

**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 28, 2019

OR

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

For the transition period from _____ to _____

Commission File Number 001-07882

ADVANCED MICRO DEVICES, INC.
(Exact name of registrant as specified in its charter)

<p style="text-align: center;">Delaware (State or other jurisdiction of incorporation or organization) 2485 Augustine Drive Santa Clara, California (Address of principal executive offices)</p>	<p style="text-align: center;">94-1692300 (I.R.S. Employer Identification No.) 95054 (Zip Code)</p>
<p>(408) 749-4000 (Registrant's telephone number, including area code)</p>	

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

<u>(Title of each class)</u>	<u>(Trading symbol)</u>	<u>(Name of each exchange on which registered)</u>
Common Stock, \$0.01 par value per share	AMD	The 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 Exchange Act. Yes ☐ No ☒

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

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

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

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 by Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of June 29, 2019, the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was approximately \$32.8 billion based on the reported closing sale price of \$30.37 per share as reported on The NASDAQ Global Select Market (NASDAQ) on June 28, 2019, which was the last business day of the registrant's most recently completed second fiscal quarter.

Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of the latest practicable date: 1,169,661,536 shares of common stock, \$0.01 par value per share, as of January 31, 2020.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's proxy statement for the 2020 Annual Meeting of Stockholders (2020 Proxy Statement) are incorporated into Part III hereof. The 2020 Proxy Statement will be filed with the U.S. Securities and Exchange Commission within 120 days after the registrant's fiscal year ended December 28, 2019.

Advanced Micro Devices, Inc.
FORM 10-K
For The Fiscal Year Ended December 28, 2019

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PART I

ITEM 1. BUSINESS

Cautionary Statement Regarding Forward-Looking Statements

The statements in this report include forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are based on current expectations and beliefs and involve numerous risks and uncertainties that could cause actual results to differ materially from expectations. These forward-looking statements speak only as of the date hereof or as of the dates indicated in the statements and should not be relied upon as predictions of future events, as we cannot assure you that the events or circumstances reflected in these statements will be achieved or will occur. You can identify forward-looking statements by the use of forward-looking terminology including “believes,” “expects,” “may,” “will,” “should,” “seeks,” “intends,” “plans,” “pro forma,” “estimates,” “anticipates,” or the negative of these words and phrases, other variations of these words and phrases or comparable terminology. The forward-looking statements relate to, among other things: possible impact of future accounting rules on AMD’s consolidated financial statements; demand for AMD’s products; the growth, change and competitive landscape of the markets in which AMD participates; the expected amounts to be received by AMD under the IP licensing agreement and AMD’s expected royalty payments from future product sales of China JV’s products to be developed on the basis of such licensed IP; sales patterns of AMD’s PC products and semi-custom System-on-Chip (SoC) products for game consoles; international sales will continue to be a significant portion of total sales in the foreseeable future; the balance of the uncertain tax benefits in the next 12 months; that AMD’s cash, cash equivalents and marketable securities balances together with the availability under that certain revolving credit facility (Secured Revolving Facility) made available to AMD and certain of its subsidiaries under the Credit Agreement, will be sufficient to fund AMD’s operations including capital expenditures over the next 12 months; AMD’s ability to obtain sufficient external financing on favorable terms, or at all; AMD’s expectation that based on the information presently known to management, the potential liability related to AMD’s current litigation will not have a material adverse effect on its financial condition, cash flows or results of operations; any amounts in addition to what has been already accrued by AMD for future remediation costs under clean-up orders will not be material; we expect to file future patent applications in both the United States and abroad on significant inventions as we deem appropriate; anticipated ongoing and increased in costs related to enhancing and implementing information security controls; revenue allocated to remaining performance obligations that are unsatisfied which will be recognized over the next 12 months; all unbilled accounts receivables are expected to be billed and collected within 12 months; and a small number of customers will continue to account for a substantial part of AMD’s revenue in the future. For a discussion of the factors that could cause actual results to differ materially from the forward-looking statements, see “Part I, Item 1A-Risk Factors” and the “Financial Condition” section set forth in “Part II, Item 7-Management’s Discussion and Analysis of Financial Condition and Results of Operations,” or MD&A, and such other risks and uncertainties as set forth below in this report or detailed in our other Securities and Exchange Commission (SEC) reports and filings. We assume no obligation to update forward-looking statements.

General

We are a global semiconductor company primarily offering:

- x86 microprocessors, as standalone devices or as incorporated into an accelerated processing unit (APU), chipsets, discrete and integrated graphics processing units (GPUs), data center and professional GPUs, and development services; and
- server and embedded processors, semi-custom System-on-Chip (SoC) products, development services and technology for game consoles.

We also license portions of our intellectual property (IP) portfolio.

For financial information about geographic areas and for segment information with respect to revenues and operating results, refer to the information set forth in Note 15 of our consolidated financial statements.

We use a 52 or 53 week fiscal year ending on the last Saturday in December. References in this report to 2019, 2018 and 2017 refer to the fiscal year unless explicitly stated otherwise.

Additional Information

Advanced Micro Devices, Inc. (AMD) was incorporated under the laws of Delaware on May 1, 1969 and became a publicly held company in 1972. Our common stock is currently listed on The NASDAQ Global Select Market (NASDAQ) under the symbol “AMD”. Our mailing address and executive offices are located at 2485 Augustine Drive, Santa Clara, California 95054, and our telephone number is (408) 749-4000. The SEC’s website, www.sec.gov, contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC.

References in this Annual Report on Form 10-K to “AMD,” “we,” “us,” “management,” “our” or the “Company” mean Advanced Micro Devices, Inc. and our consolidated subsidiaries.

AMD, the AMD Arrow logo, Athlon, EPYC, FirePro, FreeSync, Geode, Opteron, Radeon, Ryzen, Threadripper, Infinity Fabric, and combinations thereof are trademarks of Advanced Micro Devices, Inc.

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Other names are for informational purposes only and are used to identify companies and products and may be trademarks of their respective owners.

Website Access to Our SEC Filings and Corporate Governance Documents

On the Investor Relations pages of our Website, <http://ir.amd.com>, we post links to our filings with the SEC, our Principles of Corporate Governance, our Code of Ethics for our executive officers, all other senior finance executives and certain representatives from legal and internal audit, our Worldwide Standards of Business Conduct, which applies to our Board of Directors and all of our employees, and the charters of the Audit and Finance, Compensation and Leadership Resources, Nominating and Corporate Governance and Innovation and Technology committees of our Board of Directors. Our filings with the SEC are posted as soon as reasonably practical after they are electronically filed with, or furnished to, the SEC. You can also obtain copies of these documents by writing to us at: Corporate Secretary, AMD, 7171 Southwest Parkway, M/S B100.T, Austin, Texas 78735, or emailing us at: Corporate.Secretary@amd.com. All of these documents and filings are available free of charge.

If we make substantive amendments to our Code of Ethics or grant any waiver, including any implicit waiver, to our principal executive officer, principal financial officer, principal accounting officer, controller or persons performing similar functions, we intend to disclose the nature of such amendment or waiver on our Website.

The information contained on our Website is not incorporated by reference in, or considered to be a part of, this report.

Our Industry

We are a global semiconductor company. Semiconductors are components used in a variety of electronic products and systems. An integrated circuit (IC) is a semiconductor device that consists of many interconnected transistors on a single chip. Since the invention of the transistor in 1948, improvements in IC process and design technologies have led to the development of smaller, more complex and more reliable ICs at a lower cost-per-function.

Computing and Graphics

Computing and Graphics Markets

Central Processing Unit (CPU). A microprocessor is an IC that serves as the CPU of a computer. It generally consists of hundreds of millions or billions of transistors that process data in a serial fashion and control other devices in the system, acting as the “brain” of the computer. The performance of a microprocessor is a critical factor impacting the performance of computing and entertainment platforms, such as desktop PCs, notebooks and workstations. The principal elements used to measure CPU performance are work-per-cycle (or how many instructions are executed per cycle), clock speed (representing the rate at which a CPU’s internal logic operates, measured in units of gigahertz, or billions of cycles per second) and power consumption. Other factors impacting microprocessor performance include the process technology used in its manufacture, the number and type of cores, the ability of the cores to process multi-thread or process multiple

instructions simultaneously, the bit size of its instruction set, memory size and data access speed.

Developments in IC design and manufacturing process technologies have resulted in significant advances in microprocessor performance. Since businesses and consumers require greater performance from their computer systems due to the growth of digital data and increasingly sophisticated software applications, multi-core microprocessors offer enhanced overall system performance and efficiency because computing tasks can be spread across two or more processing cores, each of which can execute a task at full speed. Multi-core microprocessors can simultaneously increase performance of a computer system without greatly increasing the total amount of power consumed and the total amount of heat emitted. Businesses and consumers also require computer systems with improved power management technology, which helps them to reduce the power consumption of their computer systems, enables smaller and more portable form factors, and can lower the total cost of ownership.

Graphics Processing Unit (GPU). A GPU is a programmable logic chip that helps render images, animations and video and is increasingly being used to handle general computing tasks. GPUs are located in plug-in cards, as a discrete processor or in a chip on the motherboard, or in the same chip as the CPU as part of an accelerated processing unit (APU) or System-on-Chip (SoC). GPUs on stand-alone cards or discrete GPUs on the motherboard typically access their own memory, while GPUs in the chipset or CPU chip share main memory with the CPU.

GPUs perform parallel operations on data to render images for a video display and are essential to presenting computer generated images on that display, decoding and rendering animations and displaying video. The more sophisticated the GPU, the higher the resolution and the faster and smoother moving objects can be displayed on video display or in a virtual environment (e.g. virtual reality (VR) and augmented reality (AR)).

In addition to graphics processing, GPUs are used to perform parallel operations on multiple sets of data and are increasingly used to perform vector processing for non-graphics applications that require repetitive computations such as supercomputing, deep learning, artificial and machine intelligence, blockchain and various other applications (e.g., cryptocurrency mining and autonomous driving).

Accelerated Processing Unit (APU). Consumers increasingly demand computing devices with improved end-user experience, system performance and energy efficiency. Consumers also continue to demand thinner and lighter mobile devices, with better performance and longer battery life. We believe that a computing architecture that optimizes the use of its components can provide these improvements.

An APU is a processing unit that integrates a CPU and a GPU onto one chip (or one piece of silicon), along with, in some cases, other special-purpose components. This integration enhances system performance by “offloading” selected tasks to the best-suited component (i.e., the CPU or the GPU) to optimize component use, increasing the speed of data flow between the CPU and GPU through shared memory and allowing the GPU to function as both a graphics engine and an application accelerator. Having the CPU and GPU on the same chip also typically improves energy efficiency by, for example, eliminating connections between discrete chips.

System-on-Chip (SoC). An SoC is a type of IC with a CPU, GPU and other components, such as a memory controller and peripheral management, comprising a complete computing system on a single chip. By combining all of these elements as an SoC, system performance and energy efficiency is improved, similar to an APU.

Chipset. A chipset is a generic term referring to a device or a collection of devices that allow the microprocessor to connect to a wider range of peripheral devices in the system (such as storage, optical drives, and Universal Serial Bus (USB) peripherals). Chipsets can perform essential logic functions, and operate in concert with the microprocessor to manage system control and power management functions of all the devices in the system. Chipsets are most often found in larger form factor systems, typically desktop systems or larger notebook platforms, which require the expanded peripheral selection that is enabled by the chipset. Typical notebook platforms and small form factor desktop platforms typically do not utilize a chipset and instead rely on the capabilities of the APU to connect to all the required devices on the platform.

Our Computing and Graphics Products

Our microprocessors are incorporated into computing platforms, which are a collection of technologies that are designed to work together to provide a more complete computing solution and to enable and advance the computing components. We believe that integrated, balanced computing platforms consisting of microprocessors, chipsets (either as discrete devices or integrated into an SoC) and GPUs (either as discrete GPUs or integrated into an APU or SoC) that work together at the system level bring end users improved system stability, increased performance and enhanced power efficiency. In addition, we believe our customers also benefit from an all-AMD platform (consisting of an APU or CPU, a discrete GPU, and a chipset when needed), as we are able to optimize interoperability, provide our customers a single point of contact for the

key platform components and enable them to bring the platforms to market quickly in a variety of PC and server system form factors.

We currently base our microprocessors and chipsets on the x86 instruction set architecture and the AMD Infinity Fabric, which connects an on-chip memory controller and input/output (I/O) channels directly to one or more microprocessor cores. We typically integrate two or more processor cores onto a single die, and each core has its own dedicated cache, which is memory that is located on the semiconductor die, permitting quick access to frequently used data and instructions. Some of our microprocessors have additional levels of cache such as L2, or second-level cache, and L3, or third-level cache, to enable fast data access and high performance.

We focus on continually improving the energy efficiency of our products through our design principles and innovations in power management technology. To that end, we offer CPUs, GPUs, APUs, SoCs and chipsets with multiple low power states that are designed to utilize lower clock speeds and voltages to reduce processor power consumption during active and idle times. The use of intelligent, dynamic power management is designed to create lower energy use by allowing compute applications to be completed quickly and efficiently, enabling a return to the ultra-low power idle state.

Desktop. In May 2019, we introduced the 3rd Gen AMD Ryzen™ desktop processor family based on the new “Zen 2” core architecture with AMD chiplet design approach. Following that introduction, we announced in November 2019 the global availability of the flagship product in our AM4 mainstream platform infrastructure, the AMD Ryzen™ 9 3950X. This product enables a high core count with 16 cores and 32 threads designed for PC buyers. At the value end of the mainstream AM4 platform portfolio, we also announced the new AMD Athlon™ 3000G processor offering better performance and value for end users building budget oriented desktop platforms. In addition to the mainstream product family, we introduced the next generation of the Ryzen™ Threadripper™ product line built on the new TRX40 platform to serve the needs of the high-end desktop segment for creators and enthusiasts. Our November 2019 introduction included the 24-core AMD Ryzen™ Threadripper™ 3960X and the 32-core AMD Ryzen™ Threadripper™ 3970X processors. In January 2020, we announced a processor for creative professionals, the 64-core, 128-thread AMD Ryzen™ Threadripper™ 3990X built to enable extreme performance for 3D, visual effects, and video professionals.

Notebooks and 2-in-1s. We continue to invest in designing and developing high performing and low power APUs for notebook PC platforms for the consumer and commercial markets. In January 2019, we announced our mobility line-up encompassing all notebook segments: second generation AMD Ryzen™ 3000 Series Mobile Processors, powering ultrathin, commercial and gaming notebooks; AMD Athlon™ 300 Series Mobile Processors, powering mainstream notebooks with the “Zen” core; and optimized seventh generation A-Series processors, elevating performance for mainstream Chromebooks™ notebook computers. In January 2020, we announced our x86 8-core ultrathin laptop processors, the AMD Ryzen™ 4000 U-Series, as part of the AMD Ryzen™ 4000 Series Mobile Processor family, built on “Zen 2” core architecture with 7nm process technology and high performance Radeon™ graphics in an SOC design. In addition, as part of the AMD Ryzen 4000 Series Mobile Processor family, we announced the Ryzen™ 4000 H-Series Mobile Processors for gaming and content creation. These processors support AMD SmartShift technology, which allows for automatic power shifting with AMD Radeon discrete mobile GPUs to enable new levels of performance in thin notebooks. We also announced the AMD Athlon™ 3000 Series Mobile Processor family powered by “Zen” architecture for mainstream notebook users.

Commercial. We offer enterprise-class desktop and notebook PC solutions sold as AMD PRO Mobile and AMD PRO desktop processors with Radeon™ Vega Graphics for the commercial client market. These solutions are designed to provide enterprise customers with the performance, security and business features such as commercial-grade quality, platform longevity and extended image stability they require. In April 2019, we announced the 2nd Gen AMD Ryzen™ PRO mobile processors with Radeon Vega Graphics and the AMD Athlon™ PRO mobile processors with Radeon Vega Graphics. These processors provide power-efficient performance, security features and commercial-grade reliability and manageability. In September 2019, we expanded our commercial desktop lineup with the global availability of our new AMD Ryzen™ PRO 3000 Series desktop processors: AMD Ryzen™ 9 PRO 3900, AMD Ryzen™ 7 PRO 3700, and AMD Ryzen™ 5 PRO 3600. The processors offer up to 12 cores and 24 threads and bring the computing performance of “Zen 2” and high core count to the commercial segment.

Chipsets. We offer a full suite of chipset products, including the new X570 chipset introduced in July 2019 which supports PCIe® 4.0 (fourth generation Peripheral Component Interconnect Express motherboard interface) designed for enthusiast desktop platforms. In addition, we also offer the B450 and the A320 chipset that are combined with AMD Ryzen processors for the AM4 desktop platform for the performance and affordable mainstream platforms segments. We also have the A300 chipsets designed for small form factors. In the High-End Desktop (HEDT) segment, we introduced the new TRX40 chipset to support the 3rd generation Ryzen Threadripper platform which offers high speed I/O and platform bandwidth. For the 1st and 2nd generation Threadripper families, we continue to offer the X399 chipset. We also continue to offer AMD 9-Series chipsets for the Socket AM3/3+ platforms serving desktop PCs, and AMD A-Series Controller Hubs

for the Socket FM2/2+ platforms. We also offer AMD 785E, 780E, 780M, 690E, SR5690, SP5100, SB600, SB710, SB850 and M690E chipsets and AMD A-Series Controller Hubs for our embedded products.

Graphics Market

The semiconductor graphics market addresses the need for improved visual and data processing in various computing devices. Many consumers value a rich visual experience to enable a more compelling and immersive experience, and, for these consumers, the PC has evolved from a traditional data processing and communications device to an entertainment platform. As a result, visual realism and graphical display capabilities are key product differentiation elements among computing devices. This has led to increasing creation and use of processing-intensive multimedia content for computing devices, including playing games, capturing media content, viewing online videos, editing photos and managing digital content. In turn, these trends have contributed to higher consumer demand for performance graphics solutions and to manufacturers designing computing devices with these capabilities. Industries that utilize computer assisted design (CAD), that develop content for media and entertainment markets and that generate professional visualizations and renderings can benefit greatly from graphics solutions optimized for the professional graphics market.

In addition to traditional graphics markets, there is a large and growing market for accelerated computing, powered by graphics processors, which is primarily made up of high-performance computing and machine learning/deep learning. Traditional high performance computing focuses on scientific research, model simulation, and exploration which is mainly driven by a need for computing throughput in universities and government research centers. The second market is the rapidly growing area of machine learning and deep learning workloads. Graphics processors are used both in the training of machine learning models as well as the application of models via inference. The expansion of compute workloads on graphics processors is driving market expansion for traditional graphics silicon.

Another area of the market for graphics compute is blockchain technology, which is a decentralized digital ledger used to securely store, transmit and process sensitive and valuable data. Blockchain applications are typically performed using specifically designed application-specific integrated circuits (ASICs) or a general purpose CPU or GPU.

Our Graphics Products

Graphics processing is a fundamental component of almost everything we create and can be found in an APU, GPU, SoC or a combination of a discrete GPU with one of the other foregoing products working in tandem. Our customers generally use our graphics solutions to enable or increase the speed of rendering images, to help improve image resolution and color definition, and increasingly to process massive data sets for cloud and data center applications. We develop our graphics products for use in various computing devices and entertainment platforms, including desktop PCs, notebook PCs, 2-in-1s, All-in-Ones (AIOs), professional workstations, and the data center. With each of our graphics products, we have available drivers and supporting software packages that enable the effective use of these products under a variety of operating systems and applications.

Our APUs deliver visual processing functionality for value and mainstream PCs by integrating a CPU and a GPU on a single chip, while discrete GPUs (which are also known as dGPUs) offer high performance graphics processing across all platforms. AMD Accelerated Parallel Processing or General Purpose GPU (GPGPU) refers to a set of advanced hardware and software technologies that enable discrete AMD GPUs, working in concert with the CPU, to accelerate computational tasks beyond traditional CPU processing by utilizing the vast number of discrete GPU cores while working with the CPU to process information cooperatively. In addition, computing devices with heterogeneous computing features can run computationally-intensive tasks more efficiently, which we believe provides a superior application experience to the end user. Moreover, heterogeneous computing allows for the elevation of the GPU to the same level as the CPU for memory access, queuing and execution.

Discrete Desktop and Notebook Graphics. Our discrete GPUs for desktop and notebook PCs support current generation application program interface (APIs) like DirectX® 12 and Vulkan®, support new displays using Radeon™ FreeSync™ and Radeon™ FreeSync 2 HDR™ technologies, and are designed to support VR in PC platforms. In January 2019, we introduced the AMD Radeon™ VII, a premium graphics card for gamers, creators and enthusiasts built on 7nm process technology and with 16GB of HBM2 memory (High Bandwidth Memory) and 1 TB/s memory bandwidth. In May 2019, we announced the RDNA gaming architecture which is designed to deliver better performance, power and memory efficiency. In July 2019, we announced the availability of the 7nm AMD Radeon™ RX 5700-series gaming graphics card family (AMD Radeon™ RX 5700 XT and RX 5700) featuring AMD RDNA architecture, high-speed GDDR6 (Graphics Double Data Rate type 6) memory and support for the PCIe 4.0 interface. In October 2019, we announced the AMD Radeon™ RX 5500 series that includes the Radeon RX 5500 graphics card that will be available in desktop PCs from manufacturers and graphics cards from board partners as well as the Radeon™ 5500M GPU for notebook PCs. In December 2019, we announced AMD

Radeon™ RX 5500 XT graphics card that is optimized to deliver high performance. In January 2020, we introduced AMD Radeon™ RX 5600 series graphics products, which includes the AMD Radeon™ RX 5600 XT graphics card and the AMD Radeon RX 5600 graphics card, with AMD RDNA architecture and software feature to provide high-performance and high-fidelity experiences for 1080p gamers.

Professional Graphics. Our AMD Radeon™ Pro family of professional graphics products includes multi-view graphics cards and GPUs designed for integration in mobile and desktop workstations. AMD Radeon Pro graphics cards are designed for demanding use cases such as design and manufacturing for CAD, and media and entertainment for broadcast and animation pipelines. AMD Radeon Pro supports end users utilizing GPU accelerated visualization for construction, architecture and mechanical design through gaming and visualization engines on high resolution displays; Radeon VR™ Creator cards are also capable of supporting this functionality with VR and AR. Software drivers for AMD Radeon Pro cards are designed to deliver high stability and performance across a wide variety of software packages including those requiring professional software vendor certifications. In June 2019, we announced the AMD Radeon™ Pro Vega II GPUs which utilizes 7nm AMD Radeon™ Vega family GPUs, HBM2 and AMD Infinity Fabric Link GPU interconnect technology designed to power demanding professional applications. In November 2019, we announced the AMD Radeon™ Pro W5700, a 7nm professional PC workstation graphics card that enables 3D designers, architects and engineers to visualize, review and interact with their designs in real time to accelerate decision-making processes and product development cycles.

Data Center Graphics. Our AMD Radeon Instinct™ family of GPU products are specifically designed to address growing demand for data center applications, including deep learning training and traditional high performance computing (HPC) workloads such as simulation where the compute capabilities of GPUs provide exceptional flexibility and performance. Combined with our open-source software, Radeon™ Open eCcosystem (ROCm), our customers can deliver a differentiated acceleration platforms to address the next-generation of computing challenges while minimizing power and space needs in the data center.

In March 2019, Google announced its new Stadia™ cloud gaming service using high-performance, custom AMD Radeon data center GPUs. In May 2019, the US Department of Energy announced the Frontier exascale A+A (AMD CPUs plus AMD GPUs) system with Oakridge National Labs (ORNL). In August 2019, Microsoft announced its new NVv4-series cloud offering of Azure Virtual Machines based on Radeon Instinct™ MI25 GPUs. And in November 2019, we released ROCm 3.0, marking a major milestone in the path to Exascale class systems and platforms.

Enterprise, Embedded and Semi-Custom

The Enterprise, Embedded and Semi-Custom Markets

Server. A server is a computer system that performs services for connected customers as part of a client-server architecture. Many servers are designed to run an application or applications often for extended periods of time with minimal human intervention. Examples of servers include cloud, web, e-mail, print and on-premise servers. These servers can run a variety of applications, including business intelligence, enterprise resource planning, customer relationship management and advanced scientific or engineering models to solve advanced computational problems in disciplines ranging from financial modeling to weather forecasting to oil and gas exploration. Servers are also used in cloud computing, which is a computing model where data, applications and services are delivered over the internet or an intranet which can be rapidly provisioned and released with minimal effort. Today's data centers require new technologies and configuration models to meet the demand driven by the growing amount of data that needs to be stored, accessed, analyzed and managed. Servers must be efficient, scalable and adaptable to meet the compute characteristics of new and changing workloads.

Embedded. Embedded products address computing needs in casino gaming machines as well as enterprise-class telecommunications, networking, security, storage systems and thin clients (which are computers that serve as an access device on a network), and in PC-adjacent markets, such as industrial control and automation, digital signage, point-of-sale/self-service kiosks, and medical imaging. Typically, AMD embedded products are used in applications that require high to moderate levels of performance, where key features may include relatively low power, small form factor, and 24x7 operations®. High-performance graphics are increasingly important in many embedded systems. Support for Linux®, Windows® and other operating systems as well as for increasingly sophisticated applications are also critical for some customers. Other requirements may include meeting rigid specifications for industrial temperatures, shock, vibration and reliability. The embedded market has moved from developing proprietary, custom designs to leveraging industry-standard instruction set architectures and processors as a way to help reduce costs and speed time to market.

Semi-Custom. We have leveraged our core IP, including our graphics and processing technologies developed for the gaming, VR, AR and machine intelligence markets, to develop semi-custom solutions for customers who want differentiation in their products. In this market, semiconductor suppliers work alongside system designers and manufacturers to enhance the performance and overall user experience for semi-custom customers. AMD has used this type of collaborative co-

development approach with many of today's leading game console manufacturers and can also address customer needs in many other markets beyond game consoles. AMD leverages our existing IP to create a variety of products tailored to a specific customer's needs, ranging from complex fully-customized SoCs to more modest adaptations and integrations of existing CPU, APU or GPU products.

Our Enterprise, Embedded and Semi-Custom Products

Server Processors. Our microprocessors for server platforms currently include the AMD EPYC™ Series processors and AMD Opteron™ X and A-Series processors. The AMD EPYC™ 7001 Series of high performance processors have up to 32 “Zen” compute cores and are designed to support a full range of integer, floating point, memory bandwidth and I/O benchmarks and workloads. The AMD Opteron™ X3000 Series APUs are a family of fully integrated CPU, GPU and I/O designed to provide processing and graphics performance for personal and small business needs. In August 2019, we introduced the 2nd Gen AMD EPYC family of processors that feature up to 64 “Zen 2” cores in 7nm process technology for performance and are designed to reduce total cost of ownership (TOC) by up to 50%. In September 2019, we announced a new addition to the 2nd Gen AMD EPYC family, the AMD EPYC™ 7H12 processor. The 64 core, 2.6Ghz base frequency, 3.3Ghz max boost frequency, 280W TDP processor is built for HPC customers and workloads.

Embedded Processors. Our embedded processors are increasingly driving intelligence into new areas of our lives, like interactive digital signage, casino gaming, and medical imaging devices. These products are designed to support greater connectivity and productivity, and we believe they can be a strong driver for the “internet of things” and “immersive computing” areas in the computing industry. Our products for embedded platforms include AMD Embedded V-Series APUs, CPUs and SoCs, AMD Embedded R-Series APUs, CPUs and SoCs, AMD Embedded G-Series SoC platform and AMD Embedded Radeon GPUs. In April 2019, we announced the AMD Ryzen™ Embedded R1000 Series of processors and the AMD EPYC™ Embedded 3000 Series of processors. The AMD Ryzen™ Embedded R1000 Series provides customers with dual core, quad-threaded performance as well as the ability to run fanless, low power solutions for 4K displays for applications in digital displays, high-performance edge computing, networking, thin clients and more. The AMD EPYC Embedded 3000 Series of processors addresses new markets including, networking, storage and edge computing devices.

Semi-Custom. Our semi-custom products are tailored, co-developed, high-performance, customer-specific solutions based on AMD CPU, GPU and multi-media technologies. We work closely together with our customers to define solutions to precisely match the requirements of the device or application. Historically we have leveraged our core graphics processing technology into the game console market by licensing our graphic technology in game consoles. We developed the semi-custom SoC products that power the current generation Sony PlayStation® 4 and PlayStation® 4 Pro and Microsoft® Xbox One™ and Xbox One S™ and Xbox One X™ game consoles. In April 2019, Sony Interactive Entertainment, Inc. released details about its next-generation game console, which will be powered by a custom AMD chip based on the “Zen 2” CPU and next generation GPU architectures. Microsoft announced in June 2019, that AMD will power its next generation game console, codenamed Project Scarlett, with a custom, high performance SoC combining the AMD Ryzen “Zen 2” CPU core 4 and a next generation GPU based on the Radeon RDNA gaming architecture.

Marketing and Sales

We sell our products through our direct sales force and through independent distributors and sales representatives in both domestic and international markets. Our sales arrangements generally operate on the basis of product forecasts provided by the particular customer, but do not typically include any commitment or requirement for minimum product purchases. We primarily use purchase orders, sales order acknowledgments and contractual agreements as evidence of our sales arrangements. Our agreements typically contain standard terms and conditions covering matters such as payment terms, warranties and indemnities for issues specific to our products.

We generally warrant that our products sold to our customers will conform to our approved specifications and be free from defects in material and workmanship under normal use and conditions for one year. We offer up to three-year limited warranties for certain product types, and sometimes provide other warranty periods based on negotiated terms with certain customers.

We market and sell our latest products under the AMD trademark. Our desktop PC product brands for microprocessors are AMD Ryzen™, AMD Ryzen™ PRO, Ryzen™ Threadripper™, AMD A-Series, AMD FX™, AMD Athlon™, AMD Athlon™ PRO, and AMD Pro A-Series processors. Our notebook and 2-in-1s for microprocessors are AMD Ryzen™ processors with Radeon™ Vega Graphics, AMD A-Series, AMD Athlon, AMD Ryzen PRO with Radeon Vega Graphics, AMD Athlon™ PRO with Radeon Vega Graphics and AMD Pro A-Series processors. Our server brands for microprocessors are AMD EPYC™ and AMD Opteron™ processors. We also sell low-power versions of our AMD Opteron, AMD Athlon, as well as AMD Geode™, AMD Ryzen, AMD EPYC, AMD R-Series and G-Series processors as embedded processor solutions. Our product brand for the consumer graphics market is AMD Radeon graphics, and AMD Embedded Radeon

graphics is our product brand for the embedded graphics market. Our product brand for professional graphics products are AMD Radeon Pro AMD FirePro™ graphics; our product brand for data center graphics is Radeon Instinct™ accelerators for servers. We also market and sell our chipsets under AMD trademarks.

We market our products through direct marketing and co-marketing programs. In addition, we have cooperative advertising and marketing programs with customers and third parties, including market development programs, pursuant to which we may provide product information, training, marketing materials and funds. Under our co-marketing development programs, eligible customers can use market development funds as reimbursement for advertisements and marketing programs related to our products and third-party systems integrating our products, subject to meeting defined criteria.

Customers

Our microprocessor customers consist primarily of original equipment manufacturers (OEMs), large direct data centers, original design manufacturers (ODMs), system integrators and independent distributors in both domestic and international markets. ODMs provide design and/or manufacturing services to branded and unbranded private label resellers, OEMs and system builders. Customers of our microprocessor products also include online retailers. Our graphics product customers include the foregoing as well as add-in-board manufacturers (AIBs). Large direct data centers consist of cloud service providers.

Customers of our chipset products consist primarily of PC OEMs, often through ODMs or other contract manufacturers, who build the OEM motherboards, as well as desktop and server motherboard manufacturers who incorporate chipsets into their channel motherboards.

We work closely with our customers to define product features, performance and timing of new products so that the products we are developing meet our customers' needs. We also employ application engineers to assist our customers in designing, testing and qualifying system designs that incorporate our products. We believe that our commitment to customer service and design support improves our customers' time-to-market and fosters relationships that encourage customers to use the next generation of our products.

We also work with our customers to create differentiated products that leverage our CPU, GPU and APU technology. Certain customers pay us non-recurring engineering fees for design and development services and a purchase price for the resulting products.

