 31, 2018							
(in millions)	Parent Guarantor	Subsidiary Issuer	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Co-Issuer	Consolidating Adjustments	Consolidated
Comprehensive income	\$ 608.3	\$ 608.7	\$ 797.8	\$ 31.1	\$ —	\$ (1,437.6)	\$ 608.3

Condensed Consolidating Statement of Comprehensive Income

Year Ended December 31, 2017							
(as adjusted)							
(in millions)	Parent Guarantor	Subsidiary Issuer	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Co-Issuer	Consolidating Adjustments	Consolidated
Comprehensive income	\$ 567.0	\$ 567.9	\$ 671.2	\$ 79.6	\$ —	\$ (1,318.7)	\$ 567.0

Condensed Consolidating Statement of Comprehensive Income

Year Ended December 31, 2016							
(as adjusted)							
(in millions)	Parent Guarantor	Subsidiary Issuer	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Co-Issuer	Consolidating Adjustments	Consolidated
Comprehensive income (loss)	\$ 346.4	\$ 346.4	\$ 578.2	\$ (49.0)	\$ —	\$ (875.6)	\$ 346.4

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Condensed Consolidating Statement of Cash Flows

Year Ended December 31, 2018

(in millions)	Parent Guarantor	Subsidiary Issuer	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Co-Issuer	Consolidating Adjustments	Consolidated
Net cash provided by (used in) operating activities	\$ —	\$ (85.7)	\$ 1,073.6	\$ 75.0	\$ —	\$ (157.0)	\$ 905.9
Cash flows from investing activities:							
Capital expenditures	—	(40.8)	(34.5)	(10.8)	—	—	(86.1)
Net cash used in investing activities	—	(40.8)	(34.5)	(10.8)	—	—	(86.1)
Cash flows (used in) provided by: financing activities:							
Proceeds from borrowings under revolving credit facilities	—	640.0	—	46.7	—	—	686.7
Repayments of borrowings under revolving credit facilities	—	(640.0)	—	(46.7)	—	—	(686.7)
Repayments of long-term debt	—	(14.9)	—	(6.7)	—	—	(21.6)
Net change in accounts payable-inventory financing	—	(0.8)	(74.7)	8.1	—	—	(67.4)
Repurchases of common stock	(522.3)	—	—	—	—	—	(522.3)
Payment of incentive compensation plan withholding taxes	(33.9)	—	—	—	—	—	(33.9)
Dividends	(139.4)	—	—	—	—	—	(139.4)
Repayment of intercompany loan	—	—	47.5	(47.5)	—	—	—
Other	—	34.6	(4.4)	(0.4)	—	—	29.8
Distributions and advances from (to) affiliates	695.6	169.9	(1,007.5)	—	—	142.0	—
Net cash (used in) provided by financing activities	—	188.8	(1,039.1)	(46.5)	—	142.0	(754.8)
Effect of exchange rate changes on cash and cash equivalents	—	—	—	(3.4)	—	—	(3.4)
Net increase in cash and cash equivalents	—	62.3	—	14.3	—	(15.0)	61.6
Cash and cash equivalents – beginning of period	—	113.7	—	32.4	—	(1.9)	144.2
Cash and cash equivalents – end of period	\$ —	\$ 176.0	\$ —	\$ 46.7	\$ —	\$ (16.9)	\$ 205.8

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Condensed Consolidating Statement of Cash Flows

Year Ended December 31, 2017

(in millions)	(as adjusted)						
	Parent Guarantor	Subsidiary Issuer	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Co-Issuer	Consolidating Adjustments	Consolidated
Net cash provided by (used in) operating activities	\$ 0.6	\$ (71.1)	\$ 788.5	\$ 52.3	\$ —	\$ 7.4	\$ 777.7
Cash flows from investing activities:							
Capital expenditures	—	(55.2)	(6.3)	(19.6)	—	—	(81.1)
Net cash used in investing activities	—	(55.2)	(6.3)	(19.6)	—	—	(81.1)
Cash flows (used in) provided by financing activities:							
Proceeds from borrowings under revolving credit facility	—	1,501.5	—	59.2	—	—	1,560.7
Repayments of borrowings under revolving credit facility	—	(1,501.5)	—	(59.2)	—	—	(1,560.7)
Repayments of long-term debt	—	(14.9)	—	—	—	—	(14.9)
Proceeds from issuance of long-term debt	—	2,083.0	—	—	—	—	2,083.0
Payments to extinguish long-term debt	—	(2,121.3)	—	—	—	—	(2,121.3)
Net change in accounts payable-inventory financing	—	(0.2)	(78.4)	(5.4)	—	—	(84.0)
Repurchases of common stock	(534.0)	—	—	—	—	—	(534.0)
Payment of incentive compensation plan withholding taxes	(49.6)	—	—	—	—	—	(49.6)
Dividends	(106.9)	—	—	—	—	—	(106.9)
Repayment of intercompany loan	—	—	34.3	(34.3)	—	—	—
Other	—	14.1	(4.0)	(1.1)	—	—	9.0
Distributions and advances from (to) affiliates	689.9	56.6	(737.2)	—	—	(9.3)	—
Net cash (used in) provided by financing activities	(0.6)	17.3	(785.3)	(40.8)	—	(9.3)	(818.7)
Effect of exchange rate changes on cash and cash equivalents	—	—	—	2.6	—	—	2.6
Net decrease in cash and cash equivalents	—	(109.0)	(3.1)	(5.5)	—	(1.9)	(119.5)
Cash and cash equivalents—beginning of period	—	222.7	3.1	37.9	—	—	263.7
Cash and cash equivalents—end of period	\$ —	\$ 113.7	\$ —	\$ 32.4	\$ —	\$ (1.9)	\$ 144.2

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Condensed Consolidating Statement of Cash Flows

Year Ended December 31, 2016

(as adjusted)

(in millions)	Parent Guarantor	Subsidiary Issuer	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Co-Issuer	Consolidating Adjustments	Consolidated
Net cash provided by (used in) operating activities	\$ —	\$ (158.5)	\$ 695.5	\$ 56.1	\$ —	\$ 10.9	\$ 604.0
Cash flows from investing activities:							
Capital expenditures	—	(50.9)	(7.6)	(5.0)	—	—	(63.5)
Premium payments on interest rate cap agreements	—	(2.4)	—	—	—	—	(2.4)
Net cash used in investing activities	—	(53.3)	(7.6)	(5.0)	—	—	(65.9)
Cash flows (used in) provided by financing activities:							
Proceeds from borrowings under revolving credit facility	—	329.6	—	9.2	—	—	338.8
Repayments of borrowings under revolving credit facility	—	(329.6)	—	(9.2)	—	—	(338.8)
Repayments of long-term debt	—	(15.2)	—	(5.4)	—	—	(20.6)
Proceeds from issuance of long-term debt	—	1,483.0	—	—	—	—	1,483.0
Payments to extinguish long-term debt	—	(1,490.4)	—	—	—	—	(1,490.4)
Net change in accounts payable-inventory financing	—	1.5	131.0	11.1	—	—	143.6
Repurchases of common stock	(367.4)	—	—	—	—	—	(367.4)
Dividends	(78.7)	—	—	—	—	—	(78.7)
Repayment of intercompany loan	—	—	40.4	(40.4)	—	—	—
Other	—	12.2	16.7	(3.0)	—	—	25.9
Distributions and advances from (to) affiliates	446.1	398.3	(872.9)	—	—	28.5	—
Net cash (used in) provided by financing activities	—	389.4	(684.8)	(37.7)	—	28.5	(304.6)
Effect of exchange rate changes on cash and cash equivalents	—	—	—	(7.4)	—	—	(7.4)
Net increase in cash and cash equivalents	—	177.6	3.1	6.0	—	39.4	226.1
Cash and cash equivalents – beginning of period	—	45.1	—	31.9	—	(39.4)	37.6
Cash and cash equivalents – end of period	\$ —	\$ 222.7	\$ 3.1	\$ 37.9	\$ —	\$ —	\$ 263.7

CDW CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

18. Selected Quarterly Financial Results (unaudited)

(in millions, except per-share amounts)	Year Ended December 31, 2018			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Net Sales:				
Corporate	\$ 1,565.8	\$ 1,733.8	\$ 1,706.5	\$ 1,836.4
Small Business	327.6	329.5	340.0	362.5
Public:				
Government	418.5	493.5	639.3	546.0
Education	397.2	712.1	793.1	425.0
Healthcare	414.3	429.8	442.7	443.2
Total Public	1,230.0	1,635.4	1,875.1	1,414.2
Other	483.0	487.4	451.6	461.7
Net sales	3,606.4	4,186.1	4,373.2	4,074.8
Gross profit	603.9	695.6	713.6	693.8
Operating income	204.1	265.5	274.8	242.9
Net income	127.0	173.0	183.7	159.3
Basic ⁽¹⁾	0.83	1.14	1.22	1.07
Diluted ⁽¹⁾	0.82	1.12	1.20	1.05
Cash dividends declared per common share	\$ 0.210	\$ 0.210	\$ 0.210	\$ 0.295

(in millions, except per-share amounts)	Year Ended December 31, 2017 ⁽²⁾⁽³⁾			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Net Sales:				
Corporate	\$ 1,440.6	\$ 1,580.1	\$ 1,552.8	\$ 1,599.3
Small Business	292.0	315.0	305.4	308.1
Public:				
Government	374.6	523.4	591.9	619.9
Education	393.2	704.9	691.3	395.2
Healthcare	385.9	404.5	410.7	411.0
Total Public	1,153.7	1,632.8	1,693.9	1,426.1
Other	369.7	363.8	381.1	418.6
Net sales	3,256.0	3,891.7	3,933.2	3,752.1
Gross profit	553.5	640.8	642.2	613.7
Operating income	170.7	230.8	244.0	221.1
Net income	58.2	140.9	129.3	194.8
Basic ⁽¹⁾	0.36	0.90	0.84	1.28
Diluted ⁽¹⁾	0.36	0.89	0.83	1.25
Cash dividends declared per common share	\$ 0.160	\$ 0.160	\$ 0.160	\$ 0.210

(1) Basic and diluted net income per share are computed independently for each of the quarters presented. Therefore, the sum of quarterly basic and diluted per share information may not equal annual basic and diluted net income per share.

(2) Amounts for 2017 have been adjusted to reflect the adoption of Topic 606.

(3) Sum of quarters may not agree to reported yearly totals due to rounding.

19. Subsequent Events

On January 11, 2019, the Company announced its agreement to acquire Scalar Decisions Inc., a leading technology solutions provider in Canada. The acquisition closed on February 1, 2019.

On February 7, 2019, the Company announced that its Board of Directors authorized a \$1.0 billion increase to its previously announced share repurchase program.

SCHEDULE II – VALUATION AND QUALIFYING ACCOUNTS
Years ended December 31, 2018, 2017 and 2016

(in millions)	Balance at Beginning of Period	Charged to Costs and Expenses	Deductions	Balance at End of Period
Allowance for doubtful accounts:				
Year Ended December 31, 2018	\$ 6.2	\$ 2.0	\$ (1.2)	\$ 7.0
Year Ended December 31, 2017	5.9	2.1	(1.8)	6.2
Year Ended December 31, 2016	6.0	2.0	(2.1)	5.9

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

The Company's management, with the participation of the Company's Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of the Company's disclosure controls and procedures (as such term is defined in Rule 13a-15(e) or Rule 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) as of the end of the period covered by this report. Based on such evaluation, the Company's management, including the Company's Chief Executive Officer and Chief Financial Officer, has concluded that, as of the end of such period, the Company's disclosure controls and procedures were effective in recording, processing, summarizing, and reporting, on a timely basis, information required to be disclosed by the Company in the reports that it files or submits under the Exchange Act, and that information is accumulated and communicated to the Company's management, including the Company's Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely discussions regarding required disclosure.