Our major customer, Sony Interactive Entertainment LLC, accounted for more than 10% of our consolidated net revenue for the year ended December 28, 2019. Sales to Sony Interactive Entertainment LLC consisted of products from our Enterprise, Embedded and Semi-Custom segment. A loss of this customer would have a material adverse effect on our business.

Original Equipment Manufacturers

We focus on three types of OEM partners: multi-nationals, selected regional accounts and some local system integrators, who target commercial and consumer end customers of all sizes. Large multi-nationals and regional accounts are the core of our OEM partners. Our OEM customers include numerous foreign and domestic manufacturers of servers and workstations, desktops, notebooks, PC motherboards and game consoles.

Third-Party Distributors

Our authorized channel distributors resell to sub-distributors and mid-sized and smaller OEMs and ODMs. Typically, distributors handle a wide variety of products, and may include those that compete with our products. Distributors typically maintain an inventory of our products. In most instances, our agreements with distributors protect their inventory of our products against price reductions and provide return rights with respect to any product that we have removed from our price book that is not more than 12 months older than the manufacturing code date. In addition, some agreements with our distributors may contain standard stock rotation provisions permitting limited levels of product returns.

Add-in-Board (AIB) Manufacturers and System Integrators

We offer component-level graphics and chipset products to AIB manufacturers who in turn build and sell board-level products using our technology to system integrators (SIs), retail buyers and sub distributors. Our agreements with AIBs protect their inventory of our products against price reductions. We also sell directly to our SI customers. SIs typically sell from positions of regional or product-based strength in the market. They usually operate on short design cycles and can respond quickly with new technologies. SIs often use discrete graphics solutions as a means to differentiate their products and add value to their customers.

Competition in the Microprocessor and Chipset Market

Intel Corporation has been the market share leader for microprocessors for many years. Intel's market share, margins and significant financial resources enable it to market its products aggressively, to target our customers and our channel partners with special incentives and to influence customers who do business with us. These aggressive activities have in the past resulted in lower unit sales and a lower average selling price for many of our products and adversely affected our margins and profitability.

Intel exerts substantial influence over computer manufacturers and their channels of distribution through various brand and other marketing programs. As a result of Intel's position in the microprocessor market, Intel has been able to control x86 microprocessor and computer system standards and benchmarks and to dictate the type of products the microprocessor market requires of us. Intel also dominates the computer system platform, which includes core logic chipsets, graphics chips, networking devices (wired and wireless), non-volatile storage and other components necessary to assemble a computer system. OEMs that purchase microprocessors for computer systems are highly dependent on Intel, which can make them less innovative on their own and, to a large extent, can become distributors of Intel technology. Additionally, Intel is able to drive de facto standards and specifications for x86 microprocessors that could cause us and other companies to have delayed access to such standards.

As long as Intel remains in this dominant position, we may be materially adversely affected by Intel's: business practices, including rebating and allocation strategies and pricing actions which may limit our market share and margins; product mix and introduction schedules; product bundling, marketing and merchandising strategies; exclusivity payments to its current and potential customers, retailers and channel partners that require or result in exclusive product arrangements; de facto control over industry standards, and heavy influence on PC manufacturers and other PC industry participants, including motherboard, memory, chipset and basic input/output system (BIOS) suppliers and software companies as well as the graphics interface for Intel platforms; and marketing and advertising expenditures in support of positioning the Intel brand over the brand of its OEM customers and retailers.

Intel has substantially greater financial resources than we do and accordingly spends substantially greater amounts on marketing and research and development than we do. We expect Intel to continue to invest heavily in marketing, research and development, new manufacturing facilities and other technology companies.

Intel could take actions that place our discrete GPUs at a competitive disadvantage, including giving one or more of our competitors in the graphics market, such as Nvidia Corporation, preferential access to its proprietary graphics interface or other useful information. Also, Intel has announced that it is developing their own high-end discrete GPUs. Intel's position in the microprocessor market and integrated graphics chipset market, its introduction of competitive new products, its existing relationships with top-tier OEMs and its aggressive marketing and pricing strategies could result in lower unit sales and lower average selling prices for our products, which could have a material adverse effect on us.

Other competitors include a variety of companies providing or developing ARM-based designs at relatively low cost and low power processors for the computing market including tablets and thin-client form factors, as well as dense servers, set-top boxes and gaming consoles. ARM Holdings designs and licenses its ARM cores and architecture to third parties, including us, and offers supporting software and services. Our ability to compete with companies who use ARM-based solutions depends on our ability to timely design and bring to market energy-efficient, high-performing products at an attractive price point.

Competition in the Graphics Markets

In the graphics market, our competitors include suppliers of discrete graphics, embedded graphics processors and integrated graphics processor (IGP) chipsets. Intel manufactures and sells embedded graphics processors and IGP chipsets, and is a dominant competitor with respect to this portion of our business. Higher unit shipments of our APUs and Intel's integrated graphics may drive computer manufacturers to reduce the number of systems they build paired with discrete graphics components, particularly for notebooks, because they may offer satisfactory graphics performance for most mainstream PC users, at a lower cost. Intel could take actions that place our discrete GPUs and IGP chipsets at a competitive disadvantage such as giving one or more of our competitors in the graphics market, such as Nvidia Corporation, preferential access to its proprietary graphics interface or other useful information. Also, Intel is developing its own high-end discrete GPUs for both consumer and commercial applications.

Our principal competitor in the discrete graphics market is Nvidia and they are considered the market share leader. Other competitors include a number of smaller companies, which may have greater flexibility to address specific market needs, but less financial resources to do so, especially as we believe that the growing complexity of graphics processors and the associated research and development costs represent an increasingly higher barrier to entry in this market.

In the data center, our principal competitor is Nvidia as the adoption of their proprietary CUDA software platform established their market share in high performance computing and machine learning. Other competitors include numerous deep learning accelerator companies, consisting mostly of early to late stage start-ups.

We are the market share leader in semi-custom game console products, where graphics performance is critical, and where we compete primarily against Nvidia.

Competition in the Server Markets

In the server market, we compete against Intel with our CPU server products and Nvidia with our GPU server products.

Research and Development

We focus our research and development activities on improving product performance and enhancing product design. Our main area of focus is on delivering the next generation of CPU and GPU IP, and designing that IP into our SoCs for our next generation of products, with, in each case, improved system performance and performance-per-watt characteristics. For example, we are focusing on improving the battery life of our APU products for notebooks and the performance and power efficiency of our discrete GPUs and our microprocessors for servers. We are also focusing on delivering a range of low-power integrated platforms to serve key markets, including commercial clients, mobile computing and gaming. We believe that these platforms will bring customers increased performance and energy efficiency. We also work with industry leaders on process technology, software and other functional intellectual property and with others in the industry and industry consortia to conduct early stage research and development. We conduct product and system research and development activities for our products in the United States with additional design and development engineering teams located in Canada, China, India, Taiwan and Singapore who undertake specific activities at the direction of our U.S. headquarters.

Manufacturing Arrangements and Assembly and Test Facilities

Third-Party Wafer Foundry Facilities

GLOBALFOUNDRIES Inc. We are a party to a Wafer Supply Agreement (WSA) with GLOBALFOUNDRIES Inc. (GF), which governs the terms by which we purchase products manufactured by GF. Pursuant to the WSA, we are required to purchase all of our microprocessor and APU product requirements, and a certain portion of our GPU products, from GF manufactured at process nodes larger than 7 nm, with limited exceptions. GF was a related party to us until May 15, 2019.

Taiwan Semiconductor Manufacturing Company. We also have foundry arrangements with Taiwan Semiconductor Manufacturing Company (TSMC) for the production of wafers for certain products.

Other Third-Party Manufacturers. We outsource board-level graphics product manufacturing to third-party manufacturers.

Assembly, Test, Mark and Packaging Facilities

Wafers for our products are delivered from third-party foundries to our assembly, test, mark and packaging partners located in the Asia-Pacific region who package and test our final semiconductor products. We are party to two assembly, test, mark and pack (ATMP) joint ventures (collectively, the ATMP JVs) with Tongfu Microelectronics Co., Ltd. The majority of our ATMP services are provided by the ATMP JVs.

Intellectual Property and Licensing

We rely on contracts and intellectual property rights to protect our products and technologies from unauthorized third-party copying and use. Intellectual property rights include copyrights, patents, patent applications, trademarks, trade secrets and mask work rights. As of December 28, 2019, we had approximately 4,000 patents in the United States and approximately 900 patent applications pending in the United States. In certain cases, we have filed corresponding applications in foreign jurisdictions. Including United States and foreign matters, we have approximately 9,900 patent matters worldwide consisting of approximately 7,200 issued patents and 2,800 patent applications pending. We expect to file future patent applications in both the United States and abroad on significant inventions, as we deem appropriate. We do not believe that any individual patent, or the expiration of any patent, is or would be material to our business.

As is typical in the semiconductor industry, we have numerous cross-licensing and technology exchange agreements with other companies under which we both transfer and receive technology and intellectual property rights. One such agreement is the cross-license agreement that we entered into with Intel on November 11, 2009. Under the cross-license

agreement, we granted to Intel and Intel granted to us, non-exclusive, royalty-free licenses to all of each other's patents that were first filed no later than November 11, 2014 and each party can exploit these patents anywhere in the world for making and selling certain semiconductor- and electronic-related products. Under the cross-license agreement, Intel has rights to make semiconductor products for third parties, but the third-party product designs are not licensed as a result of such manufacture. We have rights to perform assembly and testing for third parties but not rights to make semiconductor products for third parties. The term of the cross-license agreement continues until the expiration of the last to expire of the licensed patents, unless earlier terminated. A party can terminate the cross-license agreement or the rights and licenses of the other party if the other party materially breaches the cross-license agreement and does not correct the noticed material breach within 60 days. Upon such termination, the terminated party's license rights terminate but the terminating party's license rights continue, subject to that party's continued compliance with the terms of the cross-license agreement. The cross-license agreement will automatically terminate if a party undergoes a change of control (as defined in the cross-license agreement), and both parties' licenses will terminate. Upon the bankruptcy of a party, that party may assume, but may not assign, the cross-license agreement, and in the event that the cross-license agreement cannot be assumed, the cross-license agreement and the licenses granted will terminate.

Backlog

Sales are made primarily pursuant to purchase orders for current delivery or agreements covering purchases over a period of time. Some of these orders or agreements may be revised or canceled without penalty. Generally, in light of current industry practice, we do not believe that such orders or agreements provide meaningful backlog figures or are necessarily indicative of actual sales for any succeeding period. With respect to our semi-custom SoC products, our orders and agreements are more stringent resulting in meaningful backlog for the coming quarter.

Seasonality

Our operating results tend to vary seasonally. Historically, our net revenue has been generally higher in the second half of the year than in the first half of the year, although market conditions and product transitions could impact these trends.

Employees

As of December 28, 2019, we had approximately 11,400 employees.

Environmental Regulations

Our operations and properties have in the past been and continue to be subject to various United States and foreign laws and regulations, including those relating to materials used in our products and manufacturing processes, discharge of pollutants into the environment, the treatment, transport, storage and disposal of solid and hazardous wastes and remediation of contamination. These laws and regulations require our suppliers to obtain permits for operations making our products, including the discharge of air pollutants and wastewater. Although our management systems are designed to oversee our suppliers' compliance, we cannot assure you that our suppliers have been or will be at all times in complete compliance with such laws, regulations and permits. If our suppliers violate or fail to comply with any of them, a range of consequences could result, including fines, suspension of production, alteration of manufacturing processes, import/export restrictions, sales limitations, criminal and civil liabilities or other sanctions. We could also be held liable for any and all consequences arising out of exposure to hazardous materials used, stored, released, disposed of by us or located at, under or emanating from our facilities or other environmental or natural resource damage. While we have budgeted for foreseeable associated expenditures, we cannot assure you that future environmental legal requirements will not become more stringent or costly in the future. Therefore, we cannot assure you that our costs of complying with current and future environmental and health and safety laws, and our liabilities arising from past and future releases of, or exposure to, hazardous substances will not have a material adverse effect on us.

Environmental laws are complex, change frequently and have tended to become more stringent over time. For example, the European Union (EU) and China are two among a growing number of jurisdictions that have enacted restrictions on the use of lead and other materials in electronic products. These regulations affect semiconductor devices and packaging. As regulations restricting materials in electronic products continue to increase around the world, there is a risk that the cost, quality and manufacturing yields of products that are subject to these restrictions, may be less favorable compared to products that are not subject to such restrictions, or that the transition to compliant products may not meet customer roadmaps, or produce sudden changes in demand, which may result in excess inventory. A number of jurisdictions including the EU, Australia, California and China are developing or have finalized market entry or public procurement regulations for computers and servers based on ENERGY STAR specifications as well as additional energy consumption limits. There is the potential for certain of our products being excluded from some of these markets which could materially adversely affect us.

Certain environmental laws, including the U.S. Comprehensive, Environmental Response, Compensation and Liability Act of 1980, or the Superfund Act, impose strict or, under certain circumstances, joint and several liability on current and previous owners or operators of real property for the cost of removal or remediation of hazardous substances and impose liability for damages to natural resources. These laws often impose liability even if the owner or operator did not know of, or was not responsible for, the release of such hazardous substances. These environmental laws also assess liability on persons who arrange for hazardous substances to be sent to disposal or treatment facilities when such facilities are found to be contaminated. Such persons can be responsible for cleanup costs even if they never owned or operated the contaminated facility.

We are named as a responsible party on Superfund clean-up orders for three sites in Sunnyvale, California that are on the National Priorities List. Since 1981, we have discovered hazardous material releases to the groundwater from former underground tanks and proceeded to investigate and conduct remediation at these three sites. The chemicals released into the groundwater were commonly used in the semiconductor industry in the United States in the wafer fabrication process prior to 1979.

In 1991, we received Final Site Clean-up Requirements Orders from the California Regional Water Quality Control Board relating to the three sites. We have entered into settlement agreements with other responsible parties on two of the orders. During the term of such agreements, other parties have agreed to assume most of the foreseeable costs as well as the primary role in conducting remediation activities under the orders. We remain responsible for additional costs beyond the scope of the agreements as well as all remaining costs in the event that the other parties do not fulfill their obligations under the settlement agreements.

To address anticipated future remediation costs under the orders, we have computed and recorded an estimated environmental liability of approximately \$3 million and have not recorded any potential insurance recoveries in determining the estimated costs of the cleanup. Costs could also increase as a result of additional test and remediation obligations imposed by the Environmental Protection Agency or California Regional Water Quality Control Board. The progress of future remediation efforts cannot be predicted with certainty and these costs may change. We believe that the potential liability, if any, in excess of amounts already accrued, will not have a material adverse effect on our financial condition, cash flows or results of operations.

ITEM 1A. RISK FACTORS

The risks and uncertainties described below are not the only ones we face. If any of the following risks actually occurs, our business, financial condition or results of operations could be materially adversely affected. In addition, you should consider the interrelationship and compounding effects of two or more risks occurring simultaneously.

Intel Corporation's dominance of the microprocessor market and its aggressive business practices may limit our ability to compete effectively.

Intel Corporation has been the market share leader for microprocessors for many years. Intel's market share, margins and significant financial resources enable it to market its products aggressively, to target our customers and our channel partners with special incentives and to influence customers who do business with us. These aggressive activities have in the past resulted in lower unit sales and a lower average selling price for many of our products and adversely affect our margins and profitability.

Intel exerts substantial influence over computer manufacturers and their channels of distribution through various brand and other marketing programs. As a result of Intel's position in the microprocessor market, Intel has been able to control x86 microprocessor and computer system standards and benchmarks and to dictate the type of products the microprocessor market requires of us. Intel also dominates the computer system platform, which includes core logic chipsets, graphics chips, networking devices (wired and wireless), non-volatile storage and other components necessary to assemble a computer system. Additionally, Intel is able to drive de facto standards and specifications for x86 microprocessors that could cause us and other companies to have delayed access to such standards.

Intel has substantially greater financial resources than we do and accordingly spends substantially greater amounts on marketing and research and development than we do. We expect Intel to continue to invest heavily in marketing, research and development, new manufacturing facilities and other technology companies. To the extent Intel manufactures a significantly larger portion of its microprocessor products using more advanced process technologies, or introduces competitive new products into the market before we do, we may be more vulnerable to Intel's aggressive marketing and pricing strategies for microprocessor products.

As long as Intel remains in this dominant position, we may be materially adversely affected by Intel's business practices, including rebating and allocation strategies and pricing actions, designed to limit our market share and margins; product mix and introduction schedules; product bundling, marketing and merchandising strategies; exclusivity payments to its current and potential customers, retailers and channel partners; de facto control over industry standards, and heavy influence on PC manufacturers and other PC industry participants, including motherboard, memory, chipset and basic input/output system (BIOS) suppliers and software companies as well as the graphics interface for Intel platforms; and marketing and advertising expenditures in support of positioning the Intel brand over the brand of its original equipment manufacturer OEM customers and retailers.

Intel could also take actions that place our discrete graphics processing units (GPUs) at a competitive disadvantage, including giving one or more of our competitors in the graphics market, such as Nvidia Corporation, preferential access to its proprietary graphics interface or other useful information. Also, Intel has announced that it is developing their own high-end discrete GPUs. Intel's position in the microprocessor market and integrated graphics chipset market, its introduction of competitive new products, its existing relationships with top-tier OEMs, and its aggressive marketing and pricing strategies could result in lower unit sales and lower average selling prices for our products, which could have a material adverse effect on us.

We rely on third parties to manufacture our products, and if they are unable to do so on a timely basis in sufficient quantities and using competitive technologies, our business could be materially adversely affected.

We rely on third-party wafer foundries to fabricate the silicon wafers for all of our products. We also rely on third-party manufacturers to assemble, test, mark and pack (ATMP) our products. It is important to have reliable relationships with all of these third-party manufacturing suppliers to ensure adequate product supply to respond to customer demand.

We cannot guarantee that these manufacturers or our other third-party manufacturing suppliers will be able to meet our near-term or long-term manufacturing requirements. If we experience supply constraints from our third-party manufacturing suppliers, we may be required to allocate the affected products amongst our customers, which could have a material adverse effect on our relationships with these customers and on our financial condition. In addition, if we are unable to meet customer demand due to fluctuating or late supply from our manufacturing suppliers, it could result in lost sales and have a material adverse effect on our business.

We do not have long-term commitment contracts with some of our third-party manufacturing suppliers. We obtain some

of these manufacturing services on a purchase order basis and these manufacturers are not required to provide us with any specified minimum quantity of product beyond the quantities in an existing purchase order. Accordingly, we depend on these suppliers to

allocate to us a portion of their manufacturing capacity sufficient to meet our needs, to produce products of acceptable quality and at acceptable manufacturing yields and to deliver those products to us on a timely basis and at acceptable prices. The manufacturers we use also fabricate wafers and ATMP products for other companies, including certain of our competitors. They could choose to prioritize capacity for other customers, increase the prices that they charge us on short notice or reduce or eliminate deliveries to us, which could have a material adverse effect on our business.

Other risks associated with our dependence on third-party manufacturers include limited control over delivery schedules and quality assurance, lack of capacity in periods of excess demand, misappropriation of our intellectual property, dependence on several small undercapitalized subcontractors and limited ability to manage inventory and parts. Moreover, if any of our third-party manufacturers suffer any damage to facilities, lose benefits under material agreements, experience power outages, lack sufficient capacity to manufacture our products, encounter financial difficulties, are unable to secure necessary raw materials from their suppliers or suffer any other disruption or reduction in efficiency, we may encounter supply delays or disruptions. If we are unable to secure sufficient or reliable supplies of products, our ability to meet customer demand may be adversely affected and this could materially affect our business.

If we transition the production of some of our products to new manufacturers, we may experience delayed product introductions, lower yields or poorer performance of our products. If we experience problems with product quality or are unable to secure sufficient capacity from a particular third-party manufacturer, or if we for other reasons cease utilizing one of those suppliers, we may be unable to secure an alternative supply for any specific product in a short time frame. We could experience significant delays in the shipment of our products if we are required to find alternative third-party manufacturers, which could have a material adverse effect on our business.

We are party to two ATMP joint ventures (collectively, the ATMP JVs) with Tongfu Microelectronics Co., Ltd. The majority of our ATMP services are provided by the JVs and there is no guarantee that the JVs will be able to fulfill our long-term ATMP requirements. If we are unable to meet customer demand due to fluctuating or late supply from the ATMP JVs, it could result in lost sales and have a material adverse effect on our business.

Failure to achieve expected manufacturing yields for our products could negatively impact our financial results.

Semiconductor manufacturing yields are a result of both product design and process technology, which is typically proprietary to the manufacturer, and low yields can result from design failures, process technology failures or a combination of both. Our third-party foundries are responsible for the process technologies used to fabricate silicon wafers. If our third-party foundries experience manufacturing inefficiencies or encounter disruptions, errors or difficulties during production, we may fail to achieve acceptable yields or experience product delivery delays. We cannot be certain that our third-party foundries will be able to develop, obtain or successfully implement leading-edge process technologies needed to manufacture future generations of our products profitably or on a timely basis or that our competitors will not develop new technologies, products or processes earlier. Moreover, during periods when foundries are implementing new process technologies, their manufacturing facilities may not be fully productive. A substantial delay in the technology transitions to smaller process technologies could have a material adverse effect on us, particularly if our competitors transition to more cost effective technologies before us. For example, we are presently focusing our 7 nanometer (nm) product portfolio on Taiwan Semiconductor Co., Ltd.'s (TSMC) 7nm process. If TSMC is not able to manufacture our 7nm products in sufficient quantities to meet customer demand, it could have a material adverse effect on our business.

Any decrease in manufacturing yields could result in an increase in per unit costs, which would adversely impact our gross margin and/or force us to allocate our reduced product supply amongst our customers, which could harm our relationships and reputation with our customers and materially adversely affect our business.

The success of our business is dependent upon our ability to introduce products on a timely basis with features and performance levels that provide value to our customers while supporting and coinciding with significant industry transitions.

Our success depends to a significant extent on the development, qualification, implementation and acceptance of new product designs and improvements that provide value to our customers. Our ability to develop, qualify and distribute, and have manufactured, new products and related technologies to meet evolving industry requirements, at prices acceptable to our customers and on a timely basis are significant factors in determining our competitiveness in our target markets. As consumers have new product feature preferences or have different requirements than those consumers in the PC market, PC sales could be negatively impacted, which could adversely impact our business. Our product roadmap includes our next generation AMD Ryzen™, AMD Radeon™ and AMD EPYC™ processors using 7nm+ process technology. We cannot assure you that our efforts to execute our product roadmap will result in innovative products and technologies that provide value to our customers. If we fail to or are delayed in developing, qualifying or shipping new products or technologies that provide value to our customers and address these new trends or if we fail to predict which new form factors consumers will adopt and adjust our business accordingly, we may lose competitive positioning, which could cause us to lose market share and require us to discount the selling prices of our

products. Although we make substantial investments in research and development, we cannot be certain that we will be able to develop, obtain or successfully implement new products and technologies on a timely basis or that they will be well-received by our customers. Moreover, our investments in new products and technologies involve certain risks and uncertainties and could disrupt our ongoing business. New investments may not generate sufficient revenue, may incur unanticipated liabilities and may divert our limited resources and distract management from our current operations. We cannot be certain that our ongoing investments in new products and technologies will be successful, will meet our expectations and will not adversely affect our reputation, financial condition and operating results.

Delays in developing, qualifying or shipping new products can also cause us to miss our customers' product design windows or, in some cases, breach contractual obligations or cause us to pay penalties. If our customers do not include our products in the initial design of their computer systems or products, they will typically not use our products in their systems or products until at least the next design configuration. The process of being qualified for inclusion in a customer's system or product can be lengthy and could cause us to further miss a cycle in the demand of end-users, which also could result in a loss of market share and harm our business. We also depend on the success and timing of our customers' platform launches. If our customers delay their product launches or if our customers do not effectively market their platforms with our products, it could result in a delay in bringing our products to market and cause us to miss a cycle in the demand of end-users, which could materially adversely affect our business. In addition, market demand requires that products incorporate new features and performance standards on an industry-wide basis. Over the life of a specific product, the sale price is typically reduced over time. The introduction of new products and enhancements to existing products is necessary to maintain the overall corporate average selling price. If we are unable to introduce new products with sufficiently high sale prices or to increase unit sales volumes capable of offsetting the reductions in the sale prices of existing products over time, our business could be materially adversely affected.

If we cannot generate sufficient revenue and operating cash flow or obtain external financing, we may face a cash shortfall and be unable to make all of our planned investments in research and development or other strategic investments.

Our ability to fund research and development expenditures depends on generating sufficient revenue and cash flow from operations and the availability of external financing, if necessary. Our research and development expenditures, together with ongoing operating expenses, will be a substantial drain on our cash flow and may decrease our cash balances. If new competitors, technological advances by existing competitors, or other competitive factors require us to invest significantly greater resources than anticipated in our research and development efforts, our operating expenses would increase. If we are required to invest significantly greater resources than anticipated in research and development efforts without an increase in revenue, our operating results could decline.

We regularly assess markets for external financing opportunities, including debt and equity financing. Additional debt or equity financing may not be available when needed or, if available, may not be available on satisfactory terms. The health of the credit markets may adversely impact our ability to obtain financing when needed. Any downgrades from credit rating agencies such as Moody's or Standard & Poor's may adversely impact our ability to obtain external financing or the terms of such financing. Credit agency downgrades or concerns regarding our credit worthiness may impact relationships with our suppliers, who may limit our credit lines. Our inability to obtain needed financing or to generate sufficient cash from operations may require us to abandon projects or curtail planned investments in research and development or other strategic initiatives. If we curtail planned investments in research and development or abandon projects, our products may fail to remain competitive and our business would be materially adversely affected.

The loss of a significant customer may have a material adverse effect on us.

We depend on a small number of customers for a substantial portion of our business and we expect that a small number of customers will continue to account for a significant part of our revenue in the future. If one of our key customers decides to stop buying our products, or if one of these customers materially reduces its operations or its demand for our products, our business would be materially adversely affected.

Our receipt of revenue from our semi-custom SoC products is dependent upon our technology being designed into third-party products and the success of those products.

The revenue that we receive from our semi-custom SoC products is in the form of non-recurring engineering fees charged to third parties for design and development services and revenue received in connection with sales of our semi-custom SoC products to these third parties. As a result, our ability to generate revenue from our semi-custom products depends on our ability to secure customers for our semi-custom design pipeline, our customers' desire to pursue the project, and our semi-custom SoC products being incorporated into those customer's products. Any revenue from sales of our semi-custom SoC products is directly related to sales of the third-party's products and reflective of their success in the market. Moreover, we have no control over the marketing efforts of these third parties, and we cannot make any assurances that sales of their products will be successful in current or future years. Consequently, the semi-custom SoC product revenue expected

by us may not be fully realized and our

operating results may be adversely affected.

Global economic and market uncertainty may adversely impact our business and operating results.

Uncertain global economic conditions have in the past and may in the future adversely impact our business, including, without limitation, a slowdown in the Chinese economy, one of the largest global markets for desktop and notebook PCs. Uncertainty in the worldwide economic environment may negatively impact consumer confidence and spending causing our customers to postpone purchases. In addition, during challenging economic times, our current or potential future customers may experience cash flow problems and as a result may modify, delay or cancel plans to purchase our products. Additionally, if our customers are not successful in generating sufficient revenue or are unable to secure financing, they may not be able to pay, or may delay payment of, accounts receivable that they owe us. The risk related to our customers' potentially defaulting on or delaying payments to us is increased because we expect that a small number of customers will continue to account for a substantial part of our revenue. Any inability of our current or potential future customers to pay us for our products may adversely affect our earnings and cash flow. Moreover, our key suppliers may reduce their output or become insolvent, thereby adversely impacting our ability to manufacture our products. In addition, uncertain economic conditions may make it more difficult for us to raise funds through borrowings or private or public sales of debt or equity securities.

Our worldwide operations are subject to political, legal and economic risks and natural disasters, which could have a material adverse effect on us.

We maintain operations around the world, including in the United States, Canada, Europe, Australia and Asia. We rely on third-party wafer foundries in the United States, Europe and Asia. Nearly all product assembly and final testing of our products is performed at manufacturing facilities, operated by third-party manufacturing facilities, in China, Malaysia and Taiwan. We also have international sales operations. International sales, as a percent of net revenue, were 74% for the year ended December 28, 2019. We expect that international sales will continue to be a significant portion of total sales in the foreseeable future.

The political, legal and economic risks associated with our operations in foreign countries include, without limitation: expropriation; changes in a specific country's or region's political or economic conditions; changes in tax laws, trade protection measures and import or export licensing requirements; difficulties in protecting our intellectual property; difficulties in managing staffing and exposure to different employment practices and labor laws; changes in foreign currency exchange rates; restrictions on transfers of funds and other assets of our subsidiaries between jurisdictions; changes in freight and interest rates; disruption in air transportation between the United States and our overseas facilities; loss or modification of exemptions for taxes and tariffs; and compliance with U.S. laws and regulations related to international operations, including export control and economic sanctions laws and regulations and the Foreign Corrupt Practices Act.

In addition, our worldwide operations (or those of our business partners) could be subject to natural disasters such as earthquakes, tsunamis, flooding, typhoons and volcanic eruptions that disrupt manufacturing or other operations. For example, our Santa Clara operations are located near major earthquake fault lines in California. There may be conflict or uncertainty in the countries in which we operate, including public health issues (for example, an outbreak of a contagious disease such as 2019-Novel Coronavirus (2019-nCoV), avian influenza, measles or Ebola), safety issues, natural disasters, fire, disruptions of service from utilities, nuclear power plant accidents or general economic or political factors. For example, the United Kingdom's 2016 referendum, commonly referred to as "Brexit," has created economic and political uncertainty in the European Union. Also, the European Union's General Data Protection Regulation imposes significant new requirements on how we collect, process and transfer personal data, as well as significant fines for non-compliance. Any of the above risks, should they occur, could result in an increase in the cost of components, production delays, general business interruptions, delays from difficulties in obtaining export licenses for certain technology, tariffs and other barriers and restrictions, longer payment cycles, increased taxes, restrictions on the repatriation of funds and the burdens of complying with a variety of foreign laws, any of which could ultimately have a material adverse effect on our business.

Government actions and regulations such as export administration regulations, tariffs, and trade protection measures, may limit our ability to export our products to certain customers.

We have a joint venture with Higon Information Technology Co., Ltd. (THATIC), comprised of two separate legal entities, China JV1 and China JV2 (collectively, the THATIC JV). In June 2019, the United States Commerce Department's Bureau of Industry and Security (BIS) added certain Chinese entities to the Entity List, including THATIC and the THATIC JV. In October 2019, the BIS added additional Chinese entities to the Entity List. Also, the United States administration has called for changes to domestic and foreign policy. Specifically, United States-China trade relations remain uncertain. The United States administration has announced tariffs on certain products imported into the United States with China as the country of origin, and China has imposed tariffs in response to the actions of the United States. We are taking steps to mitigate the impact of these tariffs on our business and AMD processor-based products. There is also a possibility of future tariffs, trade protection measures, import or export regulations or other restrictions imposed on our products or on our customers by the United States, China or other

countries that could have a material adverse effect on our business. A significant trade disruption or the establishment or increase of any tariffs, trade protection measures or restrictions could result in lost sales adversely impacting our reputation and business.

Our products may be subject to security vulnerabilities that could have a material adverse effect on us.

The products that we sell are complex and may be subject to security vulnerabilities that could result in, among other things, the loss, corruption, theft or misuse of confidential data or system performance issues. Our efforts to prevent and address security vulnerabilities may decrease performance, be only partially effective or not successful at all. We may also depend on third parties, such as customers, vendors and end users, to deploy our mitigations or create their own, and they may delay, decline or modify the implementation of such mitigations. Our relationships with our customers could be adversely affected as some of our customers may stop purchasing our products, reduce or delay future purchases of our products, or use competing products. Any of these actions by our customers could adversely affect our revenue. We also are subject to claims and litigation related to Spectre side-channel exploits and may face additional claims or litigation for future vulnerabilities. Actual or perceived security vulnerabilities of our products may subject us to adverse publicity, damage to our brand and reputation, and could materially harm our business or financial results.