Management's Annual Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rule 13a-15(f) and 15d-15(f) under the Exchange Act. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements and can provide only reasonable assurance with respect to financial statement preparation and presentation. 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 policies or procedures may deteriorate.

Management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2018. Management based this assessment on the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in "Internal Control — Integrated Framework (2013 framework)."

Based on its assessment, management concluded that, as of December 31, 2018, the Company's internal control over financial reporting is effective.

Ernst & Young LLP, independent registered public accounting firm, has audited the Consolidated Financial Statements of the Company and the Company's internal control over financial reporting and has included their reports herein.

Changes in Internal Control over Financial Reporting

There have been no changes in our internal control over financial reporting during the quarter ended December 31, 2018 that have materially affected or are reasonably likely to materially affect, our internal control over financial reporting.

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of CDW Corporation and subsidiaries

Opinion on Internal Control over Financial Reporting

We have audited CDW Corporation and subsidiaries' internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, CDW Corporation and subsidiaries (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2018 and 2017, and the related consolidated statements of operations, comprehensive income, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2018, and the related notes and the financial statement schedule listed in the Index at Item 15 (a) (2) and our report dated February 27, 2019 expressed an unqualified opinion thereon.

Basis for Opinion

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

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

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

Definition and Limitations of Internal Control Over Financial Reporting

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

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

/s/ Ernst & Young LLP

Chicago, Illinois

February 27, 2019

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

We have adopted The CDW Way Code, our code of business conduct and ethics, that is applicable to all of our coworkers and directors. A copy of The CDW Way Code is available on our website at www.cdw.com. Within The CDW Way Code is a Financial Integrity Code of Ethics that sets forth an even higher standard applicable to our executives, officers, members of our internal disclosure committee and all managers and above in our finance department. We intend to disclose any substantive amendments to, or waivers from, The CDW Way Code by posting such information on our website or by filing a Form 8-K, in each case to the extent such disclosure is required by the rules of the SEC or Nasdaq.

See Part I - "Executive Officers" for information about our executive officers, which is incorporated by reference in this Item 10. Other information required under this Item 10 is incorporated herein by reference to our definitive proxy statement for our 2019 annual meeting of stockholders on May 21, 2019 ("2019 Proxy Statement"), which we will file with the SEC on or before April 30, 2019.

Item 11. Executive Compensation

Information required under this Item 11 is incorporated herein by reference to the 2019 Proxy Statement.

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

Information required under this Item 12 is incorporated herein by reference to the 2019 Proxy Statement.

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

Information required under this Item 13 is incorporated herein by reference to the 2019 Proxy Statement.

Item 14. Principal Accountant Fees and Services

Information required under this Item 14 is incorporated herein by reference to the 2019 Proxy Statement.

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a) Financial Statements and Schedules

The following documents are filed as part of this report:

(1) Consolidated Financial Statements:

	Page
Report of Independent Registered Public Accounting Firm	53
Consolidated Balance Sheets as of December 31, 2018 and 2017	54
Consolidated Statements of Operations for the years ended December 31, 2018, 2017 and 2016	55
Consolidated Statements of Comprehensive Income for the years ended December 31, 2018, 2017 and 2016	56
Consolidated Statements of Stockholders' Equity for the years ended December 31, 2018, 2017 and 2016	57
Consolidated Statements of Cash Flows for the years ended December 31, 2018, 2017 and 2016	58
Notes to Consolidated Financial Statements	59

(2) Financial Statement Schedules:

	Page
Schedule II – Valuation and Qualifying Accounts	95

All other schedules are omitted since the required information is not present or is not present in amounts sufficient to require submission of the schedule, or because the information required is included in the Consolidated Financial Statements or notes thereto.

(b) Exhibits

Exhibit Number	Description
3.1	Fifth Amended and Restated Certificate of Incorporation of CDW Corporation, previously filed as Exhibit 3.1 with CDW Corporation's Amendment No. 2 to Form S-1 filed on June 14, 2013 (Reg. No. 333-187472) and incorporated herein by reference.
3.1.1	Certificate of Amendment to Fifth Amended and Restated Certificate of Incorporation of CDW Corporation, previously filed as Exhibit 3.1 with CDW Corporation's Form 8-K filed on May 19, 2016 and incorporated herein by reference.
3.1.2	Certificate of Amendment to Fifth Amended and Restated Certificate of Incorporation of CDW Corporation previously filed as Exhibit 3.1 with CDW Corporation's Form 8-K filed on May 25, 2018 and incorporated herein by reference.
3.2	Amended and Restated By-Laws of CDW Corporation, previously filed as Exhibit 3.2 with CDW Corporation's Form 10-Q filed on August 4, 2016 and incorporated herein by reference.
3.3	Articles of Organization of CDW LLC, previously filed as Exhibit 3.3 with CDW Corporation's Form S-4 filed on September 7, 2010 (Reg. No. 333-169258) and incorporated herein by reference.
3.4	Amended and Restated Limited Liability Company Agreement of CDW LLC, previously filed as Exhibit 3.4 with CDW Corporation's Form S-4 filed on September 7, 2010 (Reg. No. 333-169258) and incorporated herein by reference.
3.5	Certificate of Incorporation of CDW Finance Corporation, previously filed as Exhibit 3.5 with CDW Corporation's Form S-4 filed on September 7, 2010 (Reg. No. 333-169258) and incorporated herein by reference.
3.6	Amended and Restated By-Laws of CDW Finance Corporation, previously filed as Exhibit 3.1 with CDW Corporation's Form 10-Q filed on May 8, 2015 and incorporated herein by reference.