IT outages, data loss, data breaches and cyber-attacks could compromise our intellectual property or other sensitive information, be costly to remediate or cause significant damage to our business, reputation and operations.

In the ordinary course of our business, we maintain sensitive data on our information technology (IT) assets, and also may maintain sensitive information on our business partners' and third-party providers' IT assets, including our intellectual property and proprietary or confidential business information relating to our business and that of our customers and business partners. Maintaining the security of this information is important to our business and reputation. We believe that companies have been increasingly subject to a wide variety of security incidents, cyber-attacks, hacking and phishing attacks, business and system disruption attacks, and other attempts to gain unauthorized access. These threats can come from a variety of sources, all ranging in sophistication from an individual hacker or insider threat to a state-sponsored attack. Cyber threats may be generic, or they may be custom-crafted against our information systems. Cyber-attacks have become increasingly more prevalent and much harder to detect, defend against or prevent. Our network and storage applications, as well as those of our customers, business partners, and third-party providers, may be subject to unauthorized access by hackers or breached due to operator error, malfeasance or other system disruptions.

It is often difficult to anticipate or immediately detect such incidents and the damage caused by such incidents. These data breaches and any unauthorized access, misuse or disclosure of our information or intellectual property could compromise our intellectual property and expose sensitive business information. Cyber-attacks on us or our customers, business partners or third party providers could also cause us to incur significant remediation costs, result in product development delays, disrupt key business operations and divert attention of management and key information technology resources. These incidents could also subject us to liability, expose us to significant expense and cause significant harm to our reputation and business.

We also maintain confidential and personally identifiable information about our workers. The confidentiality and integrity of our worker and consumer data is important to our business and our workers and consumers have a high expectation that we adequately protect their personal information.

We anticipate ongoing and increasing costs related to: enhancing and implementing information security controls, including costs related to upgrading application, computer, and network security components; training workers to maintain and monitor our security controls; remediating any data security breach and addressing the related litigation; mitigating reputational harm; and compliance with external regulations, such as the European Union's General Data Protection Regulation and the California Consumer Privacy Act.

We often partner with third-party providers for certain worker services and we may provide certain limited worker information to such third parties based on the scope of the services provided to us. However, if these third parties fail to adopt or adhere to adequate data security practices, or in the event of a breach of their networks, our workers' data may be improperly accessed, used or disclosed.

A breach of data privacy may cause significant disruption of our business operations. Failure to adequately maintain and update our security systems could materially adversely affect our operations and our ability to maintain worker confidence. Failure to prevent unauthorized access to electronic and other confidential information, IT outages, data loss and data breaches could materially adversely affect our financial condition, our competitive position and operating results.

We have a wafer supply agreement with GLOBALFOUNDRIES Inc. (GF) with obligations to purchase all of our microprocessor and accelerated processing unit (APU) product requirements and a certain portion of our graphics processing unit (GPU) product requirements manufactured at process nodes larger than 7 nanometer from GF, with limited exceptions. If GF is not able to satisfy our manufacturing requirements, our business could be adversely impacted.

The wafer supply agreement (WSA) governs the terms by which we purchase products manufactured by GF and is in place until 2024. Pursuant to the WSA, we are required to purchase all of our microprocessor and APU product requirements and a certain portion of our GPU product requirements from GF manufactured at process nodes larger than 7 nanometer (nm), with limited exceptions. If GF is unable to achieve anticipated manufacturing yields, manufacture our products on a timely basis at competitive prices or meet our capacity requirements, then we may experience supply shortages for certain products or increased costs and our business could be materially adversely affected.

Under the terms of the WSA, we have agreed to minimum annual wafer purchase targets through 2021. If we fail to meet the agreed wafer purchase target during a calendar year, we will be required to pay to GF a portion of the difference between our actual wafer purchases and the applicable annual purchase target. If our actual wafer requirements are less than the number of wafers required to meet the applicable annual wafer purchase target, we could have excess inventory or higher inventory unit costs, both of which may adversely impact our gross margin and our results of operations.

In addition, GF has relied on Mubadala Technology Investments LLC (Mubadala Tech) for its funding needs. If Mubadala Tech fails to adequately fund GF on a timely basis, or at all, and if GF is not otherwise able to adequately fund its operations, GF's ability to manufacture products for us could be materially adversely affected.

Uncertainties involving the ordering and shipment of our products could materially adversely affect us.

We typically sell our products pursuant to individual purchase orders. We generally do not have long-term supply arrangements with our customers or minimum purchase requirements except that orders generally must be for standard pack quantities. Generally, our customers may cancel orders for standard products more than 30 days prior to shipment without incurring significant fees. We base our inventory levels in part on customers' estimates of demand for their products, which may not accurately predict the quantity or type of our products that our customers will want in the future or ultimately end up purchasing. Our ability to forecast demand is even further complicated when our products are sold indirectly through downstream channel distributors and customers, as our forecasts for demand are then based on estimates provided by multiple parties throughout the downstream channel.

PC and consumer markets are characterized by short product lifecycles, which can lead to rapid obsolescence and price erosion. In addition, our customers may change their inventory practices on short notice for any reason. We may build inventories during periods of anticipated growth, and the cancellation or deferral of product orders or overproduction due to failure of anticipated orders to materialize could result in excess or obsolete inventory, which could result in write-downs of inventory and an adverse effect on gross margins.

Factors that may result in excess or obsolete inventory, which could result in write-downs of the value of our inventory, a reduction in the average selling price or a reduction in our gross margin include: a sudden or significant decrease in demand for our products; a production or design defect in our products; a higher incidence of inventory obsolescence because of rapidly changing technology and customer requirements; a failure to accurately estimate customer demand for our products, including for our older products as our new products are introduced; or our competitors introducing new products or taking aggressive pricing actions.

Our operating results are subject to quarterly and seasonal sales patterns.

The profile of our sales may be weighted differently during the year. A large portion of our quarterly sales have historically been made in the last month of the quarter. This uneven sales pattern makes prediction of revenue for each financial period difficult and increases the risk of unanticipated variations in quarterly results and financial condition. In addition, our operating results tend to vary seasonally with the markets in which our products are sold. For example, historically, our net revenue has been generally higher in the second half of the year than in the first half of the year, although market conditions and product transitions could impact these trends. Many of the factors that create and affect quarterly and seasonal trends are beyond our control.

The agreements governing our notes and our Secured Revolving Facility impose restrictions on us that may adversely affect our ability to operate our business.

The indenture governing our 7.50% Senior Notes due 2022 (7.50% Notes) contains various covenants which limit our ability to, among other things: incur additional indebtedness; pay dividends and make other restricted payments; make certain investments, including investments in our unrestricted subsidiaries; create or permit certain liens; create or permit

restrictions on the ability of certain restricted subsidiaries to pay dividends or make other distributions to us; use the proceeds from sales of assets; enter

into certain types of transactions with affiliates; and consolidate or merge or sell our assets as an entirety or substantially as an entirety.

In addition, the Secured Revolving Facility's credit agreement (Credit Agreement) restricts our ability to make cash payments on the notes to the extent that (i) on the date of such payment, an event of default exists under the Credit Agreement or would result therefrom or (ii) if we would have, on a pro forma basis after giving effect to such payment, a consolidated total leverage ratio that exceeds 3.50x. Any of our future debt agreements may contain similar restrictions. If under certain circumstances we fail to make a cash payment on a series of notes when required by the applicable indenture, it would constitute an event of default under such indenture, which, in turn, could constitute an event of default under the agreements governing our other indebtedness.

Our Secured Revolving Facility also contains various covenants which limit our ability to, among other things, incur additional indebtedness and liens, make certain investments, merge or consolidate with other entities, make certain dispositions, create any encumbrance on the ability of a subsidiary to make any upstream payments, make payments with respect to subordinated debt or certain borrowed money prior to its due date and enter into any non-arm's-length transaction with an affiliate (in each case, except for certain customary exceptions).

The agreements governing our notes and our Secured Revolving Facility contain cross-default provisions whereby a default under one agreement would likely result in cross defaults under agreements covering other indebtedness. For example, the occurrence of a default with respect to any indebtedness or any failure to repay indebtedness when due in an amount in excess of (i) \$50 million would cause a cross default under the indentures (to the extent such default would result in the acceleration of such indebtedness) governing our 7.50% Notes and 2.125% Convertible Senior Notes due 2026 (2.125% Notes), and (ii) \$100 million would cause a cross default under the Secured Revolving Facility. The occurrence of a default under any of these borrowing arrangements would permit the applicable note holders or the lenders under our Secured Revolving Facility to declare all amounts outstanding under those borrowing arrangements to be immediately due and payable. If the note holders or the trustee under the indentures governing our 7.50% Notes or 2.125% Notes or the lenders under our Secured Revolving Facility accelerate the repayment of borrowings, we cannot assure you that we will have sufficient assets to repay those borrowings.

The markets in which our products are sold are highly competitive.

The markets in which our products are sold are very competitive and delivering the latest and best products to market on a timely basis is critical to achieving revenue growth. We believe that the main factors that determine our product competitiveness are timely product introductions, product quality, product features and capabilities (including enabling state-of-the-art visual and virtual reality experiences), energy efficiency (including power consumption and battery life), reliability, processor clock speed, performance, size (or form factor), selling price, cost, adherence to industry standards (and the creation of open industry standards), level of integration, software and hardware compatibility, security and stability, brand recognition and availability.

We expect that competition will continue to be intense due to rapid technological changes, frequent product introductions by our competitors or new competitors of products that may provide better performance/experience or may include additional features that render our products comparatively less competitive. We may also face aggressive pricing by competitors, especially during challenging economic times. In addition, our competitors have significant marketing and sales resources which could increase the competitive environment in such a declining market, leading to lower prices and margins. Some competitors may have greater access or rights to complementary technologies, including interface, processor and memory technical information. For instance, with our APU products and other competing solutions with integrated graphics, we believe that demand for additional discrete graphics chips and cards may decrease in the future due to improvements in the quality and performance of integrated graphics. If competitors introduce competitive new products into the market before us, demand for our products could be adversely impacted and our business could be adversely affected. In addition, Intel has announced that it plans to expand its position in integrated graphics for the PC market with high-end discrete graphics solutions for a broad range of computing segments, which may negatively impact our ability to compete in these computing segments.

In addition, we are entering markets with current and new competitors who may be able to adapt more quickly to customer requirements and emerging technologies. We cannot assure you that we will be able to compete successfully against current or new competitors who may have stronger positions in these new markets or superior ability to anticipate customer requirements and emerging industry trends. We may face delays or disruptions in research and development efforts, or we may be required to invest significantly greater resources in research and development than anticipated. Also, the semiconductor industry has seen several mergers and acquisitions over the last number of years. Further consolidation could adversely impact our business due to there being fewer suppliers, customers and partners in the industry.

The conversion of the 2.125% Notes may dilute the ownership interest of our existing stockholders, or may otherwise depress the price of our common stock.

The conversion of some or all of the 2.125% Notes may dilute the ownership interests of our existing stockholders. The 2.125% Notes will mature on September 1, 2026, unless earlier redeemed or repurchased by us or converted. During the fourth quarter of 2019, the sale price for conversion was satisfied as of the end of December 31, 2019 and as a result, the 2.125% Notes are eligible for conversion during the first calendar quarter of 2020. Any sales in the public market of our common stock issuable upon such conversion could adversely affect prevailing market prices of our common stock. In addition, the existence of the 2.125% Notes may encourage short selling by market participants because the conversion thereof could be used to satisfy short positions, or the anticipated conversion of the 2.125% Notes into cash and/or shares of our common stock could depress the price of our common stock.

The demand for our products depends in part on the market conditions in the industries into which they are sold. Fluctuations in demand for our products or a market decline in any of these industries could have a material adverse effect on our results of operations.

Industry-wide fluctuations in the computer marketplace have materially adversely affected us in the past and may materially adversely affect us in the future. A large portion of our Computing and Graphics revenue is focused on the consumer desktop PC and notebook segments, which have in the past experienced a decline driven by, among other factors, the adoption of smaller and other form factors, increased competition and changes in replacement cycles. The success of our semi-custom SoC products is dependent on securing customers for our semi-custom design pipeline and consumer market conditions, including the success of the Sony PlayStation®4, Sony PlayStation®4 Pro, Microsoft® Xbox One™ S and Microsoft® Xbox One™ X game console systems worldwide. In addition, the GPU market has at times seen elevated demand due to the application of GPU products to cryptocurrency mining. For example, our GPU revenue has been affected in part by the volatility of the cryptocurrency mining market. Demand for cryptocurrency has changed and is likely to continue to change quickly. For example, China and South Korea have instituted restrictions on cryptocurrency trading and the valuations of the currencies, and corresponding interest in mining of such currencies are subject to significant fluctuations. If we are unable to manage the risks related to the volatility of the cryptocurrency mining market, our GPU business could be materially adversely affected.

Our ability to design and introduce new products in a timely manner is dependent upon third-party intellectual property.

In the design and development of new and enhanced products, we rely on third-party intellectual property such as development and testing tools for software and hardware. Furthermore, certain product features may rely on intellectual property acquired from third parties. The design requirements necessary to meet customer demand for more features and greater functionality from semiconductor products may exceed the capabilities of the third-party intellectual property or development or testing tools available to us. If the third-party intellectual property that we use becomes unavailable, is not available with required functionality or performance in the time frame or price point needed for our new products or fails to produce designs that meet customer demands, our business could be materially adversely affected.

We depend on third-party companies for the design, manufacture and supply of motherboards, software, memory and other computer platform components to support our business.

We depend on third-party companies for the design, manufacture and supply of motherboards, graphics cards, software (e.g. BIOS, operating systems, drivers), memory and other components that our customers utilize to support and/or use our microprocessor, GPU and APU offerings. We also rely on our add-in-board (AIB) partners to support our GPU and APU products. In addition, our microprocessors are not designed to function with motherboards and chipsets designed to work with Intel microprocessors. If the designers, manufacturers, AIBs and suppliers of motherboards, graphics cards, software, memory and other components cease or reduce their design, manufacture or production of current or future products that are based on or support our products, our business could be materially adversely affected.

If we lose Microsoft Corporation's support for our products or other software vendors do not design and develop software to run on our products, our ability to sell our products could be materially adversely affected.

Our ability to innovate beyond the x86 instruction set controlled by Intel depends partially on Microsoft designing and developing its operating systems to run on or support our x86-based microprocessor products. With respect to our graphics products, we depend in part on Microsoft to design and develop its operating system to run on or support our graphics products. Similarly, the success of our products in the market, such as our APU products, is dependent on independent software providers designing and developing software to run on our products. If Microsoft does not continue to design and develop its operating systems so that they work with our x86 instruction sets or does not continue to develop and maintain their operating systems to support our graphics products, independent software providers may forego designing their software applications to take advantage of our innovations and customers may not purchase PCs with our products. In

addition, some software drivers licensed for use

with our products are certified by Microsoft. If Microsoft did not certify a driver, or if we otherwise fail to retain the support of Microsoft or other software vendors, our ability to market our products would be materially adversely affected.

Our reliance on third-party distributors and AIB partners subjects us to certain risks.

We market and sell our products directly and through third-party distributors and AIB partners pursuant to agreements that can generally be terminated for convenience by either party upon prior notice to the other party. These agreements are non-exclusive and permit both our distributors and AIB partners to offer our competitors' products. We are dependent on our distributors and AIB partners to supplement our direct marketing and sales efforts. If any significant distributor or AIB partner or a substantial number of our distributors or AIB partners terminated their relationship with us, decided to market our competitors' products over our products or decided not to market our products at all, our ability to bring our products to market would be impacted and we would be materially adversely affected. In addition, if we are unable to collect accounts receivable from our significant distributors and/or AIB partners, it could have a material adverse effect on our business. If we are unable to manage the risks related to the use of our third-party distributors and AIB partners or offer appropriate incentives to focus them on the sale of our products, our business could be materially adversely affected.

Additionally, distributors and AIB partners typically maintain an inventory of our products. In most instances, our agreements with distributors protect their inventory of our products against price reductions, as well as provide return rights for any product that we have removed from our price book and that is not more than 12 months older than the manufacturing date. Some agreements with our distributors also contain standard stock rotation provisions permitting limited levels of product returns. Our agreements with AIB partners protect their inventory of our products against price reductions. In the event of a significant decline in the price of our products, the price protection rights we offer would materially adversely affect us because our revenue and corresponding gross margin would decline.

We may incur future impairments of goodwill and technology license purchases.

We perform our annual goodwill impairment analysis as of the first day of the fourth quarter of each year. Subsequent to our annual goodwill impairment analysis, we monitor for any events or changes in circumstances, such as significant adverse changes in business climate or operating results, changes in management's business strategy, an inability to successfully introduce new products in the marketplace, an inability to successfully achieve internal forecasts or significant declines in our stock price, which may represent an indicator of impairment. The occurrence of any of these events may require us to record future goodwill impairment charges.

We license certain third-party technologies and tools for the design and production of our products. We report the value of those licenses as intangible assets on the balance sheet and we periodically evaluate the carrying value of those licenses based on their future economic benefit to us. Factors such as the life of the assets, changes in competing technologies, and changes to the business strategy may represent an indicator of impairment. The occurrence of any of these events may require us to record future technology license impairment charges. For example, during the fourth quarter of 2018, we recorded an impairment charge in Cost of sales of \$45 million on technology licenses related to products that were no longer being used.

Our inability to continue to attract and retain qualified personnel may hinder our business.

Much of our future success depends upon the continued service our executives of numerous qualified engineering, marketing, sales and executive employees. Competition for highly skilled executives and employees in the technology industry is intense and our competitors have targeted individuals in our organization that have desired skills and experience. If we are not able to continue to attract, train and retain our leadership team and our qualified employees necessary for our business, the progress of our product development programs could be hindered, and we could be materially adversely affected. To help attract, retain and motivate our executives and qualified employees, we use share-based incentive awards such as employee stock options and non-vested share units (restricted stock units). If the value of such stock awards does not appreciate as measured by the performance of the price of our common stock, or if our share-based compensation otherwise ceases to be viewed as a valuable benefit, our ability to attract, retain and motivate our executives and employees could be weakened, which could harm our results of operations. Also, if the value of our stock awards increases substantially, this could potentially create great personal wealth for our executives and employees and affect our ability to retain our personnel. In addition, any future restructuring plans may adversely impact our ability to attract and retain key employees.

Our indebtedness could adversely affect our financial position and prevent us from implementing our strategy or fulfilling our contractual obligations.

Our total debt principal amount as of December 28, 2019 was \$0.6 billion. Our indebtedness may make it difficult for us to satisfy our financial obligations, including making scheduled principal and interest payments; limit our ability to borrow additional funds for working capital, capital expenditures, acquisitions and general corporate and other purposes; limit our ability to use

our cash flow or obtain additional financing for future working capital, capital expenditures, acquisitions or other general corporate purposes; require us to use a substantial portion of our cash flow from operations to make debt service payments; place us at a competitive disadvantage compared to our competitors with relatively less debt; and increase our vulnerability to the impact of adverse economic and industry conditions.

We enter into sale and factoring arrangements from time to time with respect to certain accounts receivables, which arrangements are non-recourse to us in the event that an account debtor fails to pay for credit-related reasons, and are not included in our indebtedness. We could become obligated to repurchase such accounts receivables or otherwise incur liability to the counterparties under these arrangements under certain circumstances, such as where a commercial dispute arises between us and an account debtor.

We may not be able to generate sufficient cash to service our debt obligations or meet our working capital requirements.

Our ability to make payments on and to refinance our debt will depend on our financial and operating performance, which may fluctuate significantly from quarter to quarter, and is subject to prevailing economic, financial and business conditions along with other factors, many of which are beyond our control. We cannot assure you that we will be able to generate cash flow or that we will be able to borrow funds, including under our secured revolving credit facility for a principal amount up to \$500 million (our Secured Revolving Facility), in amounts sufficient to enable us to service our debt or to meet our working capital requirements. If we are not able to generate sufficient cash flow from operations or to borrow sufficient funds to service our debt, we may be required to sell assets or equity, reduce expenditures, refinance all or a portion of our existing debt or obtain additional financing. We cannot assure you that we will be able to refinance our debt, sell assets or equity, borrow funds under our Secured Revolving Facility or borrow more funds on terms acceptable to us, if at all.

In the event of a change of control, we may not be able to repurchase our outstanding debt as required by the applicable indentures and our Secured Revolving Facility, which would result in a default under the indentures and our Secured Revolving Facility.

Upon a change of control, we will be required to offer to repurchase all of our 7.50% Notes and 2.125% Notes then outstanding at 101% of the principal amount thereof, plus accrued and unpaid interest, if any, up to, but excluding, the repurchase date. In addition, a change of control would be an event of default under our Secured Revolving Facility. As of December 28, 2019, \$0.6 billion principal amount was outstanding under our notes. Future debt agreements may contain similar provisions. We may not have the financial resources to repurchase our outstanding notes and prepay all of our outstanding obligations under our Secured Revolving Facility.

The semiconductor industry is highly cyclical and has experienced severe downturns that have materially adversely affected, and may continue to materially adversely affect, our business in the future.

The semiconductor industry is highly cyclical and has experienced significant downturns, often in conjunction with constant and rapid technological change, wide fluctuations in supply and demand, continuous new product introductions, price erosion and declines in general economic conditions. We have incurred substantial losses in recent downturns, due to: substantial declines in average selling prices; the cyclical nature of supply and demand imbalances in the semiconductor industry; a decline in demand for end-user products (such as PCs) that incorporate our products; and excess inventory levels.

Industry-wide fluctuations in the computer marketplace have materially adversely affected us in the past and may materially adversely affect us in the future. Global economic uncertainty and weakness have in the past impacted the semiconductor market as consumers and businesses have deferred purchases, which negatively impacted demand for our products. Our financial performance has been, and may in the future be, negatively affected by these downturns.

The growth of our business is also dependent on continued demand for our products from high-growth adjacent emerging global markets. Our ability to be successful in such markets depends in part on our ability to establish adequate local infrastructure, as well as our ability to cultivate and maintain local relationships in these markets. If demand from these markets is below our expectations, sales of our products may decrease, which would have a material adverse effect on us.

Acquisitions, joint ventures and/or investments could disrupt our business and/or dilute or adversely affect the price of our common stock.

Our success will depend, in part, on our ability to expand our product offerings and grow our business in response to changing technologies, customer demands and competitive pressures. In some circumstances, we may pursue growth through the acquisition of complementary businesses, solutions or technologies or through joint ventures or investments rather than through internal development. The identification of suitable acquisition or joint venture candidates can be difficult, time-consuming and costly, and we may not be able to successfully complete identified acquisitions or joint

ventures. Moreover, if such acquisitions or joint

ventures require us to seek additional debt or equity financing, we may not be able to obtain such financing on terms favorable to us or at all. Even if we successfully complete an acquisition or a joint venture, we may not be able to assimilate and integrate effectively or efficiently the acquired business, technologies, solutions, assets, personnel or operations, particularly if key personnel of the acquired company decide not to work for us. Acquisitions and joint ventures may also involve the entry into geographic or business markets in which we have little or no prior experience. Consequently, we may not achieve anticipated benefits of the acquisitions or joint ventures which could harm our operating results. In addition, to complete an acquisition, we may issue equity securities, which would dilute our stockholders' ownership and could adversely affect the price of our common stock, as well as incur debt, assume contingent liabilities or have amortization expenses and write-downs of acquired assets, which could adversely affect our results of operations. Acquisitions and joint ventures may also reduce our cash available for operations and other uses, which could harm our business. Also, any failure on our part to effectively evaluate and execute new business initiatives could adversely affect our business. We may not adequately assess the risk of new business initiatives and subsequent events may arise that alter the risks that were initially considered.

Furthermore, we may not achieve the objectives and expectations with respect to future operations, products and services. The majority of our ATMP services are provided by the JVs, and there is no guarantee that the JVs will be able to fulfill our long-term ATMP requirements. If we are unable to meet customer demand due to fluctuating or late supply from the JVs, it could result in lost sales and have a material adverse effect on our business.

In addition, we may not realize the anticipated benefits from any new business initiatives such as the THATIC JV. We may not realize the expected benefits from the THATIC JV's expected future performance, the receipt of any future milestone payments and royalties from certain licensed intellectual property. In June 2019, the United States Commerce Department's Bureau of Industry and Security added certain Chinese entities to the Entity List, including THATIC and the THATIC JV. We are complying with U.S. law pertaining to the Entity List designation.

Our business is dependent upon the proper functioning of our internal business processes and information systems and modification or interruption of such systems may disrupt our business, processes and internal controls.

We rely upon a number of internal business processes and information systems to support key business functions, and the efficient operation of these processes and systems is critical to our business. Our business processes and information systems need to be sufficiently scalable to support the growth of our business and may require modifications or upgrades that expose us to a number of operational risks. As such, our information systems will continually evolve and adapt in order to meet our business needs. These changes may be costly and disruptive to our operations and could impose substantial demands on management time.

These changes may also require changes in our information systems, modification of internal control procedures and significant training of employees and third-party resources. We continuously work on simplifying our information systems and applications through consolidation and standardization efforts. There can be no assurance that our business and operations will not experience any disruption in connection with this transition. Our information technology systems, and those of third-party information technology providers or business partners, may also be vulnerable to damage or disruption caused by circumstances beyond our control including catastrophic events, power anomalies or outages, natural disasters, viruses or malware, cyber-attacks, data breaches and computer system or network failures, exposing us to significant cost, reputational harm and disruption or damage to our business.

In addition, as our IT environment continues to evolve, we are embracing new ways of communicating and sharing data internally and externally with customers and partners using methods such as mobility and the cloud that can promote business efficiency. However, these practices can also result in a more distributed IT environment, making it more difficult for us to maintain visibility and control over internal and external users, and meet scalability and administrative requirements. If our security controls cannot keep pace with the speed of these changes, or if we are not able to meet regulatory and compliance requirements, our business would be materially adversely affected.

If essential equipment, materials or manufacturing processes are not available to manufacture our products, we could be materially adversely affected.

We may purchase equipment and materials for use by our back-end manufacturing service providers from a number of suppliers and our operations depend upon obtaining deliveries of adequate supplies of equipment and materials on a timely basis. Our third-party suppliers also depend on the same timely delivery of adequate quantities of equipment and materials in the manufacture of our products. In addition, as many of our products increase in technical complexity, we rely on our third-party suppliers to update their processes in order to continue meeting our back-end manufacturing needs. Certain equipment and materials that are used in the manufacture of our products are available only from a limited number of suppliers, or in some cases, a sole supplier. We also depend on a limited number of suppliers to provide the majority of certain types of integrated circuit packages for our microprocessors, including our APU products. Similarly, certain non-proprietary materials or components such as memory, printed circuit boards (PCBs), interposers, substrates and capacitors used in the manufacture

of our products are

currently available from only a limited number of sources. Because some of the equipment and materials that we and our third-party manufacturing suppliers purchase are complex, it is sometimes difficult to substitute one supplier for another. From time to time, suppliers may extend lead times, limit supply or increase prices due to capacity constraints or other factors. Also, some of these materials and components may be subject to rapid changes in price and availability. Interruption of supply or increased demand in the industry could cause shortages and price increases in various essential materials. Dependence on a sole supplier or a limited number of suppliers exacerbates these risks. If we are unable to procure certain of these materials for our back-end manufacturing operations, or our third-party foundries or manufacturing suppliers are unable to procure materials for manufacturing our products, our business would be materially adversely affected.

If our products are not compatible with some or all industry-standard software and hardware, we could be materially adversely affected.

Our products may not be fully compatible with some or all industry-standard software and hardware. Further, we may be unsuccessful in correcting any such compatibility problems in a timely manner. If our customers are unable to achieve compatibility with software or hardware, we could be materially adversely affected. In addition, the mere announcement of an incompatibility problem relating to our products could have a material adverse effect on our business.

Costs related to defective products could have a material adverse effect on us.

Products as complex as those we offer may contain defects or failures when first introduced or when new versions or enhancements to existing products are released. We cannot assure you that, despite our testing procedures, errors will not be found in new products or releases after commencement of commercial shipments in the future, which could result in loss of or delay in market acceptance of our products, material recall and replacement costs, loss of revenue, writing down the inventory of defective products, the diversion of the attention of our engineering personnel from product development efforts, defending against litigation related to defective products or related liabilities, including property damage, personal injury, damage to our reputation in the industry and loss of data or intangible property, and could adversely affect our relationships with our customers. In addition, we may have difficulty identifying the end customers of the defective products in the field. As a result, we could incur substantial costs to implement modifications to correct defects. Any of these problems could materially adversely affect our business.

We could be subject to potential product liability claims if one of our products causes, or merely appears to have caused, an injury, whether tangible or intangible. Claims may be made by consumers or others selling our products, and we may be subject to claims against us even if an alleged injury is due to the actions of others. A product liability claim, recall or other claim with respect to uninsured liabilities or for amounts in excess of insured liabilities could have a material adverse effect on our business.

If we fail to maintain the efficiency of our supply chain as we respond to changes in customer demand for our products, our business could be materially adversely affected.

Our ability to meet customer demand for our products depends, in part, on our ability to deliver the products our customers want on a timely basis. Accordingly, we rely on our supply chain for the manufacturing, distribution and fulfillment of our products. As we continue to grow our business, expand to high-growth adjacent markets, acquire new customers and strengthen relationships with existing customers, the efficiency of our supply chain will become increasingly important because many of our customers tend to have specific requirements for particular products, and specific time-frames in which they require delivery of these products. If we are unable to consistently deliver the right products to our customers on a timely basis in the right locations, our customers may reduce the quantities they order from us, which could have a material adverse effect on our business.

We outsource to third parties certain supply-chain logistics functions, including portions of our product distribution, transportation management and information technology support services.

We rely on third-party providers to operate our regional product distribution centers and to manage the transportation of our work-in-process and finished products among our facilities, to our manufacturing suppliers and to our customers. In addition, we rely on third parties to provide certain information technology services to us, including help desk support, desktop application services, business and software support applications, server and storage administration, data center operations, database administration and voice, video and remote access. We cannot guarantee that these providers will fulfill their respective responsibilities in a timely manner in accordance with the contract terms, in which case our internal operations and the distribution of our products to our customers could be materially adversely affected. Also, we cannot guarantee that our contracts with these third-party providers will be renewed, in which case we would have to transition these functions in-house or secure new providers, which could have a material adverse effect on our business if the transition is not executed appropriately.

Our stock price is subject to volatility.

Our stock price has experienced price and volume fluctuations and could be subject to wide fluctuations in the future. The trading price of our stock may fluctuate widely due to various factors including actual or anticipated fluctuations in our financial conditions and operating results, changes in financial estimates by us or financial estimates and ratings by securities analysts, changes in our capital structure, including issuance of additional debt or equity to the public, interest rate changes, news regarding our products or products of our competitors, and broad market and industry fluctuations. Stock price fluctuations could impact the value of our equity compensation, which could affect our ability to recruit and retain employees. In addition, volatility in our stock price could adversely affect our business and financing opportunities.

Worldwide political conditions may adversely affect demand for our products.

Worldwide political conditions may create uncertainties that could adversely affect our business. The United States has been and may continue to be involved in armed conflicts that could have a further impact on our sales and our supply chain. The consequences of armed conflict, political instability or civil or military unrest are unpredictable, and we may not be able to foresee events that could have a material adverse effect on us. Terrorist attacks or other hostile acts may negatively affect our operations, or adversely affect demand for our products, and such attacks or related armed conflicts may impact our physical facilities or those of our suppliers or customers. Furthermore, these attacks or hostile acts may make travel and the transportation of our products more difficult and more expensive, which could materially adversely affect us. Any of these events could cause consumer spending to decrease or result in increased volatility in the United States economy and worldwide financial markets.

Unfavorable currency exchange rate fluctuations could adversely affect us.

We have costs, assets and liabilities that are denominated in foreign currencies. As a consequence, movements in exchange rates could cause our foreign currency denominated expenses to increase as a percentage of revenue, affecting our profitability and cash flows. Whenever we believe appropriate, we hedge a portion of our short-term foreign currency exposure to protect against fluctuations in currency exchange rates. We determine our total foreign currency exposure using projections of long-term expenditures for items such as payroll. We cannot assure you that these activities will be effective in reducing foreign exchange rate exposure. Failure to do so could have an adverse effect on our business, financial condition, results of operations and cash flow. In addition, the majority of our product sales are denominated in U.S. dollars. Fluctuations in the exchange rate between the U.S. dollar and the local currency can cause increases or decreases in the cost of our products in the local currency of such customers. An appreciation of the U.S. dollar relative to the local currency could reduce sales of our products.

Our inability to effectively control the sales of our products on the gray market could have a material adverse effect on us.

We market and sell our products directly to OEMs and through authorized third-party distributors. From time to time, our products are diverted from our authorized distribution channels and are sold on the “gray market.” Gray market products result in shadow inventory that is not visible to us, thus making it difficult to forecast demand accurately. Also, when gray market products enter the market, we and our distribution channels compete with these heavily discounted gray market products, which adversely affects demand for our products and negatively impacts our margins. In addition, our inability to control gray market activities could result in customer satisfaction issues because any time products are purchased outside our authorized distribution channels there is a risk that our customers are buying counterfeit or substandard products, including products that may have been altered, mishandled or damaged, or are used products represented as new.

If we cannot adequately protect our technology or other intellectual property in the United States and abroad, through patents, copyrights, trade secrets, trademarks and other measures, we may lose a competitive advantage and incur significant expenses.

We rely on a combination of protections provided by contracts, including confidentiality and nondisclosure agreements, copyrights, patents, trademarks and common law rights, such as trade secrets, to protect our intellectual property. However, we cannot assure you that we will be able to adequately protect our technology or other intellectual property from third-party infringement or from misappropriation in the United States and abroad. Any patent licensed by us or issued to us could be challenged, invalidated or circumvented or rights granted there under may not provide a competitive advantage to us.

Furthermore, patent applications that we file may not result in issuance of a patent or, if a patent is issued, the patent may not be issued in a form that is advantageous to us. Despite our efforts to protect our intellectual property rights, others may independently develop similar products, duplicate our products or design around our patents and other rights. In addition, it is difficult to monitor compliance with, and enforce, our intellectual property on a worldwide basis in a cost-effective manner. In jurisdictions where foreign laws provide less intellectual property protection than afforded in the United States and abroad, our technology or other intellectual property may be compromised, and our business would be materially

adversely affected.

We are party to litigation and may become a party to other claims or litigation that could cause us to incur substantial costs or pay substantial damages or prohibit us from selling our products.

From time to time, we are a defendant or plaintiff in various legal actions. For example, as described in Note 18 of our consolidated financial statements, we have been subject to certain claims concerning federal securities laws and corporate governance. Our products are purchased by and/or used by consumers, which could increase our exposure to consumer actions such as product liability claims and consumer class action claims, including those described in Note 18 of our consolidated financial statements. On occasion, we receive claims that individuals were allegedly exposed to substances used in our former semiconductor wafer manufacturing facilities and that this alleged exposure caused harm. Litigation can involve complex factual and legal questions, and its outcome is uncertain. It is possible that if a claim is successfully asserted against us, including the claims described in Note 18 of our consolidated financial statements, it could result in the payment of damages that could be material to our business.

With respect to intellectual property litigation, from time to time, we have been notified of, or third parties may bring or have brought, actions against us and/or against our customers based on allegations that we are infringing the intellectual property rights of others, contributing to or inducing the infringement of the intellectual property rights of others, improperly claiming ownership of intellectual property or otherwise improperly using the intellectual property of others. If any such claims are asserted, we may seek to obtain a license under the third parties' intellectual property rights. We cannot assure you that we will be able to obtain all of the necessary licenses on satisfactory terms, if at all. These parties may file lawsuits against us or our customers seeking damages (potentially up to and including treble damages) or an injunction against the sale of products that incorporate allegedly infringed intellectual property or against the operation of our business as presently conducted, which could result in our having to stop the sale of some of our products or to increase the costs of selling some of our products or which could damage our reputation. The award of damages, including material royalty payments, or other types of damages, or the entry of an injunction against the manufacture and sale of some or all of our products could have a material adverse effect on us. We could decide, in the alternative, to redesign our products or to resort to litigation to challenge such claims. Such challenges could be extremely expensive and time-consuming regardless of their merit, could cause delays in product release or shipment and/or could have a material adverse effect on us. We cannot assure you that litigation related to our intellectual property rights or the intellectual property rights of others can always be avoided or successfully concluded.

Even if we were to prevail, any litigation could be costly and time-consuming and would divert the attention of our management and key personnel from our business operations, which could have a material adverse effect on us.

Our business is subject to potential tax liabilities.

We are subject to income tax, indirect tax or other tax claims by tax agencies in jurisdictions in which we conduct business. Significant judgment is required in determining our worldwide provision for income taxes. Tax laws are dynamic and subject to change as new laws are passed and new interpretations of the law are issued or applied. The Tax Cuts and Jobs Act of 2017 (the Tax Reform Act) contains many significant changes to the U.S. federal income tax laws, which the consequences of could have a material impact on the value of our deferred tax assets and could increase our future U.S. income tax expense. As additional regulatory guidance is issued by the applicable taxing authorities and as new accounting treatment is clarified, we may report additional adjustments in the period if new information becomes available. We have a significant amount of deferred tax assets and a portion of the deferred tax assets related to net operating losses or tax credits could be subject to limitations under Internal Revenue Code Section 382 or 383, separate return loss year rules, or dual consolidated loss rules. The limitations could reduce the ability of the Company to be able to utilize the net operating losses or tax credits before the expiration of the tax attributes. Tax law changes or the limitations could be material and could materially affect our tax obligations and effective tax rate.

In the ordinary course of our business, there are many transactions and calculations where the ultimate income tax, indirect tax, or other tax determination is uncertain. Although we believe our tax estimates are reasonable, we cannot assure that the final determination of any tax audits and litigation will not be materially different from that which is reflected in historical tax provisions and accruals. Should additional taxes be assessed as a result of an audit, assessment or litigation, there could be a material adverse effect on our cash, tax provisions and net income in the period or periods for which that determination is made.

We are subject to environmental laws, conflict minerals-related provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act as well as a variety of other laws or regulations that could result in additional costs and liabilities.

Our operations and properties have in the past been and continue to be subject to various United States and foreign laws and regulations, including those relating to materials used in our products and manufacturing processes, discharge of pollutants into the environment, the treatment, transport, storage and disposal of solid and hazardous wastes and remediation of contamination. These laws and regulations require our suppliers to obtain permits for operations making our products,

including the discharge of air pollutants and wastewater. Although our management systems are designed to oversee our suppliers' compliance, we cannot assure you that our suppliers have been or will be at all times in complete compliance with such laws, regulations and permits.

If our suppliers violate or fail to comply with any of them, a range of consequences could result, including fines, suspension of production, alteration of manufacturing processes, import/export restrictions, sales limitations, criminal and civil liabilities or other sanctions. Such non-compliance from our manufacturing suppliers could result in disruptions in supply, higher sourcing costs, and/or reputational damage for us.

Environmental laws are complex, change frequently and have tended to become more stringent over time. For example, the European Union (EU) and China are two among a growing number of jurisdictions that have enacted restrictions on the use of lead and other materials in electronic products. These regulations affect semiconductor devices and packaging. As regulations restricting materials in electronic products continue to increase around the world, there is a risk that the cost, quality and manufacturing yields of products that are subject to these restrictions may be less favorable compared to products that are not subject to such restrictions, or that the transition to compliant products may not meet customer roadmaps, or produce sudden changes in demand, which may result in excess inventory. A number of jurisdictions including the EU, Australia, California and China are developing or have finalized market entry or public procurement regulations for computers and servers based on ENERGY STAR specifications as well as additional energy consumption limits. There is the potential for certain of our products being excluded from some of these markets which could materially adversely affect us.

Certain environmental laws, including the United States Comprehensive, Environmental Response, Compensation and Liability Act of 1980, or the Superfund Act, impose strict or, under certain circumstances, joint and several liability on current and previous owners or operators of real property for the cost of removal or remediation of hazardous substances and impose liability for damages to natural resources. These laws often impose liability even if the owner or operator did not know of, or was not responsible for, the release of such hazardous substances. These environmental laws also assess liability on persons who arrange for hazardous substances to be sent to disposal or treatment facilities when such facilities are found to be contaminated. Such persons can be responsible for cleanup costs even if they never owned or operated the contaminated facility. We have been named as a responsible party at three Superfund sites in Sunnyvale, California. Although we have not yet been, we could be named a potentially responsible party at other Superfund or contaminated sites in the future. In addition, contamination that has not yet been identified could exist at our other facilities.

Under the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, the SEC adopted disclosure and reporting requirements for companies that use “conflict” minerals originating from the Democratic Republic of Congo or adjoining countries. We continue to incur additional costs associated with complying with these requirements, such as costs related to developing internal controls for the due diligence process, determining the source of any conflict minerals used in our products, auditing the process and reporting to our customers and the SEC. In addition to the SEC regulation, the European Union, China and other jurisdictions are developing new policies focused on conflict minerals that may impact and increase the cost of our compliance program. Also, since our supply chain is complex, we may face reputational challenges if we are unable to sufficiently verify the origins of the subject minerals. Moreover, we are likely to encounter challenges to satisfy those customers who require that all of the components of our products are certified as “conflict free.” If we cannot satisfy these customers, they may choose a competitor’s products.

The United States federal government has issued new policies for federal procurement focused on eradicating the practice of forced labor and human trafficking. Germany’s federal procurement office, in collaboration with the Bitkom trade association, issued new supply chain labor requirements. In addition, the United Kingdom, Australia and the State of California have issued laws that require us to disclose our policy and practices for identifying and eliminating forced labor and human trafficking in our supply chain. Several customers as well as the Responsible Business Alliance have also issued expectations to eliminate these practices that may impact us. While we have a policy and management systems to identify and avoid these practices in our supply chain, we cannot guarantee that our suppliers will always be in conformance to these laws and expectations. We may face enforcement liability and reputational challenges if we are unable to sufficiently meet these expectations. Moreover, we are likely to encounter challenges with customers if we cannot satisfy their forced and trafficked labor policies and they may choose a competitor’s product.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

As of December 28, 2019, we leased approximately 2.35 million square feet of space for research and development, engineering, administrative and warehouse use, including our headquarters in Santa Clara, California, our principal administrative facilities in Austin, Texas, our design center in Shanghai, China, our main facility with respect to graphics and

chipset products located in Markham, Ontario, Canada and a number of smaller regional sales offices located in commercial centers near customers,

principally in the United States, Europe, Asia and Latin America. These leases expire at varying dates through 2028, although some of these leases include optional renewals. We occupy 220,000 square feet of space in our headquarters in Santa Clara, California under a 10-year operating lease which commenced in August 2017 and expires in July 2027. We have the option to extend the term of the lease for two additional 5-year periods. The lease for our principal administrative facilities in Austin, Texas expires in March 2025, and provides for one 10-year optional renewal. The leases for our facilities in Markham, Ontario, Canada expire in February 2028, and provide for one 5-year optional renewals. We occupy approximately 265,000 square feet of space in our design center in Shanghai, China under a 10-year operating lease, which expires in March 2028.

We currently do not anticipate difficulty in either retaining occupancy of any of our facilities through lease renewals prior to expiration or through month-to-month occupancy or replacing them with equivalent facilities.

We believe that our existing facilities are suitable and adequate for our present purposes and that the productive capacity of such facilities is substantially being utilized or we have plans to utilize such capacity.

ITEM 3. LEGAL PROCEEDINGS

Shareholder Derivative Lawsuits (Wessels, Hamilton and Ha)

On March 20, 2014, a purported shareholder derivative lawsuit captioned *Wessels v. Read, et al.*, Case No. 1:14-cv-262486 (Wessels) was filed against us (as a nominal defendant only) and certain of our directors and officers in the Santa Clara County Superior Court of the State of California. The complaint purports to assert claims against us and certain individual directors and officers for breach of fiduciary duty, waste of corporate assets and unjust enrichment. The complaint seeks damages allegedly caused by alleged materially misleading statements and/or material omissions by us and the individual directors and officers regarding our 32nm technology and “Llano” product, which statements and omissions, the plaintiffs claim, allegedly operated to artificially inflate the price paid for our common stock during the period. On April 27, 2015, a similar purported shareholder derivative lawsuit captioned *Christopher Hamilton and David Hamilton v. Barnes, et al.*, Case No. 5:15-cv-01890 (Hamilton) was filed against us (as a nominal defendant only) and certain of our directors and officers in the United States District Court for the Northern District of California.

On September 29, 2015, a similar purported shareholder derivative lawsuit captioned *Jake Ha v Caldwell, et al.*, Case No. 3:15-cv-04485 (Ha) was filed against us (as a nominal defendant only) and certain of our directors and officers in the United States District Court for the Northern District of California. The lawsuit also seeks a court order voiding the stockholder vote on our 2015 proxy. The case was transferred to the judge handling the Hamilton Lawsuit and is now Case No. 4:15-cv-04485. The Wessels, Hamilton and Ha shareholder derivative lawsuits were stayed pending resolution of a class action lawsuit captioned *Hatamian v. AMD, et al.*, C.A. No. 3:14-cv-00226 filed against us in the United States District Court for the Northern District of California (the Hatamian Lawsuit). The Hatamian Lawsuit asserted claims against us and certain of our officers for alleged violations of Section 10(b) of the Exchange Act of 1934, as amended (the Exchange Act), and SEC Rule 10b-5 concerning certain statements regarding our 32nm technology and “Llano” products. On October 9, 2017, the parties signed a definitive settlement agreement resolving the Hatamian Lawsuit and submitted it to the Court for approval. Under the terms of this agreement, the settlement was funded entirely by certain of our insurance carriers and the defendants continued to deny any liability or wrongdoing. On March 2, 2018, the court approved the settlement and entered a final judgment in the Hatamian Lawsuit.

On January 30, 2018, the Wessels and Hamilton plaintiffs amended their complaints. On February 2, 2018, the Ha plaintiff also filed an amended complaint. On February 22, 2018, we filed motions to dismiss the Hamilton and Ha plaintiffs’ amended complaints. On April 2, 2018, we filed a demurrer seeking to dismiss the Wessels amended complaint. On July 23, 2018, the Santa Clara Superior Court sustained our demurrer in the Wessels case, dismissing all claims in that matter with prejudice. The Wessels plaintiff filed a Notice of Appeal on September 27, 2018. On October 4, 2018, the Federal Court issued an order dismissing the Hamilton and Ha amended complaints. The Hamilton plaintiffs filed a Notice of Appeal on October 8, 2018, and the Ha plaintiffs filed a Notice of Appeal on October 15, 2018. On November 19, 2018, the Hamilton and Ha plaintiffs filed a motion seeking summary reversal of the order dismissing their claims. We opposed this motion on December 13, 2018, and the Court denied it on February 25, 2019. The Wessels, Hamilton, and Ha appeals are currently pending. Briefing has completed in each appeal.

Based upon information presently known to management, we believe that the potential liability, if any, will not have a material adverse effect on our financial condition, cash flows or results of operations.

Hauck et al. Litigation

Since January 19, 2018, three putative class action complaints have been filed against us in the United States District Court for the Northern District of California: (1) *Diana Hauck et al. v. AMD, Inc.*, Case No. 5:18-cv-0047, filed on January

19, 2018; (2) *Brian Speck et al. v. AMD, Inc.*, Case No. 5:18-cv-0744, filed on February 4, 2018; and (3) *Nathan Barnes and Jonathan Caskey-Medina, et al. v. AMD, Inc.*, Case No. 5:18-cv-00883, filed on February 9, 2018. On April 9, 2018, the court consolidated

these cases and ordered that *Diana Hauck et al. v. AMD, Inc.* serve as the lead case. On June 13, 2018, six plaintiffs (from California, Louisiana, Florida, and Massachusetts) filed a consolidated amended complaint alleging that we failed to disclose our processors' alleged vulnerability to Spectre. Plaintiffs further allege that our processors cannot perform at their advertised processing speeds without exposing consumers to Spectre, and that any "patches" to remedy this security vulnerability will result in degradation of processor performance. The plaintiffs seek damages under several causes of action on behalf of a nationwide class and four state subclasses (California, Florida, Massachusetts, Louisiana) of consumers who purchased our processors and/or devices containing AMD processors. The plaintiffs also seek attorneys' fees, equitable relief, and restitution. Pursuant to the court's order directing the parties to litigate only eight of the causes of action in the consolidated amended complaint initially, we filed a motion to dismiss on July 13, 2018. On October 29, 2018, after the plaintiffs voluntarily dismissed one of their claims, the court granted our motion and dismissed six causes of action with leave to amend. The plaintiffs filed their amended consolidated complaint on December 6, 2018. On January 3, 2019, we again moved to dismiss the subset of claims currently at issue. On April 4, 2019, the court granted our motion and dismissed all claims currently at issue with prejudice. On May 6, 2019, the court granted the parties' stipulation and request under Fed. R. Civ. P. 54(b) to enter a partial final judgment and certify for appeal the court's April 4, 2019 dismissal order, and on that same date, the plaintiffs voluntarily dismissed without prejudice their remaining claims pursuant to an agreement whereby, subject to certain terms and conditions, we agreed to toll the statute of limitations and/or statute of repose. On May 30, 2019, the plaintiffs filed a Notice of Appeal with the U.S. Court of Appeals for the Ninth Circuit. Briefing has completed for the appeal.

Based upon information presently known to management, we believe that the potential liability, if any, will not have a material adverse effect on our financial condition, cash flows or results of operations.

Quarterhill Inc. Litigation

On July 2, 2018, three entities named Aquila Innovations, Inc. (Aquila), Collabo Innovations, Inc. (Collabo), and Polaris Innovations, Ltd. (Polaris), filed separate patent infringement complaints against us in the United States District Court for the Western District of Texas. Aquila alleges that we infringe two patents (6,239,614 and 6,895,519) relating to power management; Collabo alleges that we infringe one patent (7,930,575) related to power management; and Polaris alleges that we infringe two patents (6,728,144 and 8,117,526) relating to control or use of dynamic random-access memory, or DRAM. Each of the three complaints seeks unspecified monetary damages, interest, fees, expenses, and costs against us; Aquila and Collabo also seek enhanced damages. Aquila, Collabo, and Polaris each appear to be related to a patent assertion entity named Quarterhill Inc. (formerly WiLAN Inc.). On November 16, 2018, AMD filed answers in the *Collabo* and *Aquila* cases and filed a motion to dismiss in the *Polaris* case. On January 25, 2019, we filed amended answers and counterclaims in the *Collabo* and *Aquila* cases. On July 22, 2019, our motion to dismiss in the *Polaris* case was denied. On August 23, 2019, the Court held a claim construction hearing in each case.

Based upon information presently known to management, we believe that the potential liability, if any, will not have a material adverse effect on our financial condition, cash flows or results of operations.

Dickey Litigation

On October 26, 2015, a putative class action complaint captioned *Dickey et al. v. AMD*, No. 15-cv-04922 was filed against us in the United States District Court for the Northern District of California. Plaintiffs allege that we misled consumers by using the term "eight cores" in connection with the marketing of certain AMD FX CPUs that are based on our "Bulldozer" core architecture. The plaintiffs allege these products cannot perform eight calculations simultaneously, without restriction. The plaintiffs seek to obtain damages under several causes of action for a nationwide class of consumers who allegedly were deceived into purchasing certain Bulldozer-based CPUs that were marketed as containing eight cores. The plaintiffs also seek attorneys' fees. On December 21, 2015, we filed a motion to dismiss the complaint, which was granted on April 7, 2016. The plaintiffs then filed an amended complaint with a narrowed putative class definition, which the Court dismissed upon our motion on October 31, 2016. The plaintiffs subsequently filed a second amended complaint, and we filed a motion to dismiss the second amended complaint. On June 14, 2017, the Court issued an order granting in part and denying in part our motion to dismiss, and allowing the plaintiffs to move forward with a portion of their complaint. On March 27, 2018, plaintiffs filed their motion for class certification. On January 17, 2019, the Court granted plaintiffs' motion for class certification. The class definition does not encompass our Ryzen or EPYC processors. On January 31, 2019, we filed a petition in the Ninth Circuit Court of Appeals seeking review of certain aspects of the January 17, 2019 class certification order. On May 9, 2019, the parties attended mediation and reached a tentative settlement. On June 3, 2019, the Ninth Circuit Court of Appeals denied our petition seeking appellate review of the January 17, 2019, class certification order. On August 9, 2019, the parties executed a formal settlement agreement. On August 23, 2019, plaintiffs filed their motion for preliminary approval of the settlement agreement. On October 4, 2019, the Court granted the motion for preliminary approval of the settlement agreement.

Based upon information presently known to management, we believe that the settlement will not have a material adverse effect on our financial condition, cash flows or results of operations.

Monterey Research Litigation

On November 15, 2019, Monterey Research, LLC filed a patent infringement complaint against us in the United States District Court for the District of Delaware. Monterey Research alleges that we infringe six U.S. patents: 6,534,805 (related to SRAM cell design); 6,629,226 (related to read interface protocols); 6,651,134 (related to memory devices); 6,765,407 (related to programmable digital circuits); 6,961,807 (related to integrated circuits and associated memory systems); and 8,373,455 (related to output buffer circuits). Monterey Research seeks unspecified monetary damages, enhanced damages, interest, fees, expenses, costs, and injunctive relief against us. On January 22, 2020, we filed a motion to dismiss part of Monterey Research's complaint.

Based upon information presently known to management, we believe that the potential liability, if any, will not have a material adverse effect on our financial condition, cash flows or results of operations.

Environmental Matters

We are named as a responsible party on Superfund clean-up orders for three sites in Sunnyvale, California that are on the National Priorities List. Since 1981, we have discovered hazardous material releases to the groundwater from former underground tanks and proceeded to investigate and conduct remediation at these three sites. The chemicals released into the groundwater were commonly used in the semiconductor industry in the United States in the wafer fabrication process prior to 1979.

In 1991, we received Final Site Clean-up Requirements Orders from the California Regional Water Quality Control Board relating to the three sites. We have entered into settlement agreements with other responsible parties on two of the orders. During the term of such agreements, other parties have agreed to assume most of the foreseeable costs as well as the primary role in conducting remediation activities under the orders. We remain responsible for additional costs beyond the scope of the agreements as well as all remaining costs in the event that the other parties do not fulfill their obligations under the settlement agreements.

To address anticipated future remediation costs under the orders, we have computed and recorded an estimated environmental liability of approximately \$3 million and have not recorded any potential insurance recoveries in determining the estimated costs of the cleanup. Costs could also increase as a result of additional test and remediation obligations imposed by the Environmental Protection Agency or California Regional Water Quality Control Board. The progress of future remediation efforts cannot be predicted with certainty and these costs may change. We believe that the potential liability, if any, in excess of amounts already accrued, will not have a material adverse effect on our financial condition, cash flows or results of operations.

Other Matters

We are a defendant or plaintiff in various actions that arose in the normal course of business. With respect to these matters, based on our management's current knowledge, we believe that the amount or range of reasonably possible loss, if any, will not, either individually or in the aggregate, have a material adverse effect on our business, financial position, results of operations or cash flows.

ITEM 4. MINE SAFETY DISCLOSURES

Not Applicable.

PART II

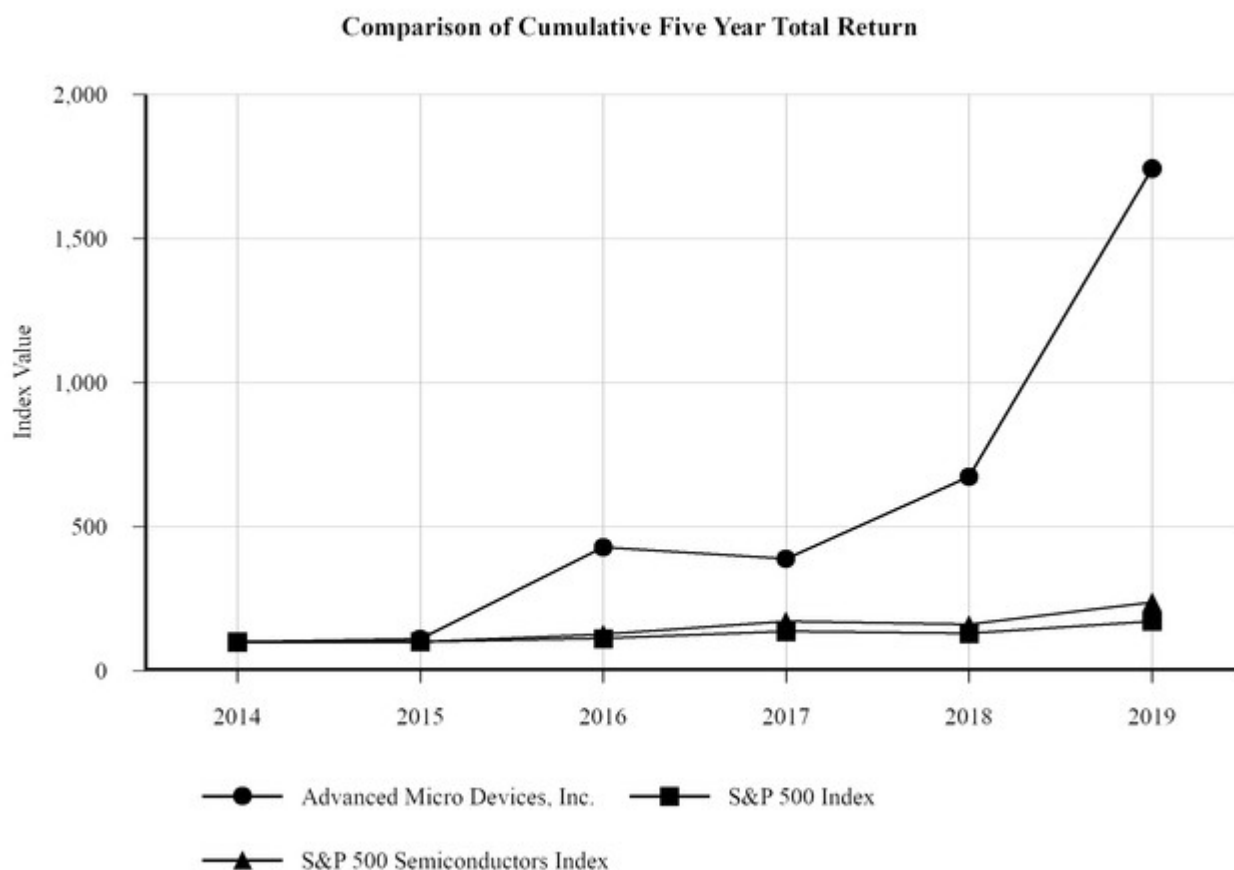
ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Our common stock is listed on The NASDAQ Global Select Market (NASDAQ) under the symbol "AMD". On January 31, 2020, there were 4,364 registered holders of our common stock, and the closing price of our common stock was \$47.00 per share as reported on NASDAQ.

For information about our equity compensation plans, see Part III, Item 11, below.

Performance Graph Comparison of Five-Year Cumulative Total Returns Advanced Micro Devices, S&P 500 Index and S&P 500 Semiconductor Index

The following graph shows a five-year comparison of cumulative total return on our common stock, the S&P 500 Index and the S&P 500 Semiconductor Index from December 27, 2014 through December 28, 2019. The past performance of our common stock is no indication of future performance.



Company / Index	Base Period			Years Ending		
	12/27/2014	12/26/2015	12/31/2016	12/30/2017	12/29/2018	12/28/2019
Advanced Micro Devices, Inc.	100	110.19	427.92	387.92	672.45	1,742.64
S&P 500 Index	100	100.77	111.92	136.35	129.26	171.64
S&P 500 Semiconductors Index	100	100.47	126.23	172.07	160.39	237.49

Unregistered Sales of Equity Securities

We issued warrants dated December 30, 2019 to purchase 40,162 shares of our common stock to a commercial partner pursuant to a strategic arrangement with such partner. The warrants have an exercise price of \$25.4994 per share and expire on December 30, 2022. The warrants were issued pursuant to Section 4(a)(2) of the Securities Act of 1933, as amended.

ITEM 6. SELECTED FINANCIAL DATA

	2019 ⁽¹⁾	2018 ⁽¹⁾	2017 ⁽¹⁾⁽²⁾	2016 ⁽¹⁾⁽²⁾	2015 ⁽¹⁾
In millions except per share amounts					
Net revenue	\$ 6,731	\$ 6,475	\$ 5,253	\$ 4,319	\$ 3,991
Net income (loss) ⁽³⁾⁽⁴⁾	\$ 341	\$ 337	\$ (33)	\$ (498)	\$ (660)
Earnings (loss) per share					
Basic	\$ 0.31	\$ 0.34	\$ (0.03)	\$ (0.60)	\$ (0.84)
Diluted	\$ 0.30	\$ 0.32	\$ (0.03)	\$ (0.60)	\$ (0.84)
Shares used in per share calculation					
Basic	1,091	982	952	835	783
Diluted	1,120	1,064	952	835	783
Long-term debt, net and other long-term liabilities ⁽⁵⁾	\$ 643	\$ 1,306	\$ 1,443	\$ 1,559	\$ 2,093
Total assets	\$ 6,028	\$ 4,556	\$ 3,552	\$ 3,328	\$ 3,084

(1) 2019, 2018, 2017, and 2015 each consisted of 52 weeks, whereas 2016 consisted of 53 weeks.

(2) 2017 and 2016 amounts adjusted to reflect the retrospective application of Financial Accounting Standards Board (FASB) Accounting Standards Update (ASU) 2014-09, *Revenue from Contracts with Customers*.

(3) In 2016, we recorded a charge of \$340 million in Cost of sales, consisting of the \$240 million value of the warrant under a warrant agreement and the \$100 million payment, which were both associated with the sixth amendment to the WSA. In addition, we recorded a cumulative pre-tax gain of \$146 million on the sale of our 85% equity interest in the ATMP JV.

(4) In 2015, we implemented restructuring plans and incurred net charges of \$53 million, which primarily consisted of severance and related employee benefits. In addition, we exited the dense server systems business, formerly Sea Micro, Inc., resulting in a charge of \$76 million in restructuring and other special charges, net. Also, we recorded an inventory write-down of \$65 million, which was primarily the result of lower anticipated demand for older-generation APUs, and a technology node transition charge of \$33 million.

(5) In 2019, we reduced our long-term debt, net and other long term liabilities by \$663 million, primarily due to \$628 million of net debt conversion and repayment. In 2016, we reduced our long-term debt, net and other long term liabilities by \$534 million, primarily due to \$1,048 million of net debt repayment, partially offset by the issuance of \$805 million in principal amount of 2.125% Notes net of unamortized discount of \$308 million and unamortized issuance cost of \$14 million.

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

The following discussion should be read in conjunction with the consolidated financial statements as of December 28, 2019 and December 29, 2018 and for each of the three years in the period ended December 28, 2019 and related notes, which are included in this Annual Report on Form 10-K as well as with the other sections of this Annual Report on Form 10-K, including "Part I, Item 1: Business," "Part II, Item 6: Selected Financial Data" and "Part II, Item 8: Financial Statements and Supplementary Data."

Introduction

In this section, we will describe the general financial condition and the results of operations of Advanced Micro Devices, Inc. and its wholly-owned subsidiaries (collectively, "us," "our" or "AMD"), including a discussion of our results of operations for 2019 compared to 2018, an analysis of changes in our financial condition and a discussion of our contractual obligations and off-balance sheet arrangements. Discussions of 2017 items and year-to-year comparisons between 2018 and 2017 that are not included in this Form 10-K can be found in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7 of our Annual Report on Form 10-K for the fiscal year ended December 29, 2018.

Overview

2019 marked a milestone in our multi-year journey with the launch of our 7 nanometer (nm) product portfolio. We executed our product roadmap and introduced a number of high-performance products in 2019. For the PC market, we introduced the 3rd Gen AMD Ryzen™ desktop processor family based on the new Zen 2 core architecture with AMD chiplet design approach. In addition to our mainstream PC product family, we introduced the next generation of the Ryzen™ Threadripper™ product line designed for the high-end desktop segment for creators and enthusiasts. We announced our second-generation AMD Ryzen™ 3000 Series notebook processors, powering ultrathin, commercial and gaming notebooks.