Exhibit Number	Description
3.7	Articles of Organization of CDW Technologies LLC (formerly CDW Technologies, Inc.), previously filed as Exhibit 3.7 with CDW Corporation's Form 10-K filed on February 25, 2016 and incorporated herein by reference.
3.8	Operating Agreement of CDW Technologies LLC (formerly CDW Technologies, Inc.), previously filed as Exhibit 3.8 with CDW Corporation's Form 10-K filed on February 25, 2016 and incorporated herein by reference.
3.9	Articles of Organization of CDW Direct, LLC, previously filed as Exhibit 3.9 with CDW Corporation's Form S-4 filed on September 7, 2010 (Reg. No. 333-169258) and incorporated herein by reference.
3.10	Amended and Restated Limited Liability Company Agreement of CDW Direct, LLC, previously filed as Exhibit 3.10 with CDW Corporation's Form S-4 filed on September 7, 2010 (Reg. No. 333-169258) and incorporated herein by reference.
3.11	Articles of Organization of CDW Government LLC, previously filed as Exhibit 3.11 with CDW Corporation's Form S-4 filed on September 7, 2010 (Reg. No. 333-169258) and incorporated herein by reference.
3.12	Amended and Restated Limited Liability Company Agreement of CDW Government LLC, previously filed as Exhibit 3.12 with CDW Corporation's Form S-4 filed on September 7, 2010 (Reg. No. 333-169258) and incorporated herein by reference.
3.13	Articles of Incorporation of CDW Logistics, Inc., previously filed as Exhibit 3.13 with CDW Corporation's Form S-4 filed on September 7, 2010 (Reg. No. 333-169258) and incorporated herein by reference.
3.14	Amended and Restated By-Laws of CDW Logistics, Inc., previously filed as Exhibit 3.14 with CDW Corporation's Form S-3 filed on July 31, 2014 (Reg. No. 333-197744) and incorporated herein by reference.
4.1	Specimen Common Stock Certificate, previously filed as Exhibit 4.1 with CDW Corporation's Amendment No. 3 to Form S-1 filed on June 25, 2013 (Reg. No. 333-187472) and incorporated herein by reference.
4.2	Second Supplemental Indenture, dated as of March 3, 2015, by and among CDW LLC, CDW Finance Corporation, the guarantors party thereto and U.S. Bank National Association, as trustee, previously filed as Exhibit 4.2 with CDW Corporation's Form 8-K filed on March 3, 2015 and incorporated herein by reference.
4.3	Form of 5% Note (included as Exhibit A to Exhibit 4.2), previously filed as Exhibit 4.2 with CDW Corporation's Form 8-K filed on March 3, 2015 and incorporated herein by reference.
4.4	Base Indenture, dated as of December 1, 2014, by and among CDW LLC, CDW Finance Corporation, the guarantors party thereto and U.S. Bank National Association as trustee, previously filed as Exhibit 4.1 with CDW Corporation's Form 8-K filed on December 1, 2014 and incorporated herein by reference.
4.5	First Supplemental Indenture, dated as of December 1, 2014, by and among CDW LLC, CDW Finance Corporation, the guarantors party thereto and U.S. Bank National Association as trustee, previously filed as Exhibit 4.2 with CDW Corporation's Form 8-K filed on December 1, 2014 and incorporated herein by reference.
4.6	Form of 5.5% Senior Note (included as Exhibit B to Exhibit 4.7), previously filed as Exhibit 4.3 with CDW Corporation's Form 8-K filed on December 1, 2014 and incorporated herein by reference.
4.7	Third Supplemental Indenture, dated as of March 2, 2017, by and among CDW LLC, CDW Finance Corporation, the guarantors party thereto and U.S. Bank National Association, as trustee, previously filed as Exhibit 4.2 with CDW Corporation's Form 8-K filed on March 2, 2017 and incorporated herein by reference.
4.8	Form of 5.0% Senior Note (included as Exhibit A to Exhibit 4.7), previously filed as Exhibit 4.3 with CDW Corporation's Form 8-K filed on March 2, 2017 and incorporated herein by reference.
10.1	Second Amended and Restated Revolving Loan Credit Agreement, dated March 31, 2017, by and among CDW LLC, the lenders party thereto, JPMorgan Chase Bank, N.A., as administrative agent, Wells Fargo Commercial Distribution Finance, LLC, as floorplan funding agent, and the joint lead arrangers, joint bookrunners, co-collateral agents, co-syndication agents and co-documentation agents party thereto, previously filed as Exhibit 10.1 with CDW Corporation's Form 8-K filed on March 31, 2017 and incorporated herein by reference.

Exhibit Number	Description
10.2	<u>Amended and Restated Term Loan Agreement, dated as of August 17, 2016, by and among CDW LLC, the lenders from time to time party thereto, Barclays Bank PLC, as administrative agent and collateral agent, and the joint lead arrangers, joint bookrunners, syndication agent and co-documentation agents party thereto, previously filed as Exhibit 10.1 with CDW Corporation's Form 8-K filed on August 18, 2016 and incorporated herein by reference.</u>
10.3	<u>First Amendment to Amended and Restated Term Loan Agreement, dated as of February 28, 2017, among CDW, the lenders party thereto, Barclays Bank PLC, as administrative agent and collateral agent, and the other loan parties party thereto, previously filed as Exhibit 10.1 with CDW Corporation's Form 8-K filed on March 2, 2017 and incorporated herein by reference.</u>
10.4	<u>Second Amendment to Amended and Restated Term Loan Agreement, dated as of April 3, 2018, among CDW LLC, the lenders party thereto, Barclays Bank PLC, as administrative agent and collateral agent, and the other loan parties party thereto, previously filed as Exhibit 10.1 with CDW Corporation's Form 10-Q filed on May 3, 2018 and incorporated herein by reference.</u>
10.5	<u>Second Amended and Restated Guarantee and Collateral Agreement, dated April 29, 2013, by and among CDW LLC, the guarantors party thereto and Barclays Bank PLC, as collateral agent, previously filed as Exhibit 10.2 with CDW Corporation's Form 8-K filed on May 1, 2013 and incorporated herein by reference.</u>
10.6§	<u>Amended and Restated Compensation Protection Agreement, dated as of March 10, 2016, by and among CDW Corporation, CDW LLC and Thomas E. Richards, previously filed as Exhibit 10.1 with CDW Corporation's Form 8-K filed on March 14, 2016 and incorporated herein by reference.</u>
10.7§	<u>Amended and Restated Compensation Protection Agreement, dated as of December 18, 2018, by and among CDW Corporation, CDW LLC and Thomas E. Richards, previously filed as Exhibit 10.1 with CDW Corporation's Form 8-K filed on December 20, 2018 and incorporated herein by reference.</u>
10.8§	<u>Amended and Restated Compensation Protection Agreement, dated as of December 18, 2018, by and among CDW Corporation, CDW LLC and Christine A. Leahy, previously filed as Exhibit 10.2 with CDW Corporation's Form 8-K filed on December 20, 2018 and incorporated herein by reference.</u>
10.9§	<u>Form of Compensation Protection Agreement (executive officers other than Thomas E. Richards), previously filed as Exhibit 10.2 with CDW Corporation's Form 8-K filed on March 14, 2016 and incorporated herein by reference.</u>
10.10§	<u>Form of Noncompetition Agreement under the Compensation Protection Agreement, previously filed as Exhibit 10.3 with CDW Corporation's Form 8-K filed on March 14, 2016 and incorporated herein by reference.</u>
10.11§	<u>Letter Agreement, dated as of September 13, 2011, by and between CDW Direct, LLC and Christina M. Corley, previously filed as Exhibit 10.31 with CDW Corporation's Form 10-K filed on March 9, 2012 and incorporated herein by reference.</u>
10.12§	<u>Form of Indemnification Agreement by and between CDW Corporation and its directors and officers, previously filed as Exhibit 10.32 with CDW Corporation's Amendment No. 2 to Form S-1 filed on June 14, 2013 (Reg. No. 333-187472) and incorporated herein by reference.</u>
10.13§	<u>CDW Corporation Amended and Restated 2013 Senior Management Incentive Plan, previously filed as Exhibit 10.1 with CDW Corporation's Form 10-Q filed on May 5, 2016 and incorporated herein by reference.</u>
10.14§	<u>Amended and Restated 2013 Long-Term Incentive Plan of CDW Corporation, previously filed as Exhibit 10.1 with CDW Corporation's Form 8-K filed on May 19, 2016 and incorporated herein by reference.</u>
10.15§	<u>Amended and Restated CDW Corporation Coworker Stock Purchase Plan, previously filed as Exhibit 10.1 with CDW Corporation's Form 10-Q filed on November 3, 2016 and incorporated herein by reference.</u>
10.16§	<u>Form of CDW Corporation Option Award Notice and Stock Option Agreement (executive officers), previously filed as Exhibit 10.37 with CDW Corporation's Amendment No. 2 to Form S-1 filed on June 14, 2013 (Reg. No. 333-187472) and incorporated herein by reference.</u>

Exhibit Number	Description
10.17§	Form of CDW Corporation Option Award Notice and Stock Option Agreement (other than executive officers), previously filed as Exhibit 10.38 with CDW Corporation's Amendment No. 2 to Form S-1 filed on June 14, 2013 (Reg. No. 333-187472) and incorporated herein by reference.
10.18§	Form of CDW Corporation Restricted Stock Award Notice and Restricted Stock Award Agreement (executive officers), previously filed as Exhibit 10.12 with CDW Corporation's Form 10-Q filed on August 12, 2013 and incorporated herein by reference.
10.19§	Form of CDW Corporation Restricted Stock Award Notice and Restricted Stock Award Agreement (other than executive officers), previously filed as Exhibit 10.13 with CDW Corporation's Form 10-Q filed on August 12, 2013 and incorporate herein by reference.
10.20§	Form of Stock Option Agreement (executive officers) under the CDW Corporation Amended and Restated 2013 Long-Term Incentive Plan, previously filed as Exhibit 10.1 with CDW Corporation's Form 10-K filed on March 1, 2017 and incorporated herein by reference.
10.21§	Form of Stock Option Agreement (other than executive officers) under the CDW Corporation Amended and Restated 2013 Long-Term Incentive Plan, previously filed as Exhibit 10.22 with CDW Corporation's Form 10-K filed on March 1, 2018 and incorporated herein by reference.
10.22§	Form of Performance Share Unit Award Agreement (executive officers) under the CDW Corporation Amended and Restated 2013 Long-Term Incentive Plan, previously filed as Exhibit 10.1 with CDW Corporation's Form 10-K filed on March 1, 2017 and incorporated herein by reference.
10.23§	Form of Performance Share Unit Award Agreement (other than executive officers) under the CDW Corporation Amended and Restated 2013 Long-Term Incentive Plan, previously filed as Exhibit 10.24 with CDW Corporation's Form 10-K filed on March 1, 2018 and incorporated herein by reference.
10.24§	Form of Performance Share Award Agreement (executive officers) under the CDW Corporation Amended and Restated 2013 Long-Term Incentive Plan, previously filed as Exhibit 10.1 with CDW Corporation's Form 10-K filed on March 1, 2017 and incorporated herein by reference.
10.25§*	Form of Non-Employee Director Restricted Stock Unit Award Agreement under the CDW Corporation Amended and Restated 2013 Long-Term Incentive Plan.
10.26§	Letter Agreement, dated as of February 12, 2018, by and between CDW Limited and Collin B. Kebo, previously filed as Exhibit 10.28 with CDW Corporation's Form 10-K filed on March 1, 2018 and incorporated herein by reference.
21.1*	List of subsidiaries.
23.1*	Consent of Ernst & Young LLP.
31.1*	Certification of Chief Executive Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) under the Securities Exchange Act of 1934.
31.2*	Certification of Chief Financial Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) under the Securities Exchange Act of 1934.
32.1**	Certification of Chief Executive Officer pursuant to 18 U.S.C. 1350.
32.2**	Certification of Chief Financial Officer pursuant to 18 U.S.C. 1350.
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