A number of high-performance graphics products were also launched in 2019. We introduced the AMD Radeon™ VII, a premium graphics card for gamers, creators and enthusiasts. We also announced the availability of the AMD Radeon™ RX 5700-series gaming graphics card family, the AMD Radeon™ RX 5500 series that will be available in desktop PCs from major PC manufacturers as well as the Radeon™ 5500M GPU for notebook PCs. Our AMD Radeon™ Pro Vega II GPU is designed to power demanding professional applications. We also announced the AMD Radeon™ Pro W5700, a 7nm professional PC workstation graphics card that enables 3D professionals to visualize and interact with their designs in real time.

For the server market, we introduced the 2nd Gen AMD EPYC™ family of processors that feature up to 64 "Zen 2" cores in 7nm process technology for performance and are designed to reduce total cost of ownership (TOC) by up to 50%.

Net revenue for 2019 was \$6.7 billion, an increase of 4% compared to 2018 net revenue of \$6.5 billion. Gross margin, as a percentage of net revenue for 2019, was 43%, compared to 38% in 2018. Our operating income for 2019 improved to \$631 million compared to operating income of \$451 million for 2018. Our net income for 2019 improved to \$341 million compared to \$337 million in the prior year.

Cash, cash equivalents and marketable securities as of December 28, 2019 were \$1.5 billion, up from \$1.2 billion at the end of 2018. We made significant progress towards improving our balance sheet in 2019 as we reduced our debt. Principal amount of total debt as of December 28, 2019 was \$563 million, compared to \$1.5 billion as of December 29, 2018.

We intend the discussion of our financial condition and results of operations that follows to provide information that will assist in understanding our financial statements, the changes in certain key items in those financial statements from period to period, the primary factors that resulted in those changes, and how certain accounting principles, policies and estimates affect our financial statements.

Critical Accounting Estimates

Our discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles (U.S. GAAP). The preparation of our financial statements requires us to make estimates and judgments that affect the reported amounts in our consolidated financial statements. We evaluate our estimates on an on-going basis, including those related to our revenue, inventories, goodwill impairments and income taxes. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities. Although actual results have historically been reasonably consistent with management's expectations, the actual results may differ from these estimates or our estimates may be affected by different assumptions or conditions.

Management believes the following critical accounting estimates are the most significant to the presentation of our financial statements and require the most difficult, subjective and complex judgments.

Revenue recognition. We recognize revenue upon the shipment of the product to our distributors (sell-in), rather than upon the resale of the product by our distributors to their customers (sell-through). Accordingly, we have established provisions for rights of return and price protection on unsold product held by our distributors.

Revenue Allowances. We record a provision for estimated sales returns and allowances on product sales for estimated future price reductions and other customer incentives in the same period that the related revenues are recorded. We base these estimates on actual historical sales returns, historical allowances, historical price reductions, market activity and other known or anticipated trends and factors. These estimates are subject to management's judgment and actual provisions could be different from our estimates and current provisions, resulting in future adjustments to our revenue and operating results.

Inventory Valuation. At each balance sheet date, we evaluate our ending inventories for excess quantities and obsolescence based on projected sales outlook. This evaluation includes analysis of historical sales levels by product and projections of future demand. These projections assist us in determining the carrying value of our inventory. In addition, we write off inventories that we consider obsolete. We adjust the remaining specific inventory balances to approximate the lower of our actual cost or estimated net realizable value. Among other factors, management considers recent historical activity as well as anticipated or forecasted demand, estimates of future selling prices, competitiveness of product offerings, market and industry conditions, customer requirements and product life cycles when determining excess, obsolescence and net realizable value in relation to the inventory on hand. If in any period we anticipate future demand or market conditions to be less favorable than our previous estimates, additional inventory write-downs may be required and would be reflected in cost of sales in the period the revision is made. This would have a negative impact on our gross margin in that period. If in any period we are able to sell inventories that were not valued or that had been written down in a previous period, related revenues would be recorded without any offsetting charge to cost of sales resulting in a net benefit to our gross margin in that period.

Goodwill. We perform our goodwill impairment analysis as of the first day of the fourth quarter of each year and, if certain events or circumstances indicate that an impairment loss may have been incurred, on a more frequent basis. The analysis may include both qualitative and quantitative factors to assess the likelihood of an impairment.

Qualitative factors include industry and market consideration, overall financial performance, share price trends and market capitalization and Company-specific events. We first analyze qualitative factors. If we conclude it is more likely than not that the fair value of a reporting unit exceeds its carrying amount, we do not proceed to perform a quantitative impairment test.

If we conclude it is more likely than not that the fair value of the reporting unit is less than its carrying value, a quantitative goodwill impairment test will be performed by comparing the fair value of each reporting unit to its carrying value. A quantitative impairment analysis, if necessary, considers the income approach, which requires estimates of the present value of expected future cash flows to determine a reporting unit's fair value. Significant estimates include revenue growth rates and operating margins used to calculate projected future cash flows, discount rates, and future economic and market conditions.

A goodwill impairment charge is recognized for the amount by which the reporting unit's fair value is less than its carrying value. Any loss recognized should not exceed the total amount of goodwill allocated to that reporting unit.

Income Taxes. In determining taxable income for financial statement reporting purposes, we must make certain estimates and judgments. These estimates and judgments are applied in the calculation of certain tax liabilities and in the determination of the recoverability of deferred tax assets which arise from temporary differences between the recognition of

assets and liabilities for tax and financial statement reporting purposes.

We must assess the likelihood that we will be able to recover our deferred tax assets. Unless recovery is considered more-likely-than-not (a probability level of more than 50%), we will record a charge to income tax expense in the form of a valuation allowance for the deferred tax assets that we estimate will not ultimately be recoverable or maintain the valuation allowance recorded in prior periods. In determining the need to establish or maintain a valuation allowance, we consider multiple factors including past performance, the reversal of deferred tax liabilities, tax planning strategies, and future expected taxable income. When considering all available evidence, if it is determined we can more-likely-than-not realize our deferred tax assets, we will reverse the existing valuation allowance, which would result in a credit to income tax expense and the establishment of an asset in the period of reversal.

In addition, the calculation of our tax liabilities involves dealing with uncertainties in the application of complex tax rules and the potential for future adjustment of our uncertain tax positions by the Internal Revenue Service or other taxing authorities. If our estimates of these taxes are greater or less than actual results, an additional tax benefit or charge will result. We recognize the interest and penalties related to unrecognized tax benefits as interest expense and income tax expense, respectively.

Results of Operations

We report our financial performance based on the following two reportable segments: the Computing and Graphics segment and the Enterprise, Embedded and Semi-Custom segment.

Additional information on our reportable segments is contained in Note 15: Segment Reporting of the Notes to Financial Statements (Part II, Item 8 of this Form 10-K).

Our operating results tend to vary seasonally. Historically, our net revenue has been generally higher in the second half of the year than in the first half of the year, although market conditions and product transitions could impact these trends.

The following table provides a summary of net revenue and operating income (loss) by segment for 2019, 2018 and 2017.

	2019	2018	2017
	(In millions)		
Net revenue:			
Computing and Graphics	\$ 4,709	\$ 4,125	\$ 2,977
Enterprise, Embedded and Semi-Custom	2,022	2,350	2,276
Total net revenue	<u>\$ 6,731</u>	<u>\$ 6,475</u>	<u>\$ 5,253</u>
Operating income (loss):			
Computing and Graphics	\$ 577	\$ 470	\$ 92
Enterprise, Embedded and Semi-Custom	263	163	132
All Other	(209)	(182)	(97)
Total operating income	<u>\$ 631</u>	<u>\$ 451</u>	<u>\$ 127</u>

Computing and Graphics

Computing and Graphics net revenue of \$4.7 billion in 2019 increased by 14%, compared to \$4.1 billion in 2018, primarily as a result of a 22% increase in average selling price and a 4% increase in unit shipments. The increase in average selling price was primarily driven by a richer mix of client processors due to strong demand of our Ryzen processors. The increase in unit shipments was primarily due to higher demand for our Ryzen processors, partially offset by lower demand for our Radeon graphics products.

Computing and Graphics operating income was \$577 million in 2019 compared to operating income of \$470 million in 2018. The increase in operating income was primarily driven by higher sales, partially offset by a \$194 million increase in operating expenses. Operating expenses increased for the reasons outlined under "Expenses" below.

Enterprise, Embedded and Semi-Custom

Enterprise, Embedded and Semi-Custom net revenue of \$2.0 billion in 2019 decreased by 14% compared to net revenue of \$2.4 billion in 2018, primarily as a result of lower semi-custom product revenue, partially offset by higher sales of our EPYC server processors.

Enterprise, Embedded and Semi-Custom operating income was \$263 million in 2019 compared to operating income of \$163 million in 2018. The increase in operating income was due primarily to higher sales of our EPYC server processor and a licensing

gain of \$60 million recognized in the first quarter of 2019, partially offset by lower semi-custom product revenue and a \$37 million increase in operating expenses. Operating expenses increased for the reasons outlined under “Expenses” below.

All Other

All Other operating loss of \$209 million in 2019 included \$197 million of stock-based compensation expense and a \$12 million contingent loss accrual on a legal matter.

All Other operating loss of \$182 million in 2018 included \$137 million of stock-based compensation expense and an impairment of technology licenses of \$45 million.

Comparison of Gross Margin, Expenses, Licensing Gain, Interest Expense, Other Expense and Income Taxes

The following is a summary of certain consolidated statement of operations data for 2019, 2018 and 2017:

	2019	2018	2017
	(In millions, except for percentages)		
Cost of sales	\$ 3,863	\$ 4,028	\$ 3,466
Gross profit	2,868	2,447	1,787
Gross margin percentage	43%	38%	34%
Research and development	1,547	1,434	1,196
Marketing, general and administrative	750	562	516
Licensing gain	(60)	—	(52)
Interest expense	(94)	(121)	(126)
Other expense, net	(165)	—	(9)
Provision for (benefit from) income taxes	31	(9)	18

Gross Margin

Gross margin as a percentage of net revenue was 43% in 2019 compared to 38% in 2018. The improvement in gross margin was primarily driven by higher sales of Ryzen and EPYC processors, which have a higher gross margin than the corporate average.

Expenses

Research and Development Expenses

Research and development expenses of \$1.5 billion in 2019 increased by \$113 million, or 8%, compared to \$1.4 billion in 2018. The increase was primarily due to an increase in product development costs in both the Computing and Graphics and Enterprise, Embedded and Semi-Custom segments as well as an increase in stock-based compensation expense.

Marketing, General and Administrative Expenses

Marketing, general and administrative expenses of \$750 million in 2019 increased by \$188 million, or 33%, compared to \$562 million in 2018. The increase was primarily due to an increase in go-to-market activities in both the Computing and Graphics and Enterprise, Embedded and Semi-Custom segments, as well as an increase in stock-based compensation expense.

Licensing Gain

During 2019, we recognized \$60 million as licensing gain associated with the licensed IP to THATIC JV. See Note 4 of “Notes to Consolidated Financial Statements” for additional information.

Interest Expense

Interest expense of \$94 million in 2019 decreased by \$27 million compared to \$121 million in 2018, primarily due to lower debt balances.

Other Expense, Net

Other expense, net increased in 2019 by \$165 million from net of zero in 2018. The change from 2018 to 2019 was primarily due to \$176 million of loss on redemption, repurchases and conversions of debt in 2019.

Provision For (Benefit From) Income Taxes

We recorded an income tax provision of \$31 million in 2019 and income tax benefit of \$9 million in 2018.

The income tax provision in 2019 was primarily due to \$22 million of withholding taxes related to cross-border transactions and \$22 million of foreign income taxes in profitable locations partially offset by a \$13 million benefit for a reduction of U.S. income taxes accrued in the prior year.

The income tax benefit in 2018 was primarily due to a \$36 million refund of withholding tax from a foreign jurisdiction related to a legal settlement from 2010, offset by \$13 million of U.S. income taxes resulting from the Tax Reform Act, \$7 million tax provision in foreign locations and \$7 million of withholding taxes on cross-border transactions.

As we continue to make progress in our business resulting in improved financial results, our future reassessment could possibly result in a determination that a valuation allowance is no longer required. The impact of the determination would result in the release of the valuation allowance and significant financial impact in a future reporting period with a material non-cash income tax benefit and the recording of additional deferred tax assets on our consolidated balance sheet.

International Sales

International sales as a percentage of net revenue were 74% in 2019 and 80% in 2018. We expect that international sales will continue to be a significant portion of total sales in the foreseeable future. Substantially all of our sales transactions are denominated in U.S. dollars.

FINANCIAL CONDITION

Liquidity and Capital Resources

As of December 28, 2019, our cash, cash equivalents and marketable securities were \$1.5 billion compared to \$1.2 billion as of December 29, 2018. The percentage of cash and cash equivalents held domestically was 90% as of December 28, 2019, and 88% as of December 29, 2018. Our operating, investing and financing activities for fiscal 2019, 2018 and 2017 were as follows:

	2019	2018	2017
		(In millions)	
Net cash provided by (used in):			
Operating activities	\$ 493	\$ 34	\$ 12
Investing activities	(149)	(170)	(54)
Financing activities	43	28	(33)
Net increase (decrease) in cash and cash equivalents, and restricted cash	<u>\$ 387</u>	<u>\$ (108)</u>	<u>\$ (75)</u>

Our aggregate principal debt obligations were \$0.6 billion and \$1.5 billion as of December 28, 2019 and December 29, 2018, respectively.

We believe our cash, cash equivalents and marketable securities balance along with our Secured Revolving Facility entered into in June 2019 (refer to Note 7 of “Notes to Consolidated Financial Statements for additional information) will be sufficient to fund operations, including capital expenditures, over the next 12 months. We believe we will be able to access the capital markets should we require additional funds. However, we cannot assure that such funds will be available on favorable terms, or at all.

Operating Activities

Net cash provided by operating activities was \$493 million in 2019 compared to net cash provided by operating activities of \$34 million in 2018. The increase in net cash provided by operating activities was primarily due to changes in working capital, largely driven by higher cash collections, partially offset by timing of accounts payable payments and higher wafer purchases and payroll.

Investing Activities

Net cash used in investing activities was \$149 million in 2019, which primarily consisted of \$217 million for purchases of property and equipment, partially offset by a net cash inflow from purchases and maturities of available-for-sale debt securities of \$41 million.

Net cash used in investing activities was \$170 million in 2018, which primarily consisted of \$163 million for purchases of property and equipment and a net cash outflow from purchases and maturities of available-for-sale debt securities of \$78 million.

Financing Activities

Net cash provided by financing activities was \$43 million in 2019, which primarily consisted of a cash inflow of \$449 million from the warrant exercised by West Coast Hitech L.P. (WCH) and \$74 million from the issuance of common stock under our stock-based compensation equity plans, partially offset by \$473 million of cash used for debt reduction activities during the year.

Net cash provided by financing activities was \$28 million in 2018, which consisted of a net cash inflow of \$70 million from the issuance of common stock through employee equity incentive plans, partially offset by \$41 million of cash used for debt reduction activities in 2018.

Contractual Obligations

The following table summarizes our consolidated principal contractual cash obligations, as of December 28, 2019, and is supplemented by the discussion following the table:

(In millions)	Payment due by period						
	Total	2020	2021	2022	2023	2024	2025 and thereafter
Term debt	\$ 563	\$ —	\$ —	\$ 312	\$ —	\$ —	\$ 251
Aggregate interest obligation ⁽¹⁾	102	30	30	21	6	6	9
Other long-term liabilities ⁽²⁾	155	54	50	48	1	—	2
Operating leases	287	54	48	44	37	33	71
Purchase obligations ⁽³⁾	2,290	1,677	592	10	4	2	5
Total contractual obligations ⁽⁴⁾	<u>\$ 3,397</u>	<u>\$ 1,815</u>	<u>\$ 720</u>	<u>\$ 435</u>	<u>\$ 48</u>	<u>\$ 41</u>	<u>\$ 338</u>

(1) Represents interest obligations, payable in cash, for our outstanding debt.

(2) Amounts primarily represent future fixed and non-cancellable cash payments associated with software technology and licenses and IP licenses, including the payments due within the next 12 months.

(3) Represents purchase obligations for goods and services where payments are based, in part, on the volume or type of services we acquire. In those cases, we only included the minimum volume of purchase obligations in the table above. Purchase orders for goods and services that are cancellable upon notice and without significant penalties are not included in the amounts above.

(4) Total amount excludes contractual obligations already recorded on our consolidated balance sheets except for debt obligations and other liabilities related to software and technology licenses and IP licenses.

The expected timing of payments of the obligations in the preceding table is estimated based on current information. Timing of payments and actual amounts paid may be different, depending on the timing of receipt of goods or services, or changes to agreed-upon amounts for some obligations.

Term Debt

7.50% Senior Notes Due 2022

On August 15, 2012, we issued \$500 million of the 7.50% Senior Notes due 2022 (7.50% Notes). The 7.50% Notes are our general unsecured senior obligations. Interest is payable on February 15 and August 15 of each year beginning February 15, 2013 until the maturity date of August 15, 2022. The 7.50% Notes are governed by the terms of an indenture (the 7.50% Indenture) dated August 15, 2012 between us and Wells Fargo Bank, N.A., as trustee.

In 2014, we repurchased \$25 million in aggregate principal amount of the 7.50% Notes in open market transactions for \$24 million. In 2016, we repurchased \$125 million in aggregate principal amount of the 7.50% Notes pursuant to a partial tender offer for \$135 million. In 2017, we settled \$3 million in aggregate principal amount of the 7.50% Notes in treasury

stock. In 2018, we settled \$10 million in aggregate principal amount of the 7.50% Notes in treasury stock at a weighted-average cost of \$9.01 per share. During 2019, we repurchased \$25 million in aggregate principal amount of the 7.50% Notes in cash. As of December 28, 2019, the outstanding aggregate principal amount of the 7.50% Notes was \$312 million.

2.125% Convertible Senior Notes Due 2026

In September 2016, we issued \$805 million in aggregate principal amount of 2.125% Convertible Senior Notes due 2026 (2.125% Notes). The 2.125% Notes are our general unsecured senior obligations. The interest is payable semi-annually in March and September of each year, commencing in March 2017.

The 2.125% Notes mature on September 1, 2026. However, as outlined in the indenture governing the 2.125% Notes, holders of the 2.125% Notes may convert them at their option during certain time periods and upon the occurrence of one of the following circumstances:

(1) during any calendar quarter commencing after the calendar quarter ending on September 30, 2016 (and only during such calendar quarter), if the last reported sale price of our common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each applicable trading day (equivalent to an initial conversion price of approximately \$8.00 per share of common stock);

(2) during the five business day period after any ten consecutive trading day period (the “measurement period”) in which the trading price per \$1,000 principal amount of notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of our common stock and the conversion rate on each such trading day; or

(3) upon the occurrence of specified corporate events.

On or after June 1, 2026 and until the close of business on the business day immediately preceding the maturity date, holders may convert their notes at any time regardless of the foregoing circumstances. Upon conversion, we will pay or deliver, as the case may be, cash, shares of our common stock or a combination of cash and shares of our common stock at our election.

The event described in (1) above was met during the fourth calendar quarter of 2019 and, as a result, the 2.125% Notes are convertible at the option of the holder from January 1, 2020 and remain convertible until March 31, 2020.

During 2019, we converted \$554 million principal amount of the 2.125% Notes through the issuance of approximately 69 million shares of our common stock at the conversion price of \$8.00 per share and an aggregate cash payment of \$56 million. As of December 28, 2019, we had \$251 million principal of 2.125% Notes outstanding.

See Note 7 of “Notes to Consolidated Financial Statements” below for additional information regarding our 7.50% Notes and 2.125% Notes.

Operating Leases

We lease certain of our facilities under non-cancellable lease agreements that expire at various dates through 2028. In addition, we lease certain office equipment for terms ranging from one to five years. Total future non-cancellable lease obligations as of December 28, 2019 were \$287 million, including future lease payments related to leases in Santa Clara, California; Austin, Texas; Markham, Canada and Shanghai, China.

Off-Balance Sheet Arrangements

As of December 28, 2019, we had no off-balance sheet arrangements.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURE ABOUT MARKET RISK

Interest Rate Risk. Our exposure to market risk for changes in interest rates relates primarily to our investment portfolio and long-term debt. We usually invest our cash in investments with short maturities or with frequent interest reset terms. Accordingly, our interest income fluctuates with short-term market conditions. As of December 28, 2019, our investment portfolio consisted primarily of commercial paper. These investments were highly liquid. Due to the relatively short, weighted-average maturity of our investment portfolio and the current low interest rate environment, our exposure to interest rate risk is minimal.

As of December 28, 2019, all of our outstanding long-term debt had fixed interest rates. Consequently, our exposure to market risk for changes in interest rates on reported interest expense and corresponding cash flows is minimal.

We will continue to monitor our exposure to interest rate risk.

Default Risk. We mitigate default risk in our investment portfolio by investing in only high credit quality securities and by constantly positioning our portfolio to respond to a significant reduction in a credit rating of any investment issuer or guarantor. Our portfolio includes investments in marketable debt securities with active secondary or resale markets to ensure portfolio liquidity. We are averse to principal loss and strive to preserve our invested funds by limiting default risk and market risk.

We actively monitor market conditions and developments specific to the securities and security classes in which we invest. We believe that we take a conservative approach to investing our funds in that we invest only in highly-rated debt securities with relatively short maturities and do not invest in securities which we believe involve a higher degree of risk. As of December 28, 2019, substantially all of our investments in debt securities were A-rated by at least one of the rating agencies. While we believe we take prudent measures to mitigate investment-related risks, such risks cannot be fully eliminated as there are circumstances outside of our control.

The following table presents certain information for our investment portfolio and debt obligations as of December 28, 2019:

	2020	2021	2022	2023	2024	2025 and thereafter	Total ⁽¹⁾	2019 Fair Value ⁽²⁾
(In millions, except for percentages)								
Investment Portfolio								
Cash equivalents:								
Variable rate amounts	\$ 1,425	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 1,425	\$ 1,425
Weighted-average rate	1.83%	—%	—%	—%	—%	—%	1.83%	
Marketable securities								
Fixed rate amounts	\$ 37	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 37	\$ 37
Weighted-average rate	2.13%	—%	—%	—%	—%	—%	2.13%	
Total Investment Portfolio	\$ 1,462	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 1,462	\$ 1,462
Debt Obligations								
Fixed rate amounts	\$ —	\$ —	\$ 312	\$ —	\$ —	\$ 251	\$ 563	\$ 1,823
Weighted-average effective interest rate	—%	—%	7.50%	—%	—%	2.125%	5.10%	
Total Debt Obligations	\$ —	\$ —	\$ 312	\$ —	\$ —	\$ 251	\$ 563	\$ 1,823

(1) The dollar amounts represent the cost basis of our investment portfolio and the remaining principal of our debt obligations.

(2) Our 2.125% Notes, included in debt obligations above, were convertible at the option of the holder as of December 28, 2019. The estimated fair value of the 2.125% Notes takes into account the value of our stock price of \$46.18 as of December 28, 2019 and the initial conversion price of approximately \$8.00 per share of common stock.

Foreign Exchange Risk. As a result of our foreign operations, we incur costs and we carry assets and liabilities that are denominated in foreign currencies, while sales of products are primarily denominated in U.S. dollars.

We maintain a foreign currency hedging strategy which uses derivative financial instruments to mitigate the risks

associated with changes in foreign currency exchange rates. This strategy takes into consideration all of our exposures. We do not use derivative financial instruments for trading or speculative purposes.

In applying our strategy, from time to time we use foreign currency forward contracts to hedge certain forecasted expenses denominated in foreign currencies. We designate these contracts as cash flow hedges of forecasted expenses to the extent eligible under the accounting rules and evaluate hedge effectiveness prospectively and retrospectively. To the extent such hedges are effective, the gain or loss on these contracts is recorded as a component of accumulated other comprehensive income (loss) and

reclassified to earnings in the same line item as the associated forecasted transaction and in the same period during which the hedged transaction affects earnings.

We also use, from time to time, foreign currency forward contracts to economically hedge recognized foreign currency exposures on the balance sheets of various subsidiaries. We do not designate these forward contracts as hedging instruments. Accordingly, the gain or loss associated with these contracts is immediately recorded in earnings.

The following table provides information about our foreign currency forward contracts as of December 28, 2019 and December 29, 2018. All of our foreign currency forward contracts mature within 12 months.

	December 28, 2019			December 29, 2018		
	Notional Amount	Average Contract Rate	Estimated Fair Value Gain (Loss)	Notional Amount	Average Contract Rate	Estimated Fair Value Gain (Loss)
(In millions except contract rates)						
Foreign currency forward contracts:						
Chinese Renminbi	\$ 277	6.9890	\$ (1)	\$ 182	6.5733	\$ (3)
Canadian Dollar	249	1.3183	2	110	1.3007	(5)
Indian Rupee	76	72.9476	—	45	72.2338	—
Singapore Dollar	50	1.3597	—	26	1.3478	—
Euro	48	0.8927	1	—	—	—
Taiwan Dollar	38	30.1873	—	21	29.6490	—
Pound Sterling	1	0.7614	—	—	—	—
Malaysian Ringgit	—	4.0889	—	12	4.1775	—
Total	\$ 739		\$ 2	\$ 396		\$ (8)

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Advanced Micro Devices, Inc.
Consolidated Statements of Operations

	Year Ended		
	December 28, 2019	December 29, 2018	December 30, 2017
	(In millions, except per share amounts)		
Net revenue	\$ 6,731	\$ 6,475	\$ 5,253
Cost of sales	3,863	4,028	3,466
Gross profit	2,868	2,447	1,787
Research and development	1,547	1,434	1,196
Marketing, general and administrative	750	562	516
Licensing gain	(60)	—	(52)
Operating income	631	451	127
Interest expense	(94)	(121)	(126)
Other expense, net	(165)	—	(9)
Income (loss) before income taxes and equity loss	372	330	(8)
Provision for (benefit from) income taxes	31	(9)	18
Equity loss in investee	—	(2)	(7)
Net income (loss)	<u>\$ 341</u>	<u>\$ 337</u>	<u>\$ (33)</u>
Earnings (loss) per share			
Basic	\$ 0.31	\$ 0.34	\$ (0.03)
Diluted	\$ 0.30	\$ 0.32	\$ (0.03)
Shares used in per share calculation			
Basic	1,091	982	952
Diluted	1,120	1,064	952

See accompanying notes to consolidated financial statements.

Advanced Micro Devices, Inc.**Consolidated Statements of Comprehensive Income (Loss)**

	Year Ended		
	December 28, 2019	December 29, 2018	December 30, 2017
	(In millions)		
Net income (loss)	\$ 341	\$ 337	\$ (33)
Other comprehensive income (loss), net of tax of zero:			
Unrealized gains (losses) on available-for-sale securities:			
Unrealized gains arising during period	—	—	1
Unrealized gains (losses) on cash flow hedges:			
Unrealized gains (losses) arising during period	2	(19)	17
Reclassification adjustment for (gains) losses realized and included in net income (loss)	6	5	(7)
Total change in unrealized gains (losses) on cash flow hedges	8	(14)	10
Cumulative-effect adjustment to accumulated deficit related to the adoption of ASU 2016-01, Financial Instruments	—	2	—
Total comprehensive income (loss)	<u>\$ 349</u>	<u>\$ 325</u>	<u>\$ (22)</u>

See accompanying notes to consolidated financial statements.

Advanced Micro Devices, Inc.**Consolidated Balance Sheets**

	December 28, 2019	December 29, 2018
	(In millions, except par value amounts)	
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 1,466	\$ 1,078
Marketable securities	37	78
Accounts receivable, net	1,859	1,235
Inventories, net	982	845
Prepayment and receivables—related parties	20	34
Prepaid expenses and other current assets	233	270
Total current assets	4,597	3,540
Property and equipment, net	500	348
Operating lease right-of-use assets	205	—
Goodwill	289	289
Investment: equity method	58	58
Other assets	379	321
Total assets	\$ 6,028	\$ 4,556
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Short-term debt, net	\$ —	\$ 136
Accounts payable	988	834
Payables to related parties	213	207
Accrued liabilities	1,084	783
Other current liabilities	74	24
Total current liabilities	2,359	1,984
Long-term debt, net	486	1,114
Long-term operating lease liabilities	199	—
Other long-term liabilities	157	192
Commitments and contingencies (see Notes 17 and 18)		
Stockholders' equity:		
Capital stock:		
Common stock, par value \$0.01; 2,250 shares authorized, 1,175 shares issued and 1,170 shares outstanding as of December 28, 2019; 2,250 shares authorized, 1,010 shares issued and 1,005 shares outstanding as of December 29, 2018	12	10
Additional paid-in capital	9,963	8,750
Treasury stock, at cost (5 shares as of December 28, 2019 and December 29, 2018)	(53)	(50)
Accumulated deficit	(7,095)	(7,436)
Accumulated other comprehensive income (loss)	—	(8)
Total stockholders' equity	2,827	1,266
Total liabilities and stockholders' equity	\$ 6,028	\$ 4,556

See accompanying notes to consolidated financial statements.

Advanced Micro Devices, Inc.
Consolidated Statements of Stockholders' Equity

	Year Ended		
	December 28, 2019	December 29, 2018	December 30, 2017
	(In millions)		
Capital stock			
Common stock			
Balance, beginning of period	\$ 10	\$ 9	\$ 9
Common stock issued under employee equity incentive plans, net of tax withholding	—	1	—
Issuance of common stock upon warrant exercise	1	—	—
Issuance of common stock to partially settle convertible debt	1	—	—
Balance, end of period	<u>\$ 12</u>	<u>\$ 10</u>	<u>\$ 9</u>
Additional paid-in capital			
Balance, beginning of period	\$ 8,750	\$ 8,464	\$ 8,334
Common stock issued under employee equity incentive plans, net of tax withholding	74	71	20
Stock-based compensation	197	137	97
Issuance of common stock upon warrant exercise	448	—	—
Issuance of common stock to partially settle convertible debt, net	485	—	—
Issuance of treasury stock to partially settle debt	4	78	13
Issuance of warrants	5	—	—
Balance, end of period	<u>\$ 9,963</u>	<u>\$ 8,750</u>	<u>\$ 8,464</u>
Treasury stock			
Balance, beginning of period	\$ (50)	\$ (108)	\$ (119)
Purchase of treasury stock for tax withholding under employee equity incentive plans	(6)	(6)	(13)
Issuance of treasury stock to partially settle debt	3	64	24
Balance, end of period	<u>\$ (53)</u>	<u>\$ (50)</u>	<u>\$ (108)</u>
Accumulated deficit			
Balance, beginning of period	\$ (7,436)	\$ (7,775)	\$ (7,742)
Net income (loss)	341	337	(33)
Cumulative effect adjustment to accumulated deficit related to the adoption of ASU 2016-01, Financial Instruments	—	2	—
Balance, end of period	<u>\$ (7,095)</u>	<u>\$ (7,436)</u>	<u>\$ (7,775)</u>
Accumulated other comprehensive income (loss)			
Balance, beginning of period	\$ (8)	\$ 6	\$ (5)
Other comprehensive income (loss)	8	(14)	11
Balance, end of period	<u>\$ —</u>	<u>\$ (8)</u>	<u>\$ 6</u>
Total stockholders' equity	<u><u>\$ 2,827</u></u>	<u><u>\$ 1,266</u></u>	<u><u>\$ 596</u></u>

See accompanying notes to consolidated financial statements.

Advanced Micro Devices, Inc.