Exhibit Number	Description
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document

* Filed herewith

** These items are furnished and not filed.

§ A management contract or compensatory arrangement required to be filed as an exhibit pursuant to Item 601 of Regulation S-K.

Item 16. Form 10-K Summary

None.

SIGNATURES

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

CDW CORPORATION

Date: February 27, 2019

By: /s/ Christine A. Leahy

Christine A. Leahy

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 the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
<u>/s/ Christine A. Leahy</u> Christine A. Leahy	President and Chief Executive Officer (principal executive officer) and Director	<u>February 27, 2019</u>
<u>/s/ Collin B. Kebo</u> Collin B. Kebo	Senior Vice President and Chief Financial Officer (principal financial officer)	<u>February 27, 2019</u>
<u>/s/ Neil B. Fairfield</u> Neil B. Fairfield	Vice President, Controller and Chief Accounting Officer (principal accounting officer)	<u>February 27, 2019</u>
<u>/s/ Thomas E. Richards</u> Thomas E. Richards	Executive Chairman of the Board	<u>February 27, 2019</u>
<u>/s/ Virginia C. Addicott</u> Virginia C. Addicott	Director	<u>February 27, 2019</u>
<u>/s/ Steven W. Alesio</u> Steven W. Alesio	Director	<u>February 27, 2019</u>
<u>/s/ Barry K. Allen</u> Barry K. Allen	Director	<u>February 27, 2019</u>
<u>/s/ James A. Bell</u> James A. Bell	Director	<u>February 27, 2019</u>
<u>/s/ Benjamin D. Chereskin</u> Benjamin D. Chereskin	Director	<u>February 27, 2019</u>
<u>/s/ Lynda M. Clarizio</u> Lynda M. Clarizio	Director	<u>February 27, 2019</u>
<u>/s/ Paul J. Finnegan</u> Paul J. Finnegan	Director	<u>February 27, 2019</u>
<u>/s/ David W. Nelms</u> David W. Nelms	Director	<u>February 27, 2019</u>
<u>/s/ Joseph R. Swedish</u> Joseph R. Swedish	Director	<u>February 27, 2019</u>
<u>/s/ Donna F. Zarcone</u> Donna F. Zarcone	Director	<u>February 27, 2019</u>

CDW CORPORATION
AMENDED AND RESTATED 2013 LONG-TERM INCENTIVE PLAN

NON-EMPLOYEE DIRECTOR RESTRICTED STOCK UNIT AWARD AGREEMENT

CDW Corporation, a Delaware corporation (the “Company”), hereby grants to the individual (the “Holder”) named in the award notice attached hereto (the “Award Notice”) as of the date set forth in the Award Notice (the “Grant Date”), pursuant to the provisions of the CDW Corporation Amended and Restated 2013 Long-Term Incentive Plan (the “Plan”), a restricted stock unit award (the “Award”) with respect to the number of shares of the Company’s Common Stock, par value \$0.01 per share (“Stock”), set forth in the Award Notice, upon and subject to the restrictions, terms and conditions set forth in the Plan and this agreement (the “Agreement”). Capitalized terms not defined herein shall have the meanings specified in the Plan.

1. Award Subject to Acceptance of Agreement. The Award shall be null and void unless the Holder accepts this Agreement by executing the Award Notice in the space provided therefor and returning an original execution copy of the Award Notice to the Company (or electronically accepting this Agreement within the Holder’s stock plan account with the Company’s stock plan administrator according to the procedures then in effect).

2. Rights as a Stockholder. The Holder shall not be entitled to any privileges of ownership with respect to the shares of Stock subject to the Award unless and until, and only to the extent, such shares become vested pursuant to Section 3 hereof and the Holder becomes a stockholder of record with respect to such shares. As of each date on which the Company pays a cash dividend to record owners of shares of Stock (a “Dividend Date”), then the number of shares subject to the Award shall increase by (i) the product of the total number of shares subject to the Award immediately prior to such Dividend Date multiplied by the dollar amount of the cash dividend paid per share of Stock by the Company on such Dividend Date, divided by (ii) the Fair Market Value of a share of Stock on such Dividend Date. Any such additional shares shall be subject to the same vesting conditions and payment terms set forth herein as the shares to which they relate.

3. Restriction Period and Vesting.

3.1. Service-Based Vesting Condition. Except as otherwise provided in this Section 3, the Award shall vest in accordance with the vesting schedule set forth in the Award Notice, provided the Holder continuously serves as a Non-Employee Director through such date. The period of time prior to such vesting shall be referred to herein as the “Restriction Period.”

3.2. Termination of Service.

(a) Death or Disability. If the Holder’s service as a Non-Employee Director terminates prior to the end of the Restriction Period by reason of the Holder’s death or Disability, then in either case, the Award shall be 100% vested upon such termination of service. For purposes of this Award, “Disability” shall mean the Holder’s absence from the Holder’s duties with the Company on a full-time basis for at least 180 consecutive days as a result of the Holder’s incapacity due to physical or mental illness.

(b) Failure to Stand for Re-election. If the Holder's service as a Non-Employee Director terminates prior to the end of the Restriction Period by reason of the Holder's failure to be nominated or otherwise stand for re-election to the Board at an annual meeting of the Company that occurs during the Restriction Period, then a prorated portion of the Award shall become vested as of the date of the annual meeting on which the Holder's service on the Board ceases, determined by multiplying the number of Shares subject to the Award by a fraction, the numerator of which shall be the number of days from the Grant Date until the date on which the Holder's service on the Board ceases and the denominator of which shall be 365.

(c) Termination of Service other than due to Death or Disability or Failure to Stand for Re-Election. If the Holder's service as a Non-Employee Director terminates prior to the end of the Restriction Period or prior to the occurrence of a Change in Control for any reason other than due to death, Disability or failure to be nominated or otherwise stand for re-election to the Board, then the Award shall be immediately forfeited by the Holder and cancelled by the Company unless otherwise determined by the Board in connection with such termination.

3.3. Change in Control. Upon a Change in Control, the Restriction Period shall lapse and the Award shall become fully vested.

4. Issuance or Delivery of Shares. Subject to the terms of this Agreement and any deferral election made by the Holder pursuant to Section 5, as soon as practicable (but no later than thirty (30) days) after the vesting of the Award, the Company shall issue or deliver, subject to the conditions of this Agreement, the vested shares of Stock to the Holder. Such issuance or delivery shall be evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company. The Company shall pay all original issue or transfer taxes and all fees and expenses incident to such issuance or delivery. Prior to the issuance to the Holder of the shares of Stock subject to the Award, the Holder shall have no direct or secured claim in any specific assets of the Company or in such shares of Stock, and will have the status of a general unsecured creditor of the Company.

5. Deferral of Shares.

5.1. Initial Deferral Election. Prior to the Grant Date, the Holder may elect to defer the receipt of 100% of the shares of Stock that become vested pursuant to Section 3 until the earlier to occur of (i) the fifth (5th) anniversary of the vesting date and (ii) the date of the Holder's separation from service.

5.2. Extension of Distribution Date. The Holder may elect to extend the date on which the shares of Stock are distributed to the Holder; provided that (i) such election must be submitted to the Company in writing, in accordance with procedures prescribed by the Company, not less than 12 months before the date the shares are scheduled to be distributed, (ii) such election shall not take effect until 12 months after the date on which the election is made and (iii) the distribution date is extended until the earlier to occur of (A) the fifth (5th) anniversary of the previously scheduled distribution date and (B) the date of the Holder's separation from service.

5.3. Dividend Equivalents. Until the distribution of shares of Stock deferred pursuant to this Section 5, such shares shall continue to be credited with dividend equivalents, which shall be reinvested as additional deferred shares, in accordance with Section 2 hereof.

5.4. Section 409A. The provisions of this Agreement shall be construed and interpreted in a manner consistent with the requirements for avoiding taxes or penalties under Section

409A of the Code. If the Company determines that any amounts payable hereunder may be taxable to the Holder under Section 409A of the Code, the Company may (i) adopt such amendments to the Agreement and appropriate policies and procedures, including amendments and policies with retroactive effect, that the Company determines necessary or appropriate to preserve the intended tax treatment of the benefits provided by this Agreement and/or (ii) take such other actions as the Company determines necessary or appropriate to avoid or limit the imposition of an additional tax under Section 409A; provided, that neither the Company nor any of its Affiliates nor any other person or entity shall have any liability to the Holder with respect to the tax imposed by Section 409A of the Code.

6. Transfer Restrictions and Investment Representation.

6.1. Nontransferability of Award. The Award may not be transferred by the Holder other than by will or the laws of descent and distribution. Except to the extent permitted by the foregoing sentence, the Award may not be sold, transferred, assigned, pledged, hypothecated, encumbered or otherwise disposed of (whether by operation of law or otherwise) or be subject to execution, attachment or similar process. Upon any attempt to so sell, transfer, assign, pledge, hypothecate, encumber or otherwise dispose of the Award, the Award and all rights hereunder shall immediately become null and void.

6.2. Investment Representation. The Holder hereby covenants that (a) any sale of any share of Stock acquired upon the vesting of the Award shall be made either pursuant to an effective registration statement under the Securities Act of 1933, as amended (the "Securities Act"), and any applicable state securities laws, or pursuant to an exemption from registration under the Securities Act and such state securities laws and (b) the Holder shall comply with all regulations and requirements of any regulatory authority having control of or supervision over the issuance of the shares and, in connection therewith, shall execute any documents which the Committee shall in its sole discretion deem necessary or advisable.

7. Additional Terms and Conditions of Award.

7.1. Compliance with Applicable Law. The Award is subject to the condition that if the listing, registration or qualification of the shares of Stock subject to the Award upon any securities exchange or under any law, or the consent or approval of any governmental body, or the taking of any other action is necessary or desirable as a condition of, or in connection with, the delivery of shares hereunder, the shares of Stock subject to the Award shall not be delivered, unless such listing, registration, qualification, consent, approval or other action shall have been effected or obtained, free of any conditions not acceptable to the Company. The Company agrees to use reasonable efforts to effect or obtain any such listing, registration, qualification, consent, approval or other action.

7.2. Award Confers No Rights to Continued Service. In no event shall the granting of the Award or its acceptance by the Holder, or any provision of the Agreement, give or be deemed to give the Holder any right to continued service as a Non-Employee Director.

7.3. Decisions of Board or Committee. The Board or the Committee shall have the right to resolve all questions which may arise in connection with the Award. Any interpretation, determination or other action made or taken by the Board or the Committee regarding the Plan or this Agreement shall be final, binding and conclusive.