Consolidated Statements of Cash Flows

	Year Ended		
	December 28, 2019	December 29, 2018	December 30, 2017
	(In millions)		
Cash flows from operating activities:			
Net income (loss)	\$ 341	\$ 337	\$ (33)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Depreciation and amortization	222	170	144
Stock-based compensation	197	137	97
Amortization of debt discount and issuance costs	30	38	36
Amortization of operating lease right-of-use assets	36	—	—
Loss on debt redemption, repurchase and conversion	176	12	12
Loss on sale/disposal of property and equipment	42	27	—
Impairment of technology licenses	—	45	—
Deferred income taxes	(4)	(4)	—
Other	(5)	(1)	—
Changes in operating assets and liabilities:			
Accounts receivable	(623)	(806)	(103)
Inventories	(137)	(151)	(3)
Prepayment and receivables—related parties	14	(28)	(6)
Prepaid expenses and other assets	(176)	(70)	(167)
Payables to related parties	7	35	43
Accounts payable, accrued liabilities and other	373	293	(8)
Net cash provided by operating activities	493	34	12
Cash flows from investing activities:			
Purchases of available-for-sale debt securities	(284)	(123)	(222)
Purchases of property and equipment	(217)	(163)	(113)
Proceeds from maturity of available-for-sale debt securities	325	45	222
Collection of deferred proceeds on sale of receivables	25	71	60
Other	2	—	(1)
Net cash used in investing activities	(149)	(170)	(54)
Cash flows from financing activities:			
Proceeds from issuance of common stock through employee equity incentive plans	74	70	20
Proceeds from (repayments of) short-term debt	(70)	—	70
Proceeds from warrant exercised by related party	449	—	—
Payments to extinguish long-term debt	(403)	(41)	(110)
Other	(7)	(1)	(13)
Net cash provided by (used in) financing activities	43	28	(33)
Net increase (decrease) in cash and cash equivalents, and restricted cash	387	(108)	(75)
Cash, cash equivalents, and restricted cash at beginning of year	1,083	1,191	1,266
Cash, cash equivalents, and restricted cash at end of year	\$ 1,470	\$ 1,083	\$ 1,191

	Year Ended		
	December 28, 2019	December 29, 2018	December 30, 2017
	(In millions)		
Supplemental cash flow information:			
Cash paid during the year for:			
Interest	\$ 67	\$ 79	\$ 88
Income taxes, net of refund	\$ (4)	\$ (8)	\$ 20
Non-cash investing and financing activities:			
Purchases of property and equipment, accrued but not paid	\$ 65	\$ 49	\$ 50
Issuance of common stock to partially settle convertible debt	\$ 377	\$ —	\$ —
Issuance of treasury stock to partially settle debt	\$ 7	\$ 141	\$ 38
Deferred proceeds on sale of receivables	\$ —	\$ 25	\$ 21
Transfer of assets for the acquisition of property and equipment	\$ 115	\$ 28	\$ 12
Other	\$ 9	\$ —	\$ —
Reconciliation of cash, cash equivalents, and restricted cash			
Cash and cash equivalents	\$ 1,466	\$ 1,078	\$ 1,185
Restricted cash included in Other current assets	\$ 4	\$ 5	\$ 3
Restricted cash included in Other assets	\$ —	\$ —	\$ 3
Total cash, cash equivalents, and restricted cash	<u>\$ 1,470</u>	<u>\$ 1,083</u>	<u>\$ 1,191</u>

See accompanying notes to consolidated financial statements.

Advanced Micro Devices, Inc.

Notes to Consolidated Financial Statements

NOTE 1: The Company

Advanced Micro Devices, Inc. is a global semiconductor company. References herein to AMD or the Company mean Advanced Micro Devices, Inc. and its consolidated subsidiaries.

NOTE 2: Summary of Significant Accounting Policies

Fiscal Year. The Company uses a 52 or 53 week fiscal year ending on the last Saturday in December. Fiscal 2019, 2018 and 2017 ended December 28, 2019, December 29, 2018 and December 30, 2017, respectively. Fiscal 2019, 2018 and 2017 each consisted of 52 weeks.

Principles of Consolidation. The consolidated financial statements include the Company's accounts and those of its wholly-owned subsidiaries. Upon consolidation, all inter-company accounts and transactions have been eliminated.

Reclassification. Certain prior period amounts have been reclassified to conform to current period presentation.

Use of Estimates. The preparation of consolidated financial statements in conformity with U.S. generally accepted accounting principles (U.S. GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of commitments and contingencies at the date of the financial statements and the reported amounts of revenues and expenses during the reporting periods. Actual results are likely to differ from those estimates, and such differences may be material to the financial statements. Areas where management uses subjective judgment include, but are not limited to, revenue allowances, inventory valuation, valuation and impairment of goodwill and deferred income taxes.

Basis of Presentation. Effective in the first quarter of 2018, the Company adopted Accounting Standard Update (ASU) 2014-09, *Revenue from Contracts with Customers* (ASC 606), using the full retrospective method, which required the Company to adjust prior reporting periods presented. The 2017 amounts presented in the consolidated financial statements and notes to the consolidated financial statements were previously adjusted in the Company's 2018 Form 10-K to reflect the retrospective application.

Revenue Recognition. Revenue is recognized when a customer obtains control of promised goods or services and is recognized in an amount that reflects the consideration which the Company expects to receive in exchange for those goods or services. Sales, value-added, and other taxes collected concurrently with the provision of goods or services are excluded from revenue. Shipping and handling costs associated with product sales are included in cost of sales.

Nature of products and services

The Company's microprocessors (CPUs), chipsets, graphics processing units (GPUs), data center and professional graphics products, accelerated processing units (APUs), server and embedded processors, and System-on-Chip (SoC) products may be sold as standard non-custom products, or custom products manufactured to customers' specifications. The Company also provides development services and licenses portions of its intellectual property (IP) portfolio.

Non-custom products: The Company transfers control and recognizes revenue when non-custom products are shipped to customers, which includes original equipment manufacturers (OEM) and distributors, in accordance with the shipping terms of the sale. Certain OEMs may be entitled to rights of return and rebates under OEM agreements. The Company also sells to distributors under terms allowing the majority of distributors certain rights of return and price protection on unsold merchandise held by them. The Company estimates the amount of variable consideration under OEM and distributor arrangements and, accordingly, records a provision for product returns, allowances for price protection and rebates based on actual historical experience and any known events.

The Company offers incentive programs to certain customers, including cooperative advertising, marketing promotions, volume-based incentives and special pricing arrangements. Where funds provided for such programs can be estimated, the Company recognizes a reduction to revenue at the time the related revenue is recognized; otherwise, the Company recognizes such reduction to revenue at the later of when: i) the related revenue transaction occurs; or ii) the program is offered. For transactions where the Company reimburses a customer for a portion of the customer's cost to perform specific product advertising or marketing and promotional activities, such amounts are recognized as a reduction to

revenue unless they qualify for expense recognition.

Custom products: Custom products which are associated with the Company's Enterprise, Embedded, and Semi-Custom segment (semi-custom products), sold under non-cancellable purchases orders and which have no alternative use to the Company

at contract inception, are recognized as revenue, based on the value of the inventory and expected margin, over the time of production of the products by the Company. Sales of semi-custom products are not subject to a right of return.

Development and intellectual property licensing agreements: From time to time, the Company may enter into arrangements with customers that combine the provision of development services and a license to the right to use the IP. These arrangements are deemed to be single or multiple performance obligations based upon the nature of the arrangements. Revenue is recognized upon the transfer of control, over time or at a point-in time, depending on the nature of the arrangements.

Customers are generally required to pay for products and services within the Company's standard contractual terms, which are typically net 30 to 60 days. The Company has determined that it does not have significant financing components in its contracts with customers.

Inventories. Inventories are stated at standard cost adjusted to approximate the lower of actual cost (first-in, first-out method) or estimated net realizable value. The Company adjusts inventory carrying value for estimated excess and obsolescence equal to the difference between the cost of inventory and the estimated net realizable value based upon assumptions about anticipated or forecasted demand, estimates of future selling prices, competitiveness of product offerings, market and industry conditions, customer requirements and product life cycles. The Company fully reserves for inventories and non-cancellable purchase orders for inventory deemed obsolete. The Company performs periodic reviews of inventory items to identify excess inventories on hand by comparing on-hand balances to anticipated usage using recent historical activity as well as anticipated or forecasted demand. If estimates of customer demand diminish further or market conditions become less favorable than those projected by the Company, additional inventory adjustments may be required.

Goodwill. The Company performs its goodwill impairment analysis as of the first day of the fourth quarter of each year and, if certain events or circumstances indicate that an impairment loss may have been incurred, on a more frequent basis. The analysis may include both qualitative and quantitative factors to assess the likelihood of an impairment.

Qualitative factors include industry and market consideration, overall financial performance, share price trends and market capitalization and Company-specific events. The Company first analyzes qualitative factors. If the Company concludes it is more likely than not that the fair value of a reporting unit exceeds its carrying amount, the Company does not proceed to perform a quantitative impairment test.

If the Company concludes it is more likely than not that the fair value of the reporting unit is less than its carrying value, a quantitative goodwill impairment test will be performed by comparing the fair value of each reporting unit to its carrying value. A quantitative impairment analysis, if necessary, considers the income approach, which requires estimates of the present value of expected future cash flows to determine a reporting unit's fair value. Significant estimates include revenue growth rates and operating margins used to calculate projected future cash flows, discount rates, and future economic and market conditions.

A goodwill impairment charge is recognized for the amount by which the reporting unit's fair value is less than its carrying value. Any loss recognized should not exceed the total amount of goodwill allocated to that reporting unit.

Commitments and Contingencies. From time to time the Company is a defendant or plaintiff in various legal actions that arise in the normal course of business. The Company is also subject to income tax, indirect tax or other tax claims by tax agencies in jurisdictions in which it conducts business. In addition, the Company is a party to environmental matters including local, regional, state and federal government clean-up activities at or near locations where the Company currently or has in the past conducted business. The Company is required to assess the likelihood of any adverse judgments or outcomes to these matters as well as potential ranges of reasonably possible losses. A determination of the amount of reserves required for these commitments and contingencies that would be charged to earnings, if any, includes assessing the probability of adverse outcomes and estimating the amount of potential losses. The required reserves, if any, may change due to new developments in each matter or changes in circumstances such as a change in settlement strategy.

Cash Equivalents. Cash equivalents consist of financial instruments that are readily convertible into cash and have original maturities of three months or less at the time of purchase.

Accounts Receivable. Accounts receivable are primarily comprised of trade receivables presented net of rebates, price protection and an allowance for doubtful accounts. Accounts receivable also include unbilled receivables, which primarily represent work completed on semi-custom products under non-cancellable purchase orders that have no alternative use to the Company at contract inception, for which revenue has been recognized but not yet invoiced to customers. The Company maintains an allowance for doubtful accounts based on its assessment of the collectability of amounts owed by customers. The allowance consists of known specific troubled accounts as well as an amount based on overall estimated potential uncollectible accounts receivable based on historical experience.

Investments in Available-for-sale Debt Securities. The Company classifies its investments in debt securities at the date of acquisition as available-for-sale. Available-for-sale debt securities are reported at fair value with the related unrealized gains and losses included, net of tax, in accumulated other comprehensive income (loss), a component of stockholders' equity. Realized gains and losses and declines in the value of available-for-sale debt securities determined to be other than temporary are included in other expense, net. The cost of securities sold is determined based on the specific identification method.

The Company classifies investments in available-for-sale debt securities with maturities of more than three months at the time of purchase as marketable securities on its consolidated balance sheets. Classification of these securities as current is based on the Company's intent and belief in its ability to sell these securities and use the proceeds from sale in operations within 12 months.

Derivative Financial Instruments. The Company maintains a foreign currency hedging strategy which uses derivative financial instruments to mitigate the risks associated with changes in foreign currency exchange rates. This strategy takes into consideration some of the Company's consolidated exposures. The Company does not use derivative financial instruments for trading or speculative purposes.

In applying its strategy, the Company uses foreign currency forward contracts to hedge certain forecasted revenue and expenses denominated in foreign currencies. The Company designates these contracts as cash flow hedges of forecasted revenue and expenses, to the extent eligible under the accounting rules, and evaluates hedge effectiveness prospectively and retrospectively. To the extent such hedges are effective, the Company records the gain or loss on these contracts as a component of accumulated other comprehensive income (loss) and it reclassifies such gains or losses to earnings in the same period during which the hedged transaction affects earnings. Such amounts are included in the same line item in earnings as the associated forecasted transaction.

The Company also uses, from time to time, foreign currency forward contracts to economically hedge recognized foreign currency exposures on the balance sheets of various subsidiaries. The Company does not designate these forward contracts as hedging instruments. Accordingly, the gain or loss associated with these contracts is immediately recorded in Other expense, net.

Property and Equipment. Property and equipment are stated at cost. Depreciation and amortization are provided on a straight-line basis over the estimated useful lives of the assets. Estimated useful lives are as follows: equipment uses two to six years, and leasehold improvements are measured by the shorter of the remaining terms of the leases or the estimated useful economic lives of the improvements.

Leases. The Company determines if an arrangement is a lease, or contains a lease, at the inception of the arrangement. When the Company determines the arrangement is a lease, or contains a lease, at lease inception, it then determines whether the lease is an operating lease or a finance lease. Operating and finance leases result in the Company recording a right-of-use (ROU) asset and lease liability on its balance sheet. ROU assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent its obligation to make lease payments arising from the lease. Operating and finance lease ROU assets and liabilities are initially recognized based on the present value of lease payments over the lease term. In determining the present value of lease payments, the Company uses the implicit interest rate if readily determinable or when the implicit interest rate is not readily determinable, the Company uses its incremental borrowing rate. The incremental borrowing rate is not a commonly quoted rate and is derived through a combination of inputs including the Company's credit rating and the impact of full collateralization. The incremental borrowing rate is based on the Company's collateralized borrowing capabilities over a similar term of the lease payments. The Company utilizes the consolidated group incremental borrowing rate for all leases as the Company has centralized treasury operations. The operating lease ROU asset also includes any lease payments made and excludes any lease incentives. Specific lease terms may include options to extend or terminate the lease when the Company believes it is reasonably certain that it will exercise that option. Lease expense for operating lease payments is recognized on a straight-line basis over the lease term. As allowed by the guidance, the Company has elected not to recognize ROU assets and lease liabilities that arise from short-term (12 months or less) leases for any class of underlying asset. Operating leases are included in operating lease ROU assets, other current liabilities, and long-term operating lease liabilities on the Company's consolidated balance sheet. The Company's finance leases are immaterial.

Product Warranties. The Company generally warrants that its products sold to its customers will conform to its approved specifications and be free from defects in material and workmanship under normal use and conditions for one year. The Company may also offer one to three-year limited warranties based on product type and negotiated warranty terms with certain customers. The Company accrues warranty costs to Cost of sales at the time of sale of warranted products.

Foreign Currency Translation/Transactions. The functional currency of all of the Company's foreign subsidiaries is the U.S. dollar. Assets and liabilities denominated in non-U.S. dollars have been remeasured into U.S. dollars at current exchange rates for monetary assets and liabilities and historical exchange rates for non-monetary assets and liabilities. Non-

U.S. dollar denominated transactions have been remeasured at average exchange rates in effect during each period, except for those cost of sales and expense

transactions related to non-monetary balance sheet amounts which have been remeasured at historical exchange rates. The gains or losses from foreign currency remeasurement are included in earnings.

Marketing and Advertising Expenses. Advertising costs are expensed as incurred. In addition, the Company's marketing and advertising expenses include certain cooperative advertising funding obligations under customer incentive programs, which costs are recorded upon agreement with customers and vendor partners. Cooperative advertising expenses are recorded as marketing, general and administrative expense to the extent the cash paid does not exceed the estimated fair value of the advertising benefit received. Any excess of cash paid over the estimated fair value of the advertising benefit received is recorded as a reduction of revenue. Total marketing and advertising expenses for 2019, 2018 and 2017 were approximately \$217 million, \$176 million and \$156 million, respectively.

Stock-Based Compensation. The Company estimates stock-based compensation cost for stock options at the grant date based on the option's fair value as calculated by the lattice-binomial option-pricing model. For time-based restricted stock units, fair value is based on the closing price of the Company's common stock on the grant date. The Company estimates the grant-date fair value of restricted stock units that involve a market condition using the Monte Carlo simulation model. The Company estimates the grant-date fair value of stock to be issued under the ESPP using the Black-Scholes model. Compensation expense is recognized over the vesting period of the applicable award using the straight-line method, except for the compensation expense related to PRSUs, which are recognized ratably for each vesting tranche from the service inception date to the end of the requisite service period. Forfeiture rates are estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

Income Taxes. The Company computes the provision for income taxes using the liability method and recognizes deferred tax assets and liabilities for temporary differences between financial statement and income tax bases of assets and liabilities, as well as for operating loss and tax credit carryforwards. The Company measures deferred tax assets and liabilities using tax rates applicable to taxable income in effect for the years in which those tax assets are expected to be realized or settled and provides a valuation allowance against deferred tax assets when it cannot conclude that it is more likely than not that some or all deferred tax assets will be realized. In addition, the Company recognizes tax benefits from uncertain tax positions only if it expects that its tax positions are more likely than not that they will be sustained, based on the technical merits of the positions, on examination by the jurisdictional tax authority. The Company recognizes any accrued interest and penalties to unrecognized tax benefits as interest expense and income tax expense, respectively.

Recently Adopted Accounting Standards

Leases. In February 2016, the Financial Accounting Standards Board (FASB) issued ASU 2016-02, *Leases (Topic 842)*, to increase transparency and comparability among organizations for lease recognition and disclosure. This standard requires lessees to recognize lease assets and lease liabilities on the balance sheet, while recognizing expenses on the income statements in a manner similar to legacy guidance. The Company adopted this standard in the first quarter of 2019, using the optional modified retrospective approach, which did not require an adjustment to comparative period financial statements, and recorded \$228 million of right-of-use assets and \$261 million of lease liabilities primarily related to office buildings on its consolidated balance sheet as of December 30, 2018. The Company's accounting for capital leases, now referred to as finance leases, remains unchanged. The adoption of the new standard had no impact on the Company's consolidated statement of operations or on net cash provided by or used in operating, financing, or investing activities on its consolidated statement of cash flows.

Upon adoption of ASU 2016-02, the Company elected a transition practical expedient under the new accounting standard allowing it not to separate lease and non-lease components and instead to account for each separate lease component and non-lease component as a single lease component. The Company implemented internal controls and key system functionality to enable the preparation of financial information on adoption.

Recently Issued Accounting Standards

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 standard changes the methodology for measuring credit losses on financial instruments and the timing of when such losses are recorded. ASU 2016-13 is effective for fiscal years beginning after December 15, 2019, using a modified retrospective adoption method. The Company will adopt this standard in the first quarter of 2020 and the adoption will not have a material impact on its consolidated financial statements.

Income Taxes. In December 2019, the FASB issued ASU 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes*. This standard simplifies the accounting for income taxes by eliminating certain exceptions to the guidance in Topic 740 related to the approach for intraperiod tax allocation, the methodology for calculating income taxes in an interim period and the recognition of deferred tax liabilities for outside basis differences. The new guidance also simplifies aspects of the accounting for franchise taxes and enacted changes in tax laws or rates and clarifies the accounting for transactions that result in a step-up in the tax basis of goodwill and allocating consolidated income taxes to separate financial statements of entities not subject to income tax. ASU 2019-12 is effective for fiscal years beginning after December 15, 2020, with early adoption permitted. Upon adoption, the Company must apply certain aspects of this standard retrospectively for all periods presented while other aspects are applied on a modified retrospective basis through a cumulative-effect adjustment to retained earnings as of the beginning of the fiscal year of adoption. The Company is currently evaluating the impact of this new standard on its consolidated financial statements.

Although there are several other new accounting pronouncements issued by the FASB, the Company does not believe any of these accounting pronouncements had or will have a material impact on its consolidated financial statements.

NOTE 3: Supplemental Balance Sheet Information

Accounts Receivable, net

As of December 28, 2019 and December 29, 2018, Accounts receivable, net included unbilled accounts receivable of \$197 million and \$308 million, respectively. Unbilled receivables primarily represent work completed on semi-custom products under non-cancellable purchase orders that have no alternative use to the Company at contract inception, for which revenue has been recognized but not yet invoiced to customers. All unbilled accounts receivables are expected to be billed and collected within 12 months.

Inventories, net

	December 28, 2019	December 29, 2018
	(In millions)	
Raw materials	\$ 94	\$ 134
Work in process	691	354
Finished goods	197	357
Total inventories, net	<u>\$ 982</u>	<u>\$ 845</u>

Property and Equipment, net

	December 28, 2019	December 29, 2018
	(In millions)	
Leasehold improvements	\$ 203	\$ 179
Equipment	951	798
Construction in progress	114	78
Property and equipment, gross	1,268	1,055
Accumulated depreciation and amortization	(768)	(707)
Total property and equipment, net	<u>\$ 500</u>	<u>\$ 348</u>

Depreciation expense for 2019, 2018 and 2017 was \$142 million, \$94 million and \$77 million, respectively.

Other Assets

	December 28, 2019	December 29, 2018
	(In millions)	
Software and technology licenses, net	\$ 210	\$ 226
Other	169	95

Total other assets	<u>\$</u> <u>379</u>	<u>\$</u> <u>321</u>
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During 2018, the Company recorded an impairment charge in Cost of sales of \$45 million on technology licenses that are no longer being used.

Accrued Liabilities

	December 28, 2019	December 29, 2018
	(In millions)	
Accrued compensation and benefits	\$ 285	\$ 236
Marketing programs and advertising expenses	454	275
Other accrued and current liabilities	345	272
Total accrued liabilities	<u>\$ 1,084</u>	<u>\$ 783</u>

Other Current Liabilities

	December 28, 2019	December 29, 2018
	(In millions)	
Unearned revenue	\$ 2	\$ 11
Operating lease liabilities	43	—
Other	29	13
Total other current liabilities	<u>\$ 74</u>	<u>\$ 24</u>

Unearned revenue represents consideration received or due from customers in advance of the Company satisfying its performance obligations. The unearned revenue is associated with any combination of development services, IP licensing and product revenue. Changes in unearned revenue were as follows:

	December 28, 2019	December 29, 2018
	(In millions)	
Beginning balance	\$ 11	\$ 85
Unearned revenue	43	132
Revenue recognized during the period	(52)	(186)
Other	—	(20)
Ending balance	<u>\$ 2</u>	<u>\$ 11</u>

Revenue allocated to remaining performance obligations that are unsatisfied (or partially unsatisfied) as of December 28, 2019 is \$456 million, which may include amounts received from customer but not yet earned and amounts that will be invoiced and recognized as revenue in future periods associated with any combination of development services, IP licensing and product revenue. The Company expects to recognize \$188 million in the next 12 months.

The revenue allocated to remaining performance obligations did not include amounts which have an original expected duration of less than one year.

NOTE 4: Equity Joint Ventures

ATMP Joint Ventures

The Company holds a 15% equity interest in two joint ventures (collectively, the ATMP JV) with Tongfu Microelectronics Co., Ltd, a Chinese joint stock company, and as such, the ATMP JV is a related party of the Company. The Company has no obligation to fund the ATMP JV. The Company accounts for its equity interests in the ATMP JV under the equity method of accounting due to its significant influence over the ATMP JV.

The ATMP JV provides assembly, test, mark and packaging (ATMP) services to the Company. The Company assists

the ATMP JV in its management of certain raw material inventory. The purchases from and resales to the ATMP JV of inventory under

inventory management is reported within purchases and resales with the ATMP JV and does not impact the Company's consolidated statement of operations.

The Company's total purchases from the ATMP JV during 2019 and 2018 amounted to \$660 million and \$574 million, respectively. As of December 28, 2019 and December 29, 2018, the amount payable to the ATMP JV was \$213 million and \$207 million, respectively, included in Payables to related parties on the Company's consolidated balance sheets. The Company's resales back to the ATMP JV during 2019 and 2018 amounted to \$56 million and \$62 million, respectively. As of December 28, 2019 and December 29, 2018, the Company had receivables from ATMP JV of \$7 million and \$16 million, respectively, included in Prepayment and receivables—related parties on the Company's consolidated balance sheets.

During 2019, the Company did not record any gain or loss in Equity loss in investee on its consolidated statements of operations. During 2018 and 2017, the Company recorded \$2 million and \$7 million, respectively, in Equity loss in investee, which included certain expenses incurred by the Company on behalf of the ATMP JV. As of December 28, 2019 and December 29, 2018, the carrying value of the Company's investment in the ATMP JV was approximately \$58 million.

THATIC Joint Ventures

In February 2016, the Company and Higon Information Technology Co., Ltd. (THATIC), a third-party Chinese entity (JV Partner), formed a joint venture comprised of two separate legal entities, China JV1 and China JV2 (collectively, the THATIC JV). The Company's equity share in China JV1 and China JV2 is a majority and minority interest, respectively, funded by the Company's contribution of certain of its patents. The JV Partner is responsible for the initial and on-going financing of the THATIC JV's operations. The Company has no obligations to fund the THATIC JV. The Company does not consolidate either of these entities and accounts for its investments in the THATIC JV under the equity method of accounting. The THATIC JV is a related party of the Company.

The Company's share in the net losses of the THATIC JV for 2019 is not recorded in the Company's consolidated statements of operations since the Company is not obligated to fund the THATIC JV's losses in excess of the Company's investment in the THATIC JV, which was zero as of December 28, 2019.

In February 2016, the Company licensed certain of its intellectual property (Licensed IP) to the THATIC JV for a total of \$293 million in license fees payable over several years upon achievement of certain milestones. The Company also expects to receive a royalty based on the sales of the THATIC JV's products to be developed on the basis of such Licensed IP. The Company classifies Licensed IP income and royalty income, associated with the February 2016 agreement, as licensing gain within operating income.

In March 2017, the Company entered into a development and intellectual property agreement (Development and IP) with the THATIC JV, and also expects to receive a royalty based on the sales of the THATIC JV's products to be developed on the basis of such agreement. The Company classifies Development and IP income and royalty income, associated with the March 2017 agreement, as revenue once earned.

In addition, from time to time, the Company enters into certain agreements with the THATIC JV to provide other services primarily related to research and development.

During 2019 and 2017, the Company recognized \$60 million and \$52 million as licensing gain associated with the Licensed IP. During 2018, the Company recognized \$86 million of IP-related revenue upon completion of all technology milestones under the Development and IP agreement.

The Company's receivable from the THATIC JV for the above agreements was \$13 million and \$18 million as of December 28, 2019 and December 29, 2018, respectively, included in Prepayment and receivables—related parties on its consolidated balance sheets.

In June 2019, the U.S. Commerce Department's Bureau of Industry and Security added certain Chinese entities to the Entity List, including THATIC and the THATIC JV. The Company is complying with U.S. law pertaining to the Entity List designation.

NOTE 5: GLOBALFOUNDRIES

In March 2009, the Company and GLOBALFOUNDRIES Inc. (GF) entered into a Wafer Supply Agreement (WSA) under which the Company would purchase wafers from GF. The WSA, which has been amended from time to time, governs

the terms

by which the Company purchases products manufactured by GF through March 1, 2024. Pursuant to the WSA and its amendments, the Company is required to purchase all of its microprocessor and APU product requirements and a certain portion of its GPU product requirements from GF manufactured at process nodes larger than 7 nanometer (nm), with limited exceptions. Under the terms of the WSA, the Company has minimum annual wafer purchase targets through 2021. If the Company fails to meet the agreed wafer purchase target during a calendar year, it will be required to pay to GF a portion of the difference between the actual wafer purchases and the applicable annual purchase target. The Company also agreed to continue to make quarterly payments to GF based on the volume of certain wafers purchased from another wafer foundry.

On August 30, 2016, in consideration for the limited waiver and rights under the WSA Sixth Amendment, the Company entered into a warrant agreement (the Warrant Agreement) with West Coast Hitech L.P. (WCH), a wholly-owned subsidiary of Mubadala Development Company PJSC (Mubadala). Under the Warrant Agreement, WCH and its permitted assigns were entitled to purchase 75 million shares of the Company's common stock at a purchase price of \$5.98 per share. On February 13, 2019, WCH exercised its warrant to purchase 75 million shares of the Company's common stock at a purchase price of \$5.98 per share for a total amount of \$449 million.

Through May 15, 2019, GF was a related party of the Company because Mubadala and Mubadala Technology Investments LLC (Mubadala Tech, a party to the WSA) were affiliated with WCH, and a director of the Company's Board of Directors (the Board) was associated with Mubadala. GF, WCH and Mubadala Tech are wholly-owned subsidiaries of Mubadala. Effective May 15, 2019, the director of the Board associated with Mubadala retired from the Board, and as a result, GF was no longer considered a related party of the Company. All prior period related party classifications on the financial statements for GF have been reclassified to conform to the current period presentation.

The Company's total purchases from GF related to wafer manufacturing, research and development activities and other for 2019 (through May 15, 2019), 2018 and 2017 were \$0.5 billion, \$1.6 billion and \$1.1 billion, respectively. Included in the total purchases were amounts related to the volume of certain wafers purchased from another wafer foundry, as agreed by the Company and GF. As of December 29, 2018, the amount of prepayment and receivables related to GF was \$18 million and the amount of payable to GF was \$326 million.

NOTE 6: Goodwill

The carrying amount of goodwill as of both December 28, 2019 and December 29, 2018 was \$289 million, which was fully allocated to reporting units within the Company's Enterprise, Embedded and Semi-Custom segment.

In the fourth quarters of 2019 and 2018, the Company conducted its annual impairment tests of goodwill and concluded that there was no goodwill impairment with respect to its reporting units.

NOTE 7: Debt, Secured Revolving Facility and Secured Revolving Line of Credit

Debt

The Company's total debt as of December 28, 2019 and December 29, 2018 consisted of:

	December 28, 2019	December 29, 2018
	(In millions)	
6.75% Notes	\$ —	\$ 66
7.50% Notes	312	337
7.00% Notes	—	250
2.125% Notes	251	805
Secured Revolving Line of Credit	—	70
Total debt (principal amount)	\$ 563	\$ 1,528
Unamortized debt discount associated with 2.125% Notes	(73)	(262)
Unamortized debt issuance costs	(4)	(16)
Total debt (net)	\$ 486	\$ 1,250
Less: current portion	—	(136)
Total debt, less current portion	\$ 486	\$ 1,114

2.125% Convertible Senior Notes Due 2026

In September 2016, the Company issued \$805 million in aggregate principal amount of 2.125% Convertible Senior Notes due 2026 (2.125% Notes). The 2.125% Notes are general unsecured senior obligations of the Company. The interest is payable semi-annually in March and September of each year, commencing in March 2017.

The 2.125% Notes mature on September 1, 2026. However, as outlined in the indenture governing the 2.125% Notes, holders of the 2.125% Notes may convert them at their option during certain time periods and upon the occurrence of one of the following circumstances:

(1) during any calendar quarter commencing after the calendar quarter ending on September 30, 2016 (and only during such calendar quarter), if the last reported sale price of the Company's common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each applicable trading day (equivalent to an initial conversion price of approximately \$8.00 per share of common stock);

(2) during the five business day period after any ten consecutive trading day period (the "measurement period") in which the trading price per \$1,000 principal amount of notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of the Company's common stock and the conversion rate on each such trading day; or

(3) upon the occurrence of specified corporate events.

On or after June 1, 2026 and until the close of business on the business day immediately preceding the maturity date, holders may convert their notes at any time regardless of the foregoing circumstances. Upon conversion, the Company will pay or deliver, as the case may be, cash, shares of the Company's common stock or a combination of cash and shares of the Company's common stock at the Company's election.

The event described in (1) above was met during the fourth calendar quarter of 2019 and, as a result, the 2.125% Notes are convertible at the option of the holder from January 1, 2020 and remain convertible until March 31, 2020.

During 2019, the Company converted \$554 million principal amount of its 2.125% Notes through the issuance of approximately 69 million shares of the Company's common stock at the conversion price of \$8.00 per share and an aggregate cash payment of \$56 million. As of December 28, 2019, the Company had \$251 million principal of its 2.125% Notes outstanding.

The Company's current intent is to deliver shares of its common stock upon conversion of the 2.125% Notes. As such, no sinking fund is provided for the 2.125% Notes and the Company continued to classify the carrying value of the liability component of the 2.125% Notes as long-term debt and the equity component of the 2.125% Notes as permanent equity on its consolidated balance sheet as of December 28, 2019.

The determination of whether or not the 2.125% Notes are convertible is performed on a calendar-quarter basis.

The 2.125% Notes consisted of the following:

	December 28, 2019	December 29, 2018
	(In millions)	
Principal	\$ 251	\$ 805
Unamortized debt discount ⁽¹⁾	(73)	(262)
Unamortized debt issuance costs	(3)	(11)
Net carrying amount	\$ 175	\$ 532
Carrying amount of the equity component, net ⁽²⁾	\$ 95	\$ 305
⁽¹⁾ Included in the consolidated balance sheets within Long-term debt, net and amortized over the remaining life of the notes using the effective interest rate method.		
⁽²⁾ Included in the consolidated balance sheets within additional paid-in capital, net of \$3 million in equity issuance costs.		