7.4. Successors. This Agreement shall be binding upon and inure to the benefit of any successor or successors of the Company and any person or persons who shall, upon the death of the Holder, acquire any rights hereunder in accordance with this Agreement or the Plan.

7.5. Notices. All notices, requests or other communications provided for in this Agreement shall be made, if to the Company, to CDW Corporation, Attn: General Counsel, 200 N. Milwaukee Avenue, Vernon Hills, Illinois 60061, and if to the Holder, to the last known mailing address of the Holder contained in the records of the Company. All notices, requests or other communications provided for in this Agreement shall be made in writing either (a) by personal delivery, (b) by facsimile or electronic mail with confirmation of receipt, (c) by mailing in the United States mails or (d) by express courier service. The notice, request or other communication shall be deemed to be received upon personal delivery, upon confirmation of receipt of facsimile or electronic mail transmission or upon receipt by the party entitled thereto if by United States mail or express courier service; provided, however, that if a notice, request or other communication sent to the Company is not received during regular business hours, it shall be deemed to be received on the next succeeding business day of the Company.

7.6. Governing Law. This Agreement, the Award and all determinations made and actions taken pursuant hereto and thereto, to the extent not governed by the laws of the United States, shall be governed by the laws of the State of Delaware and construed in accordance therewith without giving effect to principles of conflicts of laws.

7.7. Agreement Subject to the Plan. This Agreement is subject to the provisions of the Plan and shall be interpreted in accordance therewith. In the event that the provisions of this Agreement and the Plan conflict, the Plan shall control. The Holder hereby acknowledges receipt of a copy of the Plan.

7.8. Entire Agreement. This Agreement and the Plan constitute the entire agreement of the parties with respect to the subject matter hereof and supersede in their entirety all prior undertakings and agreements of the Company and the Holder with respect to the subject matter hereof, and may not be modified adversely to the Holder's interest except by means of a writing signed by the Company and the Holder.

7.9. Partial Invalidity. The invalidity or unenforceability of any particular provision of this Agreement shall not affect the other provisions hereof and this Agreement shall be construed in all respects as if such invalid or unenforceable provision was omitted.

7.10. Amendment and Waiver. The Company may amend the provisions of this Agreement at any time; provided that an amendment that would adversely affect the Holder's rights under this Agreement shall be subject to the written consent of the Holder. No course of conduct or failure or delay in enforcing the provisions of this Agreement shall affect the validity, binding effect or enforceability of this Agreement.

LIST OF SUBSIDIARIES

Subsidiary	Jurisdiction of Organization
CDW LLC	Illinois
CDW Finance Corporation	Delaware
CDW Technologies LLC	Wisconsin
CDW Direct, LLC	Illinois
CDW Government LLC	Illinois
CDW Logistics, Inc.	Illinois
CDW Canada Corp.	Novia Scotia
CDW NA Limited	United Kingdom
CDW International Holdings Limited	United Kingdom
CDW Finance Bidco Limited	United Kingdom
CDW Finance Holdings Limited	United Kingdom
CDW Limited	United Kingdom
CDW Finance Topco Limited	Jersey

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

- (1) Registration Statement (Form S-8 No. 333-212912) pertaining to the Amended and Restated 2013 Long-Term Incentive Plan of CDW Corporation,
- (2) Registration Statement (Form S-3 ASR No. 333-220980) of CDW Corporation,
- (3) Registration Statement (Form S-8 No. 333-189622) pertaining to the 2013 Long-Term Incentive Plan and Coworker Stock Purchase Plan of CDW Corporation;

of our reports dated February 27, 2019, with respect to the consolidated financial statements of CDW Corporation and subsidiaries and the effectiveness of internal control over financial reporting of CDW Corporation and subsidiaries included in this Annual Report (Form 10-K) for the year ended December 31, 2018.

/s/ Ernst & Young LLP
Chicago, Illinois
February 27, 2019

**CERTIFICATION PURSUANT TO RULE 13a-14(a) or 15d-14(a) UNDER
THE SECURITIES EXCHANGE ACT OF 1934**

I, Christine A. Leahy, certify that:

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

/s/ Christine A. Leahy

Christine A. Leahy
President and Chief Executive Officer
CDW Corporation
February 27, 2019

**CERTIFICATION PURSUANT TO RULE 13a-14(a) or 15d-14(a) UNDER
THE SECURITIES EXCHANGE ACT OF 1934**

I, Collin B. Kebo, certify that:

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

/s/ Collin B. Kebo

Collin B. Kebo

Senior Vice President and Chief Financial Officer

CDW Corporation

February 27, 2019

**CERTIFICATION PURSUANT TO SECTION 1350 OF CHAPTER 63
OF TITLE 18 OF THE UNITED STATES CODE**

I, Christine A. Leahy, the chief executive officer of CDW Corporation ("CDW"), certify that (i) the Annual Report on Form 10-K for the year ended December 31, 2018 (the "10-K") of CDW fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and (ii) the information contained in the 10-K fairly presents, in all material respects, the financial condition and results of operations of CDW.

/s/ Christine A. Leahy

Christine A. Leahy

President and Chief Executive Officer

CDW Corporation

February 27, 2019

**CERTIFICATION PURSUANT TO SECTION 1350 OF CHAPTER 63
OF TITLE 18 OF THE UNITED STATES CODE**

I, Collin B. Kebo, the chief financial officer of CDW Corporation ("CDW"), certify that (i) the Annual Report on Form 10-K for the year ended December 31, 2018 (the "10-K") of CDW fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and (ii) the information contained in the 10-K fairly presents, in all material respects, the financial condition and results of operations of CDW.

/s/ Collin B. Kebo

Collin B. Kebo

Senior Vice President and Chief Financial Officer

CDW Corporation

February 27, 2019