As of December 28, 2019, the remaining life of the 2.125% Notes was approximately 81 months.

Based on the closing price of the Company's common stock of \$46.18 on December 27, 2019, the last trading day of 2019, the if-converted value of the 2.125% Notes exceeded its principal amount by approximately \$1.2 billion.

The effective interest rate of the liability component of the 2.125% Notes is 8%. This interest rate was based on the interest rates of similar liabilities at the time of issuance that did not have associated conversion features. The following table sets forth total interest expense recognized related to the 2.125% Notes for the year ended December 28, 2019:

	December 28, 2019		December 29, 2018	
	(In millions)			
Contractual interest expense	\$	15	\$	17
Interest cost related to amortization of debt issuance costs	\$	1	\$	1
Interest cost related to amortization of the debt discount	\$	22	\$	24

6.75% Senior Notes Due 2019

On February 26, 2014, the Company issued \$600 million of its 6.75% Senior Notes due 2019 (6.75% Notes). The 6.75% Notes were general unsecured senior obligations of the Company. Interest was payable on March 1 and September 1 of each year beginning September 1, 2014 until the maturity date of March 1, 2019. The 6.75% Notes were governed by the terms of an indenture (the 6.75% Indenture) dated February 26, 2014 between the Company and Wells Fargo Bank, N.A., as trustee.

In 2016, the Company repurchased \$404 million in aggregate principal amount of its 6.75% Notes pursuant to a partial tender offer for \$442 million. In 2017, the Company settled \$30 million in aggregate principal amount of its 6.75% Notes, of which \$26 million was settled in cash and \$5 million was settled in treasury stock. During 2018, the Company settled \$101 million in aggregate principal amount of its 6.75% Notes for \$14 million in cash and \$87 million in treasury stock at a weighted-average cost of \$9.04 per share.

During 2019, the Company redeemed the remaining \$66 million in aggregate principal amount of its 6.75% Notes with a combination of cash and treasury stock.

7.50% Senior Notes Due 2022

On August 15, 2012, the Company issued \$500 million of its 7.50% Senior Notes due 2022 (7.50% Notes). The 7.50% Notes are general unsecured senior obligations of the Company. Interest is payable on February 15 and August 15 of each year beginning February 15, 2013 until the maturity date of August 15, 2022. The 7.50% Notes are governed by the terms of an indenture (the 7.50% Indenture) dated August 15, 2012 between the Company and Wells Fargo Bank, N.A., as trustee.

In 2014, the Company repurchased \$25 million in aggregate principal amount of its 7.50% Notes in open market transactions for \$24 million. In 2016, the Company repurchased \$125 million in aggregate principal amount of its 7.50% Notes pursuant to a partial tender offer for \$135 million. In 2017, the Company settled \$3 million in aggregate principal amount of its 7.50% Notes in treasury stock. In 2018, the Company settled \$10 million in aggregate principal amount of its 7.50% Notes in treasury stock at a weighted-average cost of \$9.01 per share. During 2019, the Company repurchased \$25 million in aggregate principal amount of its 7.50% Notes in cash. As of December 28, 2019, the outstanding aggregate principal amount of the 7.50% Notes was \$312 million.

Prior to August 15, 2022, the Company may redeem some or all of the 7.50% Notes at a price equal to 100% of the principal amount plus accrued and unpaid interest and a “make whole” premium (as defined in the 7.50% Indenture). Holders have the right to require the Company to repurchase all or a portion of the 7.50% Notes in the event that the Company undergoes a change of control as defined in the 7.50% Indenture, at a repurchase price of 101% of the principal amount plus accrued and unpaid interest. Additionally, an event of default (as defined in the 7.50% Indenture) may result in the acceleration of the maturity of the 7.50% Notes.

7.00% Senior Notes Due 2024

On June 16, 2014, the Company issued \$500 million of its 7.00% Senior Notes due 2024 (7.00% Notes). The 7.00% Notes are general unsecured senior obligations of the Company. Interest is payable on January 1 and July 1 of each year beginning January 1, 2015 until the maturity date of July 1, 2024. The 7.00% Notes are governed by the terms of an indenture (the 7.00% Indenture) dated June 16, 2014 between the Company and Wells Fargo Bank, N.A., as trustee.

In 2016, the Company settled \$84 million in aggregate principal amount of its 7.00% Notes for \$77 million in cash and \$8 million in treasury stock. In 2017, the Company settled \$105 million in aggregate principal amount of its 7.00% Notes for \$84 million in cash and \$26 million in treasury stock. In 2018, the Company settled \$61 million in aggregate principal amount of its 7.00% Notes for \$26 million in cash and \$35 million in treasury stock at a weighted-average cost of \$9.42 per

share. During 2019,

the Company repurchased the remaining \$250 million in aggregate principal amount of its 7.00% Notes with a combination of cash and treasury stock.

Debt Covenants and Seniority

The 7.50% Notes require the Company to comply with certain financial covenants and a number of restrictive covenants. The 7.50% Notes and 2.125% Notes rank equally with the Company's existing and future senior debt and are senior to all of the Company's future subordinated debt. The 7.50% Notes and 2.125% Notes rank junior to all of the Company's future senior secured debt to the extent of the collateral securing such debt and are structurally subordinated to all existing and future debt and liabilities of the Company's subsidiaries.

Loss from Debt Redemption, Repurchase and Conversion

In aggregate, during 2019, the Company recorded \$176 million of aggregate losses from the redemption, repurchase and conversion of debt noted above in Other expense, net on its consolidated statement of operations.

Potential Repurchase of Outstanding Notes

The Company may elect to purchase or otherwise retire the 7.50% Notes and 2.125% Notes with cash, stock or other assets from time to time in open market or privately negotiated transactions either directly or through intermediaries or by tender offer when the Company believes the market conditions are favorable to do so.

Secured Revolving Facility

On June 7, 2019, the Company entered into a secured revolving credit facility for up to \$500 million (the Secured Revolving Facility) pursuant to a credit agreement by and among the Company, as borrower, the lenders party thereto and Wells Fargo Bank, National Association, as administrative agent (the Credit Agreement). The Secured Revolving Facility consists of a \$500 million, five-year secured revolving loan facility, including a \$50 million swingline subfacility and a \$75 million sublimit for letters of credit. The Company's obligations under the Credit Agreement are secured by a lien on substantially all of the Company's property, other than intellectual property.

The Credit Agreement also provides the ability to increase the Secured Revolving Facility or incur incremental term loans or other incremental equivalent debt by an amount not to exceed certain amounts as set forth in the Credit Agreement. The Company's available borrowings under the Secured Revolving Facility are also subject to reduction by an amount equal to the net cash proceeds of (i) any debt issuances not permitted by the Secured Revolving Facility and (ii) any non-ordinary course asset sales, in excess of \$250 million, if such net cash proceeds are not reinvested by the Company within twelve months of receipt.

Borrowings under the Secured Revolving Facility bear interest at a variable rate based upon, at the Company's option, either the LIBOR rate or the base rate (in each case, as customarily defined) plus an applicable margin. The applicable margin for LIBOR rate loans ranges, based on an applicable total leverage ratio, from 1.00% to 1.75% per annum, and the applicable margin for base rate loans ranges from 0.00% to 0.75% per annum. The Company is required to pay fees on the undrawn portion available under the Secured Revolving Facility and in respect of outstanding letters of credit. In the event the LIBOR rate is not available, the agreement allows the Company to use the base rate.

The Credit Agreement contains customary affirmative and negative covenants, as well as a total leverage covenant requiring the Company to maintain a maximum ratio of consolidated funded debt to consolidated EBITDA of 4.00:1.00 and an interest coverage covenant requiring the Company to maintain a minimum ratio of consolidated EBITDA to consolidated cash interest expense of 3.00:1.00. The Credit Agreement also contains customary events of default, which if they occur, could result in the termination of commitments under the Secured Revolving Facility, the declaration that all outstanding loans are immediately due and payable in whole or in part and the requirement to maintain cash collateral deposits in respect of outstanding letters of credit.

As of December 28, 2019, there were no borrowings outstanding under the Credit Agreement, and the Company was in compliance with all required covenants under the Credit Agreement as of December 28, 2019. As of December 28, 2019, the Company had \$14 million of letters of credit outstanding under the Credit Agreement.

Secured Revolving Line of Credit

On June 7, 2019, in connection with entering into the Credit Agreement as described above, the Company repaid its outstanding loan balance of \$70 million under the secured revolving line of credit (Secured Revolving Line of Credit) and terminated the Amended and Restated Loan and Security Agreement dated as of April 14, 2015, as amended, among the Company, a group of

lenders, and Bank of America, N.A., acting as agent for the lenders.

Future Payments on Total Debt

As of December 28, 2019, the Company's future debt payment obligations for the respective fiscal years were as follows:

	Term Debt (Principal only)
	(In millions)
2020	\$ —
2021	—
2022	312
2023	—
2024	—
2025 and thereafter	251
Total	\$ 563

NOTE 8: Financial Instruments

Cash, Cash Equivalents, and Marketable Securities

Cash and financial instruments measured and recorded at fair value on a recurring basis, which approximates amortized cost, as of December 28, 2019 and December 29, 2018 are summarized below:

	Total Fair Value	Cash and Cash Equivalents	Marketable Securities
	(In millions)		
December 28, 2019			
Cash	\$ 1,465	\$ 1,465	\$ —
Level 1 ⁽¹⁾			
Government money market funds	\$ 1	\$ 1	\$ —
Total level 1	\$ 1	\$ 1	\$ —
Level 2 ⁽²⁾			
Commercial paper	\$ 37	\$ —	\$ 37
Total level 2	\$ 37	\$ —	\$ 37
Total	\$ 1,503	\$ 1,466	\$ 37

	Total Fair Value	Cash and Cash Equivalents	Marketable Securities
	(In millions)		
December 29, 2018			
Cash	\$ 315	\$ 315	\$ —
Level 1 ⁽¹⁾			
Government money market funds	\$ 275	\$ 275	\$ —
Total level 1	\$ 275	\$ 275	\$ —
Level 2 ⁽²⁾			
Commercial paper	\$ 566	\$ 488	\$ 78
Total level 2	\$ 566	\$ 488	\$ 78
Total	\$ 1,156	\$ 1,078	\$ 78

(1) Level 1 fair value estimates are based on quoted prices for identical instruments in active markets.

(2) Level 2 fair value estimates are based on quoted prices for identical or comparable instruments in markets that are not active or comparable instruments in active markets.

In addition to those amounts presented above, as of December 28, 2019 and December 29, 2018, the Company had approximately \$4 million and \$5 million, respectively, of investments in money market funds, used as collateral for letters of credit deposits, which were included in Other current assets on the Company's consolidated balance sheets. As of December 28, 2019 and December 29, 2018, the Company also had approximately \$30 million and \$21 million, respectively, of investments in mutual funds held in a Rabbi trust established for the Company's deferred compensation plan, which were included in Other assets on the Company's consolidated balance sheets. These government money market funds and mutual funds are classified within Level 1 because they are valued using quoted prices for identical instruments in active markets. Their amortized cost approximates the fair value for all periods presented. The Company is restricted from accessing these investments.

Financial Instruments Not Recorded at Fair Value on a Recurring Basis. The Company carries its certain financial instruments at fair value with the exception of its debt. Financial instruments that are not recorded at fair value are measured at fair value on a quarterly basis for disclosure purposes. The carrying amounts and estimated fair values of financial instruments not recorded at fair value are as follows:

	December 28, 2019		December 29, 2018	
	Carrying Amount	Estimated Fair Value	Carrying Amount	Estimated Fair Value
	(In millions)			
Short-term debt	\$ —	\$ —	\$ 136	\$ 136
Long-term debt, net ⁽¹⁾	\$ 486	\$ 1,823	\$ 1,114	\$ 2,428

(1) Carrying amounts of long-term debt are net of unamortized debt issuance costs of \$4 million and \$16 million as of December 28, 2019 and December 29, 2018, respectively, and net of \$73 million and \$262 million unamortized debt discount associated with the 2.125% Notes as of December 28, 2019 and December 29, 2018, respectively. The carrying amounts above do not include the equity component related to the conversion feature of the 2.125% Notes of \$95 million and \$305 million as of December 28, 2019 and December 29, 2018, respectively.

The estimated fair value of the Company's short-term and long-term debt are based on Level 2 inputs. The Company's 2.125% Notes, included in Long-term debt, net, above, were convertible at the option of the holder as of December 28, 2019. The estimated fair value of the 2.125% Notes takes into account the value of the Company's stock price of \$46.18 as of December 28, 2019 and the initial conversion price of approximately \$8.00 per share of common stock.

The fair value of the Company's accounts receivable, accounts payable and other short-term obligations approximate their carrying value based on existing payment terms.

Hedging Transactions and Derivative Financial Instruments

Cash Flow Hedges and Foreign Currency Forward Contracts not Designated as Hedges

The following table shows the amount of losses included in accumulated other comprehensive income (loss) (AOCI), the amount of losses reclassified from accumulated other comprehensive income (loss) and included in earnings related to the foreign currency forward contracts designated as cash flow hedges and the amount of losses included in other expense, net, related to contracts not designated as hedging instruments which was allocated in the consolidated statements of operations:

	Year Ended							
	December 28, 2019				December 29, 2018			
	Cost of sales	Research and development	Marketing, general and administrative	Other expense, net	Research and development	Marketing, general and administrative	Other expense, net	
	(In millions)							
Contracts designated as cash flow hedging instruments								
Losses reclassified from AOCI into earnings	\$ (1)	\$ (4)	\$ (1)	\$ —	\$ (4)	\$ (1)	\$ —	
Contracts not designated as hedging instruments								
Losses recognized in earnings	—	—	—	(1)	—	—	(3)	
Total losses	<u>\$ (1)</u>	<u>\$ (4)</u>	<u>\$ (1)</u>	<u>\$ (1)</u>	<u>\$ (4)</u>	<u>\$ (1)</u>	<u>\$ (3)</u>	

The Company's foreign currency derivative contracts are classified within Level 2 because the valuation inputs are based on quoted prices and market observable data of similar instruments in active markets such as currency spot and forward rates.

The following table shows the fair value amounts of the Company's foreign currency derivative contracts depending on whether the foreign currency forward contracts were a gain or loss position. These amounts were recorded in the Company's consolidated balance sheets in either Other current assets or Other current liabilities.

	December 28, 2019	December 29, 2018
	(In millions)	
Foreign Currency Forward Contracts - gains (losses)		
Contracts designated as cash flow hedging instruments - gains	\$ 2	\$ 1
Contracts designated as cash flow hedging instruments - losses	\$ (2)	\$ (8)

For the foreign currency contracts designated as cash flow hedges, the ineffective portions of the hedging relationship and the amounts excluded from the assessment of hedge effectiveness were immaterial.

As of December 28, 2019 and December 29, 2018, the notional values of the Company's outstanding foreign currency forward contracts were \$739 million and \$396 million, respectively. All the contracts mature within 12 months and, upon maturity, the amounts recorded in Accumulated other comprehensive income (loss) are expected to be reclassified into earnings. The Company hedges its exposure to the variability in future cash flows for forecasted transactions over a maximum of 12 months.

NOTE 9: Accumulated Other Comprehensive Income (Loss)

Unrealized holding gains or losses on the Company's available-for-sale debt securities and unrealized holding gains and losses on derivative financial instruments qualifying as cash flow hedges are included in other comprehensive income (loss).

The table below summarizes the changes in accumulated other comprehensive income (loss) for the years ended December 28, 2019 and December 29, 2018:

	Year Ended	
	December 28, 2019	December 29, 2018
	Unrealized gains (losses) on cash flow hedges	Unrealized gains (losses) on cash flow hedges
Beginning balance	\$ (8)	\$ 6
Unrealized gain (losses) arising during the period, net of tax of zero	2	(19)
Reclassification adjustment for gains realized and included in net income, net of tax of zero	6	5
Total other comprehensive income (loss)	8	(14)
Ending balance	\$ —	\$ (8)

NOTE 10: Concentrations of Credit and Operation Risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist primarily of investments in available-for-sale debt securities, trade receivables and derivative financial instruments used in hedging activities.

The Company places its investments with high credit quality financial institutions and, by policy, limits the amount of credit exposure with any one financial institution. At the time an investment is made, investments in commercial paper of industrial firms and financial institutions are rated A1, P1 or better. The Company invests in tax-exempt securities including municipal notes and bonds and bonds that are rated A, A2 or better and repurchase agreements, each of which have securities of the type and quality listed above as collateral.

The Company believes that concentrations of credit risk with respect to trade receivables are limited because a large number of geographically diverse customers make up the Company's customer base, thus diluting the trade credit risk. The Company's top three customers with the highest accounts receivable balances each accounted for approximately 15%, 9% and 8%, respectively, of the total consolidated accounts receivable balance as of December 28, 2019 and 16%, 12% and 7%, respectively, of the total consolidated accounts receivable balance as of December 29, 2018. However, the Company does not believe the receivable balance from these customers represents a significant credit risk based on past collection experience and review of their current credit quality. The Company manages its exposure to customer credit risk through credit limits, credit lines, ongoing monitoring procedures and credit approvals. Furthermore, the Company performs in-depth credit evaluations of all new customers and, at intervals, for existing customers. From this, the Company may require letters of credit, bank or corporate guarantees or advance payments if deemed necessary.

The Company's existing derivative financial instruments are with large international financial institutions of investment grade credit rating. The Company does not believe that there is significant risk of nonperformance by these counterparties because the Company monitors their credit rating on an ongoing basis. By using derivative instruments, the Company is subject to credit and market risk. If a counter-party fails to fulfill its performance obligations under a derivative contract, the Company's credit risk will equal the fair value of the derivative instrument. Generally, when the fair value of a derivative contract is positive, the counter-party owes the Company, thus creating a receivable risk for the Company. Based upon certain factors including a review of the credit default swap rates for the Company's counter-parties, the Company determined its counter-party credit risk to be immaterial. At December 28, 2019, the Company's obligations under the contracts did not exceed counter-parties' obligations.

The Company is dependent on certain equipment and materials from a limited number of suppliers and relies on a limited number of foreign companies to supply the majority of certain types of integrated circuit packages for back-end manufacturing operations. Similarly, certain non-proprietary materials or components such as memory, PCBs, substrates and capacitors used in the manufacture of the Company's graphics products are currently available from only a limited number of sources. Interruption of supply or increased demand in the industry could cause shortages and price increases in various essential materials. If the Company or its third-party manufacturing suppliers are unable to procure certain of these materials or its foundries are unable to procure materials for manufacturing its products, its business would be materially adversely affected.

NOTE 11: Earnings (Loss) Per Share

Basic earnings (loss) per share is computed based on the weighted-average number of shares outstanding.

Diluted earnings (loss) per share is computed based on the weighted-average number of shares outstanding plus potentially dilutive shares outstanding during the period. Potentially dilutive shares are determined by applying the treasury stock method to the assumed exercise of outstanding stock options, the assumed vesting of outstanding RSUs, the assumed issuance of common stock under the employee stock purchase plan (ESPP) and the assumed exercise of the warrants. Potentially dilutive shares issuable upon conversion of the 2.125% Convertible Senior Notes due 2026 (2.125% Notes) are calculated using the if-converted method.

The following table sets forth the components of basic and diluted earnings (loss) per share:

	2019	2018	2017
	(In millions, except per share amounts)		
Numerator-Net income (loss):			
Numerator for basic and diluted earnings per share	341	337	(33)
Denominator-Weighted average shares:			
Denominator for basic earnings per share	1,091	982	952
Effect of potentially dilutive shares:			
Employee equity incentive plans and warrants	29	82	—
Denominator for diluted earnings per share	1,120	1,064	952
Earnings (loss) per share:			
Basic	\$ 0.31	\$ 0.34	\$ (0.03)
Diluted	\$ 0.30	\$ 0.32	\$ (0.03)

Potential shares from employee equity incentive plans and the conversion of the 2.125% Notes totaling 93 million and 105 million shares for 2019 and 2018, respectively, and potential shares from employee equity incentive plans, the conversion of the 2.125% Notes and the warrants under the Warrant Agreement totaling 189 million shares for 2017, were not included in the diluted earnings (loss) per share calculation as their inclusion would have been anti-dilutive.

NOTE 12: Common Stock and Stock-Based Incentive Compensation Plans**Shares Outstanding**

Shares of common stock outstanding were as follows:

	Year Ended		
	December 28, 2019	December 29, 2018	December 30, 2017
	(In millions)		
Number of shares			
Balance, beginning of period	1,005	967	935
Common stock issued under employee equity incentive plans, net of tax withholding	20	31	32
Issuance of common stock upon warrant exercise	75	—	—
Issuance of common stock to partially settle convertible debt	69	—	—
Issuance of treasury stock to partially settle debt	1	7	—
Balance, end of period	1,170	1,005	967

The Company's stock-based incentive programs are intended to attract, retain and motivate highly qualified employees. On April 29, 2004, the Company's stockholders approved the 2004 Equity Incentive Plan (the 2004 Plan). The Company introduced the Employee Stock Purchase Plan (ESPP) in the fourth quarter of 2017.

Under the 2004 Plan, stock options generally vest and become exercisable over a three-year period from the date of grant and expire within ten years after the grant date. Unvested shares that are reacquired by the Company from forfeited outstanding equity awards become available for grant and may be reissued as new awards.

Under the 2004 Plan, the Company can grant (i) stock options, and (ii) RSUs, including time-based RSUs and Performance-based Restricted Stock Units (PRSUs).

Stock Options. A stock option is the right to purchase shares of the Company's common stock at a fixed exercise price for a fixed period of time. Under the 2004 Plan, nonstatutory and incentive stock options may be granted. The exercise price of the shares subject to each nonstatutory stock option and incentive stock option cannot be less than 100% of the fair market value of the Company's common stock on the date of the grant. The exercise price of each option granted under the 2004 Plan must be paid in full at the time of the exercise.

Time-based RSUs. Time-based RSUs are awards that can be granted to any employee, director or consultant and that obligate the Company to issue a specific number of shares of the Company's common stock in the future if the vesting terms and conditions are satisfied. The purchase price for the shares is \$0.00 per share.

Performance-based Restricted Stock Units. Performance-based Restricted Stock Units (PRSUs) can be granted to certain of the Company's senior executives. The performance metrics can be financial performance, non-financial performance and/or market conditions. Each PRSU award reflects a target number of shares (Target Shares) that may be issued to an award recipient before adjusting based on the Company's financial performance, non-financial performance and/or market conditions. The actual number of shares that a grant recipient receives at the end of the period may range from 0% to 250% of the Target Shares granted, depending upon the degree of achievement of the performance target designated by each individual award.

Employee Stock Purchase Plan. Under the ESPP, eligible employees who participate in an offering period may have up to 10% of their earnings withheld, up to certain limitations, to purchase shares of common stock at 85% of the lower of the fair market value on the first or the last business day of the six-month offering period. The offering periods commence in May and November each year.

As of December 28, 2019, the Company had 61 million shares of common stock that were available for future grants and 30 million shares reserved for issuance upon the exercise of outstanding stock options or the vesting of unvested restricted stock units. In addition, the Company had 42 million shares of common stock that were available for issuance under the ESPP.

Valuation and Expense

Stock-based compensation expense was allocated in the consolidated statements of operations as follows:

	2019	2018	2017
	(In millions)		
Cost of sales	\$ 6	\$ 4	\$ 2
Research and development	129	91	57
Marketing, general, and administrative	62	42	38
Total stock-based compensation expense, net of tax of \$0	<u>\$ 197</u>	<u>\$ 137</u>	<u>\$ 97</u>

During 2019, 2018 and 2017, the Company did not realize any excess tax benefits related to stock-based compensation and therefore the Company did not record any related financing cash flows.

Stock Options. The weighted-average estimated fair value of employee stock options granted for the years ended December 28, 2019, December 29, 2018 and December 30, 2017 was \$13.31, \$7.62 and \$5.46 per share, respectively, using the following assumptions:

	2019	2018	2017
Expected volatility	52.60% - 56.51%	51.51% - 60.46%	57.26%
Risk-free interest rate	1.53% - 2.51%	2.20% - 2.83%	1.68%
Expected dividends	—%	—%	—%
Expected life (in years)	3.94 - 3.95	3.92 - 3.94	3.92

The Company uses a combination of the historical volatility of its common stock and the implied volatility for publicly traded options on the Company's common stock as the expected volatility assumption required by the lattice-binomial

model. The risk-free interest rate is based on the rate for a U.S. Treasury zero-coupon yield curve with a term that approximates the expected life of the option grant at the date closest to the option grant date. The expected dividend yield is zero as the Company does not expect to pay dividends in the near future. The expected term of employee stock options represents the weighted-average period the stock options are expected to remain outstanding and is a derived output of the lattice-binomial model.

The following table summarizes stock option activity and related information:

	Outstanding Number of Shares	Weighted- Average Exercise Price	Aggregate Intrinsic Value	Weighted-Average Remaining Contractual Life (in years)
(In millions, except share price)				
Balance as of December 29, 2018	13	\$ 5.33		
Granted	1	\$ 32.86		
Canceled	(1)	\$ 17.52		
Exercised	(3)	\$ 3.74		
Balance as of December 28, 2019	10	\$ 7.56	\$ 226	3.20
Exercisable December 28, 2019	9	\$ 4.56	\$ 215	2.72

The total intrinsic value of stock options exercised for 2019, 2018 and 2017 was \$84 million, \$67 million and \$27 million, respectively.

As of December 28, 2019, the Company had \$12 million of total unrecognized compensation expense related to stock options, which will be recognized over the weighted-average period of 1.87 years.

Time-based RSUs. The weighted-average grant date fair values of time-based RSUs granted during 2019, 2018 and 2017 were \$32.52, \$17.66 and \$12.65 per share, respectively.

The following table summarizes time-based RSU activity and related information:

	Number of Shares	Weighted- Average Fair Value	Aggregate Intrinsic Value	Weighted-Average Remaining Contractual Life (in years)
(In millions except share price)				
Unvested shares as of December 29, 2018	24	\$ 12.86		
Granted	8	\$ 32.52		
Forfeited	(2)	\$ 16.49		
Vested	(12)	\$ 10.39		
Unvested shares as of December 28, 2019	18	\$ 22.93	\$ 503	1.19

The total fair value of time-based RSUs vested during 2019, 2018 and 2017 was \$395 million, \$315 million and \$294 million, respectively.

As of December 28, 2019, the Company had \$322 million of total unrecognized compensation expense related to time-based RSUs, which will be recognized over the weighted-average period of 1.80 years.

PRsUs. The weighted-average grant date fair values of PRsUs granted during 2019, 2018 and 2017 were \$50.00, \$21.67 and \$17.18, respectively, using the following assumptions:

	2019	2018	2017
Expected volatility	60.54% - 62.52%	63.77% - 67.97%	64.39%
Risk-free interest rate	1.56% - 2.49%	2.06% - 2.82%	1.50%
Expected dividends	—%	—%	—%
Expected term (in years)	2.48 - 5.00	2.48 - 3.00	3.00

The Company uses the historical volatility of its common stock and risk-free interest rate based on the rate for a U.S. Treasury zero-coupon yield curve with a term that approximates the expected life of the PRsUs grant at the date closest to the grant date. The expected dividend yield is zero as the Company does not expect to pay dividends in the near future. The expected term of PRsUs represents the weighted-average period the PRsUs are expected to remain outstanding.

The following table summarizes PRSU activity and related information:

	Number of Shares	Weighted- Average Fair Value	Aggregate Intrinsic Value	Weighted-Average Remaining Contractual Life (in years)
(In millions except share price)				
Unvested shares as of December 29, 2018	2	\$ 14.58		
Granted	2	\$ 50.00		
Forfeited	—	\$ 22.39		
Vested	(1)	\$ 3.60		
Unvested shares as of December 28, 2019	3	\$ 36.13	\$ 90	2.56

The total fair value of PRSUs vested during 2019, 2018 and 2017 was \$65 million, \$84 million and \$34 million, respectively.

As of December 28, 2019, the Company had \$85 million of total unrecognized compensation expense related to PRSUs, which will be recognized over the weighted-average period of 2.56 years.

ESPP. The weighted-average grant date fair value for the ESPP during 2019, 2018 and 2017 was \$9.96, \$4.71 and \$3.46 per share, respectively, using the following assumptions:

	2019	2018	2017
Expected volatility	48.95% - 67.02%	45.88% - 66.66%	56.07%
Risk-free interest rate	1.58% - 2.46%	2.05% - 2.52%	1.36%
Expected dividends	—%	—%	—%
Expected term (in years)	0.50	0.50	0.49

The Company uses the historical volatility of its common stock and the risk-free interest rate based on the rate for a U.S. Treasury zero-coupon yield curve with a term that approximates the expected life of the ESPP grant at the date closest to the ESPP grant date. The expected dividend yield is zero as the Company does not expect to pay dividends in the near future. The expected term of the ESPP represents the weighted-average period the ESPP is expected to remain outstanding.

During 2019, 1.8 million and 1.4 million shares of common stock were purchased in each of the two six-month offering periods under the ESPP at a purchase price of \$16.18 and \$23.77 per share, respectively, resulting in aggregate cash proceeds of \$62 million. As of December 28, 2019, the Company had \$9 million of total unrecognized compensation expense related to the ESPP, which will be recognized over the weighted-average period of 0.37 years.

NOTE 13: Retirement Benefit Plans

The Company provides retirement benefit plans in the United States and certain foreign countries. The Company has a 401(k) retirement plan that allows participating employees in the United States to contribute as defined by the plan and subject to Internal Revenue Service limitations. The Company matches 75% of employees' contributions up to 6% of their compensation. The Company's contributions to the 401(k) plan for 2019, 2018 and 2017 were approximately \$25 million, \$21 million and \$18 million, respectively.

NOTE 14: Income Taxes

Income (loss) before income taxes consists of the following:

	2019	2018	2017
		(In millions)	
U.S.	\$ 334	\$ 114	\$ 53
Non-U.S.	38	214	(68)

Total pre-tax income (loss) including equity loss in investee	<u>\$</u> <u>372</u>	<u>\$</u> <u>328</u>	<u>\$</u> <u>(15)</u>
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The provision for (benefit from) income taxes consists of:

	2019	2018	2017
	(In millions)		
Current:			
U.S. Federal	\$ (13)	\$ 12	\$ (3)
U.S. State and Local	1	—	—
Non-U.S.	50	(17)	37
Total	38	(5)	34
Deferred:			
U.S. Federal	—	—	(15)
Non-U.S.	(7)	(4)	(1)
Total	(7)	(4)	(16)
Provision for (benefit from) income taxes	<u>\$ 31</u>	<u>\$ (9)</u>	<u>\$ 18</u>

The table below displays the reconciliation between statutory federal income taxes and the total provision for (benefit from) income taxes.

	2019	2018	2017
	(In millions)		
Statutory federal income tax expense (benefit) at 21%, 21% and 35% rate	\$ 78	\$ 69	\$ 22
State taxes	1	1	1
Foreign withholding taxes (refund)	22	(29)	27
Foreign rate detriment	2	2	—
Valuation allowance change	(59)	(64)	(12)
Credit monetization	—	(1)	(20)
Tax Reform Act	(13)	13	—
Provision for (benefit from) income taxes	<u>\$ 31</u>	<u>\$ (9)</u>	<u>\$ 18</u>

The income tax provision in 2019 was primarily due to \$22 million of tax provision of withholding tax related to cross-border transactions, \$22 million tax provision in foreign locations offset by a \$13 million benefit for a reduction of U.S. income taxes accrued in the prior year.

The income tax provision in 2018 was primarily due to a \$36 million refund of withholding tax from a foreign jurisdiction related to a legal settlement from 2010, offset by \$13 million of U.S. income taxes resulting from the Tax Reform Act, \$7 million tax provision in foreign locations and \$7 million of withholding taxes on cross-border transactions.

The income tax provision in 2017 was primarily due to \$38 million of foreign taxes in profitable locations including \$27 million of withholding taxes on cross-border transactions, offset by \$1 million of tax benefits for Canadian tax credits and \$19 million primarily attributable to the reversal of the valuation allowance on Alternate Minimum Tax (AMT) credit carryovers due to the Tax Reform Act.

Deferred income taxes reflect the net tax effects of tax carryovers and temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the balances for income tax purposes. Significant components of the Company's deferred tax assets and liabilities as of December 28, 2019 and December 29, 2018 are as follows:

	December 28, 2019	December 29, 2018
	(In millions)	
Deferred tax assets:		
Net operating loss carryovers	\$ 1,455	\$ 1,533
Accruals and reserves not currently deductible	245	123
Acquired intangibles and goodwill	45	101
Federal and state tax credit carryovers	617	527
Foreign research and development ITC credits	429	370
Other	159	104
Total deferred tax assets	2,950	2,758
Less: valuation allowance	(2,743)	(2,580)
Total deferred tax assets, net of valuation allowance	207	178
Deferred tax liabilities:		
Discount of convertible notes	(22)	(54)
Undistributed foreign earnings	(110)	(105)
Other	(64)	(15)
Total deferred tax liabilities	(196)	(174)
Net deferred tax assets	\$ 11	\$ 4

The breakdown between deferred tax assets and deferred tax liabilities as of December 28, 2019 and December 29, 2018 is as follows:

	December 28, 2019	December 29, 2018
	(In millions)	
Deferred tax assets	\$ 22	\$ 15
Deferred tax liabilities	(11)	(11)
Net deferred tax assets	\$ 11	\$ 4

Deferred tax assets are included in Other assets on the consolidated balance sheets. Deferred tax liabilities are included in Other long-term liabilities on the consolidated balance sheets.

As of December 28, 2019, substantially all of the Company's U.S. and foreign deferred tax assets, net of deferred tax liabilities, continued to be subject to a valuation allowance. The Company evaluates the need for and the amount of a valuation allowance for deferred tax assets based on available evidence whether it is more-likely-than-not (a probability level of more than 50%) that these assets will be realized. In completing this assessment management must consider both objective and subjective factors in its assessment. These factors include, but are not limited to a history of losses in prior years, unique competitiveness of the semiconductor industry, future reversal of existing temporary differences, tax planning strategies, and future taxable income exclusive of reversing temporary differences and loss carryforwards. After evaluating all available evidence, the Company determined that the valuation allowances for the United States and Canada should both be maintained.

The Company's United States federal and state net operating losses carryforwards as of December 28, 2019, were \$6.7 billion and \$0.5 billion, respectively. The United States federal net operating losses will expire between 2026 through 2037, and the state net operating losses will expire at various dates through 2037. The federal credit of \$399 million will expire at various dates between 2020 and 2039. The state credits of \$239 million will expire at various dates between 2020 through 2039 except for California R&D credit, which does not expire. The Company also has \$365 million of credit carryforward in Canada that will expire between 2023 and 2028.

The Tax Reform Act modified the income tax liability in the United States for companies with subsidiaries outside of the United States. As a result of the Tax Reform Act the impact of future distributions of undistributed earnings that are indefinitely

reinvested are anticipated to be withholding taxes from local jurisdictions. The amount of cumulative undistributed earnings that are permanently reinvested that could be subject to withholding taxes are \$142 million as of December 28, 2019.

A reconciliation of the Company's gross unrecognized tax benefits is as follows:

	2019	2018	2017
		(In millions)	
Balance at beginning of year	\$ 49	\$ 49	\$ 42
Increases for tax positions taken in prior years	5	1	7
Decreases for tax positions taken in prior years	—	(1)	(2)
Increases for tax positions taken in the current year	15	3	3
Decreases for settlements with taxing authorities	(3)	(2)	—
Decreases for lapsing of the statute of limitations	(1)	(1)	(1)
Balance at end of year	<u>\$ 65</u>	<u>\$ 49</u>	<u>\$ 49</u>

The amount of unrecognized tax benefits that would impact the effective tax rate was \$17 million, \$9 million and \$9 million as of December 28, 2019, December 29, 2018 and December 30, 2017, respectively. The Company had no material amounts of accrued interest and accrued penalties related to unrecognized tax benefits as of December 28, 2019, December 29, 2018 and December 30, 2017.

It is possible the Company may have tax audits close in the next 12 months that could materially change the balance of the uncertain tax benefits; however, the timing of tax audit closures and settlements are highly uncertain. The Company and its subsidiaries have several foreign and U.S. state audits in process at any one point in time. The Company has provided for uncertain tax positions that require a liability under the adopted method to account for uncertainty in income taxes.

The Company is subject to taxation in the United States and foreign jurisdictions. Earnings from non-U.S. activities are subject to local country income tax. The material jurisdiction in which the Company is subject to potential examination by the taxing authority is the United States, which is open for years from 2006 onwards due to the net operating losses.

NOTE 15: Segment Reporting

Management, including the Chief Operating Decision Maker, who is the Company's Chief Executive Officer, reviews and assesses operating performance using segment net revenue and operating income (loss). These performance measures include the allocation of expenses to the operating segments based on management's judgment. The Company has the following two reportable segments:

- the Computing and Graphics segment, which primarily includes desktop and notebook processors and chipsets, discrete and integrated graphics processing units (GPUs), data center and professional GPUs and development services. The Company also licenses portions of its IP portfolio.
- the Enterprise, Embedded and Semi-Custom segment, which primarily includes server and embedded processors, semi-custom System-on-Chip (SoC) products, development services and technology for game consoles. The Company also licenses portions of its IP portfolio.

In addition to these reportable segments, the Company has an All Other category, which is not a reportable segment. This category primarily includes certain expenses and credits that are not allocated to any of the reportable segments because management does not consider these expenses and credits in evaluating the performance of the reportable segments. This category primarily includes employee stock-based compensation expense.

The following table provides a summary of net revenue and operating income (loss) by segment for 2019, 2018 and 2017.

	2019	2018	2017
		(In millions)	
Net revenue:			
Computing and Graphics	\$ 4,709	\$ 4,125	\$ 2,977
Enterprise, Embedded and Semi-Custom	2,022	2,350	2,276
Total net revenue	<u>\$ 6,731</u>	<u>\$ 6,475</u>	<u>\$ 5,253</u>
Operating income (loss):			
Computing and Graphics	\$ 577	\$ 470	\$ 92
Enterprise, Embedded and Semi-Custom	263	163	132
All Other	(209)	(182)	(97)
Total operating income	<u>\$ 631</u>	<u>\$ 451</u>	<u>\$ 127</u>

The following table provides major items included in All Other category:

	2019	2018	2017
		(In millions)	
Operating loss:			
Stock-based compensation expense	\$ (197)	\$ (137)	\$ (97)
Impairment of technology licenses	—	(45)	—
Loss contingency on legal matter	(12)	—	—
Total operating loss	<u>\$ (209)</u>	<u>\$ (182)</u>	<u>\$ (97)</u>

The Company does not discretely allocate assets to its operating segments, nor does management evaluate operating segments using discrete asset information.

The Company's operations outside the United States include research and development activities and sales, marketing and administrative activities. The Company conducts product and system research and development activities for its products in the United States with additional design and development engineering teams located in Canada, China, India, Taiwan and Singapore. The Company's material sales and marketing offices are located in the United States, Latin America, Europe and Asia.

The following table summarizes sales to external customers by geographic regions based on billing location of the customer:

	2019	2018	2017
		(In millions)	
United States	\$ 1,764	\$ 1,327	\$ 1,360
China (including Hong Kong)	1,736	1,319	974
Japan	840	1,225	1,215
Europe	762	470	263
Taiwan	719	1,197	738
Singapore	597	728	550
Other countries	313	209	153
Total sales to external customers	<u>\$ 6,731</u>	<u>\$ 6,475</u>	<u>\$ 5,253</u>

The following table summarizes Property and equipment, net by geographic areas:

	2019	2018
	(In millions)	
United States	\$ 300	\$ 232
Canada	99	51
China	36	17
Singapore	33	29
Other countries	32	19
Total property and equipment, net	<u>\$ 500</u>	<u>\$ 348</u>

The following table summarizes sales to major customers that accounted for at least 10% of the Company's consolidated net revenue for the respective years:

	2019	2018	2017
Customer A	12%	19%	23%
Customer B	*	11%	15%

* Less than 10%

Sales to customers A and B consisted of products from the Company's Enterprise, Embedded and Semi-Custom segment.

NOTE 16: Other Expense, Net

The following table summarizes the components of Other expense, net:

	2019	2018	2017
	(In millions)		
Interest income	\$ 15	\$ 18	\$ 6
Gain on sale of 85% ATMP JV	—	—	3
Loss on debt redemption, repurchase and conversion	(176)	(12)	(12)
Other	(4)	(6)	(6)
Other expense, net	<u>\$ (165)</u>	<u>\$ —</u>	<u>\$ (9)</u>

NOTE 17: Commitments and Guarantees

Operating Leases

The Company has entered into operating and finance leases for its corporate offices, data centers, research and development facilities and certain equipment. The leases expire at various dates through 2028, some of which include options to extend the lease for up to 5 years.

For 2019, 2018 and 2017, the Company recorded \$56 million, \$53 million and \$44 million, respectively, of operating lease expense, including short-term lease expense. For the year ended December 28, 2019, the Company recorded \$25 million of variable lease expense, which primarily included operating expenses and property taxes associated with the usage of facilities under the operating leases. For the year ended December 28, 2019, cash paid for operating leases included in operating cash flows was \$47 million. The Company's finance leases and short-term leases are immaterial.

Supplemental information related to leases is as follows:

December 28,
2019

Weighted-average remaining lease term – operating leases	6.26 years
Weighted-average discount rate – operating leases	5.55%

Future minimum lease payments under non-cancellable operating lease liabilities as of December 28, 2019 are as follows:

Year	(In millions)
2020	\$ 54
2021	48
2022	44
2023	37
2024	33
2025 and thereafter	71
Total minimum lease payments	287
Less: interest	(45)
Present value of net minimum lease payments	242
Less: current portion	(43)
Total long-term operating lease liabilities	\$ 199

Certain other operating leases contain provisions for escalating lease payments subject to changes in the consumer price index.

Purchase and Other Contractual Obligations

The Company's purchase obligations primarily include the Company's obligations to purchase wafers and substrates from third parties. The Company also had other contractual obligations, primarily included in Other long-term liabilities and Accrued liabilities on its consolidated balance sheet, which primarily consisted of \$146 million of payments due under certain software and technology licenses and IP licenses that will be paid through 2022.

Total future unconditional purchase obligations as of December 28, 2019 were as follows:

Year	(In millions)
2020	\$ 1,731
2021	642
2022	58
2023	5
2024	2
2025 and thereafter	7
Total unconditional purchase commitments	\$ 2,445

Warranties and Indemnities

Changes in the Company's estimated liability for product warranty during the years ended December 28, 2019 and December 29, 2018 are as follows:

	December 28, 2019	December 29, 2018
	(In millions)	
Beginning balance	\$ 13	\$ 12
New warranties issued during the period	31	27
Settlements during the period	(29)	(28)
Changes in liability for pre-existing warranties during the period, including expirations	—	2
Ending balance	\$ 15	\$ 13

In addition to product warranties, the Company from time to time in its normal course of business indemnifies other parties with whom it enters into contractual relationships, including customers, lessors and parties to other transactions with the Company, with respect to certain matters. In these limited matters, the Company has agreed to hold certain third parties

harmless against specific types of claims or losses such as those arising from a breach of representations or covenants, third-party claims that the Company's products when used for their intended purpose(s) and under specific conditions infringe the intellectual property rights

of a third party, or other specified claims made against the indemnified party. It is not possible to determine the maximum potential amount of liability under these indemnification obligations due to the unique facts and circumstances that are likely to be involved in each particular claim and indemnification provision. Historically, payments made by the Company under these obligations have not been material.

NOTE 18: Contingencies

Shareholder Derivative Lawsuits (Wessels, Hamilton and Ha)

On March 20, 2014, a purported shareholder derivative lawsuit captioned *Wessels v. Read, et al.*, Case No. 1:14-cv-262486 (Wessels) was filed against the Company (as a nominal defendant only) and certain of its directors and officers in the Santa Clara County Superior Court of the State of California. The complaint purports to assert claims against the Company and certain individual directors and officers for breach of fiduciary duty, waste of corporate assets and unjust enrichment. The complaint seeks damages allegedly caused by alleged materially misleading statements and/or material omissions by the Company and the individual directors and officers regarding its 32nm technology and “Llano” product, which statements and omissions, the plaintiffs claim, allegedly operated to artificially inflate the price paid for the Company’s common stock during the period. On April 27, 2015, a similar purported shareholder derivative lawsuit captioned *Christopher Hamilton and David Hamilton v. Barnes, et al.*, Case No. 5:15-cv-01890 (Hamilton) was filed against the Company (as a nominal defendant only) and certain of its directors and officers in the United States District Court for the Northern District of California.

On September 29, 2015, a similar purported shareholder derivative lawsuit captioned *Jake Ha v Caldwell, et al.*, Case No. 3:15-cv-04485 (Ha) was filed against the Company (as a nominal defendant only) and certain of its directors and officers in the United States District Court for the Northern District of California. The lawsuit also seeks a court order voiding the stockholder vote on the Company’s 2015 proxy. The case was transferred to the judge handling the Hamilton Lawsuit and is now Case No. 4:15-cv-04485. The Wessels, Hamilton and Ha shareholder derivative lawsuits were stayed pending resolution of a class action lawsuit captioned *Hatamian v. AMD, et al.*, C.A. No. 3:14-cv-00226 filed against the Company in the United States District Court for the Northern District of California (the Hatamian Lawsuit). The Hatamian Lawsuit asserted claims against the Company and certain of its officers for alleged violations of Section 10(b) of the Exchange Act of 1934, as amended (the Exchange Act), and SEC Rule 10b-5 concerning certain statements regarding its 32nm technology and “Llano” products. On October 9, 2017, the parties signed a definitive settlement agreement resolving the Hatamian Lawsuit and submitted it to the Court for approval. Under the terms of this agreement, the settlement was funded entirely by certain of the Company’s insurance carriers and the defendants continued to deny any liability or wrongdoing. On March 2, 2018, the court approved the settlement and entered a final judgment in the Hatamian Lawsuit.

On January 30, 2018, the Wessels and Hamilton plaintiffs amended their complaints. On February 2, 2018, the Ha plaintiff also filed an amended complaint. On February 22, 2018, the Company filed motions to dismiss the Hamilton and Ha plaintiffs’ amended complaints. On April 2, 2018, the Company filed a demurrer seeking to dismiss the Wessels amended complaint. On July 23, 2018, the Santa Clara Superior Court sustained the Company’s demurrer in the Wessels case, dismissing all claims in that matter with prejudice. The Wessels plaintiff filed a Notice of Appeal on September 27, 2018. On October 4, 2018, the Federal Court issued an order dismissing the Hamilton and Ha amended complaints. The Hamilton plaintiffs filed a Notice of Appeal on October 8, 2018, and the Ha plaintiffs filed a Notice of Appeal on October 15, 2018. On November 19, 2018, the Hamilton and Ha plaintiffs filed a motion seeking summary reversal of the order dismissing their claims. The Company opposed this motion on December 13, 2018, and the Court denied it on February 25, 2019. The Wessels, Hamilton, and Ha appeals are currently pending. Briefing has completed in each appeal.

Based upon information presently known to management, the Company believes that the potential liability, if any, will not have a material adverse effect on its financial condition, cash flows or results of operations.

Hauck et al. Litigation

Since January 19, 2018, three putative class action complaints have been filed against the Company in the United States District Court for the Northern District of California: (1) *Diana Hauck et al. v. AMD, Inc.*, Case No. 5:18-cv-0047, filed on January 19, 2018; (2) *Brian Speck et al. v. AMD, Inc.*, Case No. 5:18-cv-0744, filed on February 4, 2018; and (3) *Nathan Barnes and Jonathan Caskey-Medina, et al. v. AMD, Inc.*, Case No. 5:18-cv-00883, filed on February 9, 2018. On April 9, 2018, the court consolidated these cases and ordered that *Diana Hauck et al. v. AMD, Inc.* serve as the lead case. On June 13, 2018, six plaintiffs (from California, Louisiana, Florida, and Massachusetts) filed a consolidated amended complaint alleging that the Company failed to disclose its processors’ alleged vulnerability to Spectre. Plaintiffs further allege that the Company’s processors cannot perform at their advertised processing speeds without exposing consumers to Spectre, and that any “patches” to remedy this security vulnerability will result in degradation of processor performance. The plaintiffs seek damages under several causes of action on behalf of a nationwide class and four state subclasses (California,

Florida, Massachusetts, Louisiana) of consumers who purchased

the Company's processors and/or devices containing AMD processors. The plaintiffs also seek attorneys' fees, equitable relief, and restitution. Pursuant to the court's order directing the parties to litigate only eight of the causes of action in the consolidated amended complaint initially, the Company filed a motion to dismiss on July 13, 2018. On October 29, 2018, after the plaintiffs voluntarily dismissed one of their claims, the court granted the Company's motion and dismissed six causes of action with leave to amend. The plaintiffs filed their amended consolidated complaint on December 6, 2018. On January 3, 2019, the Company again moved to dismiss the subset of claims currently at issue. On April 4, 2019, the court granted the Company's motion and dismissed all claims currently at issue with prejudice. On May 6, 2019, the court granted the parties' stipulation and request under Fed. R. Civ. P. 54(b) to enter a partial final judgment and certify for appeal the court's April 4, 2019 dismissal order, and on that same date, the plaintiffs voluntarily dismissed without prejudice their remaining claims pursuant to an agreement whereby, subject to certain terms and conditions, the Company agreed to toll the statute of limitations and/or statute of repose. On May 30, 2019, the plaintiffs filed a Notice of Appeal with the U.S. Court of Appeals for the Ninth Circuit. Briefing has completed for the appeal.

Based upon information presently known to management, the Company believes that the potential liability, if any, will not have a material adverse effect on its financial condition, cash flows or results of operations.

Quarterhill Inc. Litigation

On July 2, 2018, three entities named Aquila Innovations, Inc. (Aquila), Collabo Innovations, Inc. (Collabo), and Polaris Innovations, Ltd. (Polaris), filed separate patent infringement complaints against the Company in the United States District Court for the Western District of Texas. Aquila alleges that the Company infringes two patents (6,239,614 and 6,895,519) relating to power management; Collabo alleges that the Company infringes one patent (7,930,575) related to power management; and Polaris alleges that the Company infringes two patents (6,728,144 and 8,117,526) relating to control or use of dynamic random-access memory, or DRAM. Each of the three complaints seeks unspecified monetary damages, interest, fees, expenses, and costs against the Company; Aquila and Collabo also seek enhanced damages. Aquila, Collabo, and Polaris each appear to be related to a patent assertion entity named Quarterhill Inc. (formerly WiLAN Inc.). On November 16, 2018, AMD filed answers in the *Collabo* and *Aquila* cases and filed a motion to dismiss in the *Polaris* case. On January 25, 2019, the Company filed amended answers and counterclaims in the *Collabo* and *Aquila* cases. On July 22, 2019, the Company's motion to dismiss in the *Polaris* case was denied. On August 23, 2019, the Court held a claim construction hearing in each case.

Based upon information presently known to management, the Company believes that the potential liability, if any, will not have a material adverse effect on its financial condition, cash flows or results of operations.

Dickey Litigation

On October 26, 2015, a putative class action complaint captioned *Dickey et al. v. AMD*, No. 15-cv-04922 was filed against the Company in the United States District Court for the Northern District of California. Plaintiffs allege that the Company misled consumers by using the term "eight cores" in connection with the marketing of certain AMD FX CPUs that are based on the Company's "Bulldozer" core architecture. The plaintiffs allege these products cannot perform eight calculations simultaneously, without restriction. The plaintiffs seek to obtain damages under several causes of action for a nationwide class of consumers who allegedly were deceived into purchasing certain Bulldozer-based CPUs that were marketed as containing eight cores. The plaintiffs also seek attorneys' fees. On December 21, 2015, the Company filed a motion to dismiss the complaint, which was granted on April 7, 2016. The plaintiffs then filed an amended complaint with a narrowed putative class definition, which the Court dismissed upon the Company's motion on October 31, 2016. The plaintiffs subsequently filed a second amended complaint, and the Company filed a motion to dismiss the second amended complaint. On June 14, 2017, the Court issued an order granting in part and denying in part the Company's motion to dismiss, and allowing the plaintiffs to move forward with a portion of their complaint. On March 27, 2018, plaintiffs filed their motion for class certification. On January 17, 2019, the Court granted plaintiffs' motion for class certification. The class definition does not encompass the Company's Ryzen or EPYC processors. On January 31, 2019, the Company filed a petition in the Ninth Circuit Court of Appeals, seeking review of certain aspects of the January 17, 2019 class certification order. On May 9, 2019, the parties attended mediation and reached a tentative settlement. On June 3, 2019, the Ninth Circuit Court of Appeals denied the Company's petition seeking appellate review of the January 17, 2019 class certification order. On August 9, 2019, the parties executed a formal settlement agreement. On August 23, 2019, plaintiffs filed their motion for preliminary approval of the settlement agreement. On October 4, 2019, the Court granted the motion for preliminary approval of the settlement agreement.

Based upon information presently known to management, the Company believes that the settlement will not have a material adverse effect on its financial condition, cash flows or results of operations.

Monterey Research Litigation

On November 15, 2019, Monterey Research, LLC filed a patent infringement complaint against the Company in the

United States District Court for the District of Delaware. Monterey Research alleges that the Company infringes six U.S. patents: 6,534,805

(related to SRAM cell design); 6,629,226 (related to read interface protocols); 6,651,134 (related to memory devices); 6,765,407 (related to programmable digital circuits); 6,961,807 (related to integrated circuits and associated memory systems); and 8,373,455 (related to output buffer circuits). Monterey Research seeks unspecified monetary damages, enhanced damages, interest, fees, expenses, costs, and injunctive relief against the Company. On January 22, 2020, the Company filed a motion to dismiss part of Monterey Research's complaint.

Based upon information presently known to management, the Company believes that the potential liability, if any, will not have a material adverse effect on its financial condition, cash flows or results of operations.

Environmental Matters

The Company is named as a responsible party on Superfund clean-up orders for three sites in Sunnyvale, California that are on the National Priorities List. Since 1981, the Company has discovered hazardous material releases to the groundwater from former underground tanks and proceeded to investigate and conduct remediation at these three sites. The chemicals released into the groundwater were commonly used in the semiconductor industry in the United States in the wafer fabrication process prior to 1979.

In 1991, the Company received Final Site Clean-up Requirements Orders from the California Regional Water Quality Control Board relating to the three sites. The Company has entered into settlement agreements with other responsible parties on two of the orders. During the term of such agreements, other parties have agreed to assume most of the foreseeable costs as well as the primary role in conducting remediation activities under the orders. The Company remains responsible for additional costs beyond the scope of the agreements as well as all remaining costs in the event that the other parties do not fulfill their obligations under the settlement agreements.

To address anticipated future remediation costs under the orders, the Company has computed and recorded an estimated environmental liability of approximately \$3 million and has not recorded any potential insurance recoveries in determining the estimated costs of the cleanup. The progress of future remediation efforts cannot be predicted with certainty and these costs may change. The Company believes that any amount in addition to what has already been accrued would not be material.

Other Legal Matters

The Company is a defendant or plaintiff in various actions that arose in the normal course of business. With respect to these matters, based on the management's current knowledge, the Company believes that the amount or range of reasonably possible loss, if any, will not, either individually or in the aggregate, have a material adverse effect on the Company's financial position, results of operations, or cash flows.

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Advanced Micro Devices, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Advanced Micro Devices, Inc. (the Company) as of December 28, 2019 and December 29, 2018, the related consolidated statements of operations, comprehensive income (loss), stockholders' equity and cash flows for each of the three years in the period ended December 28, 2019, and the related notes (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 28, 2019 and December 29, 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 28, 2019, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 28, 2019, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 4, 2020 expressed an unqualified opinion thereon.

Adoption of New Accounting Standard

As discussed in Note 2 to the consolidated financial statements, the Company changed its method for accounting for leases as a result of the adoption of Accounting Standards Update (ASU) No. 2016-02, Leases (Topic 842), and the amendments effective December 30, 2018 under the optional modified retrospective approach.

Basis for Opinion

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

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures 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.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of the critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the account or disclosure to which it relates.

Inventory Valuation

Description of the Matter

At December 28, 2019, the Company's net inventory balance was \$982 million. As discussed in Note 2 of the consolidated financial statements, the Company adjusts the inventory carrying value to the lower of actual cost or the estimated net realizable value after completing ongoing reviews of on-hand inventory quantities in excess of forecasted demand, by considering recent historical activity as well as anticipated or forecasted demand.

Auditing management's inventory carrying value adjustments involved significant judgment because the estimates are based on a number of factors that are affected by market, industry, and competitive conditions outside the Company's control. In particular, in estimating inventory carrying value adjustments, management developed assumptions such as forecasts of future sales quantities and the selling prices, which are sensitive to the competitiveness of product offerings, customer requirements, and product life cycles. These significant assumptions are forward-looking and could be affected by future economic and market conditions.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design and tested the operating effectiveness of internal controls over the Company's inventory carrying value adjustment determination process, including the basis for developing above described assumptions and management's judgments.

Our audit procedures included, among others, testing the reasonableness of management's key assumptions and judgments and testing the accuracy and completeness of the underlying data used to determine the amount of inventory carrying value adjustments. For instance, we compared the quantities and carrying value of on-hand inventories to related unit sales, both historical and forecasted, assessed the reasonableness of management's estimates of future sales prices by analyzing historical sales and evaluating any factors that may impact sales prices, and evaluated the appropriateness and adequacy of management's adjustments to such sales forecasts by analyzing potential technological changes in line with product life cycles and/or identified alternative customer uses. We also assessed the accuracy of forecasts underlying management's estimates by comparing management's historical forecasts to actual results, evaluated industry and market factors and performed sensitivity analyses over the significant assumptions used by management to evaluate necessary changes in the inventory carrying value adjustments.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 1970.

San Jose, California

February 4, 2020

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Advanced Micro Devices, Inc.

Opinion on Internal Control over Financial Reporting

We have audited Advanced Micro Devices, Inc.'s internal control over financial reporting as of December 28, 2019, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Advanced Micro Devices, Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 28, 2019, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated balance sheets of the Company as of December 28, 2019 and December 29, 2018, the related consolidated statements of operations, comprehensive income (loss), stockholders' equity and cash flows for each of the three years in the period ended December 28, 2019, and the related notes and our report dated February 4, 2020 expressed an unqualified opinion thereon.

Basis for Opinion

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

San Jose, California

February 4, 2020

Supplementary Financial Information (unaudited)

The Company uses a 52 or 53 week fiscal year ending on the last Saturday in December. All quarters of 2019 and 2018 consisted of 13 weeks.

(In millions, except per share amounts)

	2019				2018			
	Dec. 28	Sep. 28	June 29	Mar. 30	Dec. 29	Sep. 29	June 30	Mar. 31
Net revenue	\$ 2,127	\$ 1,801	\$ 1,531	\$ 1,272	\$ 1,419	\$ 1,653	\$ 1,756	\$ 1,647
Cost of sales	1,178	1,024	910	751	882	992	1,104	1,050
Gross margin	949	777	621	521	537	661	652	597
Research and development	395	406	373	373	371	363	357	343
Marketing, general and administrative	206	185	189	170	138	148	142	134
Licensing gain	—	—	—	(60)	—	—	—	—
Operating income	348	186	59	38	28	150	153	120
Interest expense	(18)	(24)	(25)	(27)	(29)	(30)	(31)	(31)
Other income (expense), net	(125)	(36)	3	(7)	4	(6)	1	1
Income before income taxes	205	126	37	4	3	114	123	90
Provision for (benefit from) income taxes	35	7	2	(13)	(35)	12	6	8
Equity loss in investee	—	1	—	(1)	—	—	(1)	(1)
Net income	<u>\$ 170</u>	<u>\$ 120</u>	<u>\$ 35</u>	<u>\$ 16</u>	<u>\$ 38</u>	<u>\$ 102</u>	<u>\$ 116</u>	<u>\$ 81</u>
Earnings per share								
Basic	\$ 0.15	\$ 0.11	\$ 0.03	\$ 0.01	\$ 0.04	\$ 0.10	\$ 0.12	\$ 0.08
Diluted	\$ 0.15	\$ 0.11	\$ 0.03	\$ 0.01	\$ 0.04	\$ 0.09	\$ 0.11	\$ 0.08
Shares used in per share calculation								
Basic	1,140	1,097	1,084	1,044	1,002	987	972	968
Diluted	1,188	1,117	1,109	1,094	1,079	1,076	1,147	1,039

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES**Disclosure Controls and Procedures**

We maintain disclosure controls and procedures that are designed with the objective of providing reasonable assurance that information required to be disclosed in our reports filed under the Exchange Act, such as this Annual Report on Form 10-K is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure. In designing and evaluating our disclosure controls and procedures, our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and our management is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

As of December 28, 2019, the end of the period covered by this report, we carried out an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures pursuant to Exchange Act Rules 13a-15(e) and 15d-15(e). This type of evaluation is performed on a quarterly basis so that conclusions of management, including our Chief Executive Officer and Chief Financial Officer, concerning the effectiveness of the disclosure controls can be reported in our periodic reports on Form 10-Q and Form 10-K. The overall goals of these evaluation activities are to monitor our disclosure controls and to modify them as necessary. We intend to maintain the disclosure controls as dynamic systems that we adjust as circumstances merit. Based on the foregoing, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective at the reasonable assurance level as of the end of the period covered by this report.

Management's Report on Internal Control over Financial Reporting

Internal control over financial reporting refers to the process designed by, or under the supervision of, our Chief Executive Officer and Chief Financial Officer, and effected by our Board of Directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles, and 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 U.S. 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.

Internal control over financial reporting cannot provide absolute assurance of achieving financial reporting objectives because of its inherent limitations. Internal control over financial reporting is a process that involves human diligence and compliance and is subject to lapses in judgment and breakdowns resulting from human failures. Internal control over financial reporting also can be circumvented by collusion or improper management override. Because of such limitations, there is a risk that material misstatements may not be prevented or detected on a timely basis by internal control over financial reporting. However, these inherent limitations are known features of the financial reporting process. Therefore, it is possible to design into the process safeguards to reduce, though not eliminate, this risk. Management is responsible for establishing and maintaining adequate internal control over financial reporting for the Company.

Management has used the 2013 framework set forth in the report entitled "Internal Control—Integrated Framework" published by the Committee of Sponsoring Organizations of the Treadway Commission to evaluate the effectiveness of the Company's internal control over financial reporting. Management has concluded that the Company's internal control over financial reporting was effective as of December 28, 2019 at the reasonable assurance level. Our independent registered public accounting firm, Ernst & Young LLP, has issued an attestation report on the Company's internal control over financial reporting as of December 28, 2019, which is included in Part II, Item 8, above.

Changes in Internal Control over Financial Reporting

There has been no change in our internal controls over financial reporting during our most recently completed fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal controls over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information under the captions “Item 1—Election of Directors” (including “Consideration of Stockholder Nominees for Director”), “Corporate Governance,” “Meetings and Committees of the Board of Directors,” “Executive Officers” and “Section 16(a) Beneficial Ownership Reporting Compliance” in our proxy statement for our 2020 annual meeting of stockholders (our 2020 Proxy Statement) is incorporated herein by reference. There were no material changes to the procedures by which stockholders may recommend nominees to our board of directors. See also, “Part 1, Item 1-Website Access to Company Reports and Corporate Governance Documents,” above.

ITEM 11. EXECUTIVE COMPENSATION

The information under the captions “Directors’ Compensation and Benefits” (including “2019 Non-Employee Director Compensation”), “Compensation Discussion and Analysis,” “Compensation Policies and Practices,” “Executive Compensation” (including “2019 Summary Compensation Table,” “2019 Nonqualified Deferred Compensation,” “Outstanding Equity Awards at 2019 Fiscal Year-End,” “Grants of Plan-Based Awards in 2019” and “Option Exercises and Stock Vested in 2019”) and “Severance and Change in Control Arrangements” in our 2020 Proxy Statement is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information under the captions “Principal Stockholders,” “Security Ownership of Directors and Executive Officers” and “Equity Compensation Plan Information” in our 2020 Proxy Statement is incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE

The information under the captions “Corporate Governance—Independence of Directors” and “Certain Relationships and Related Transactions” in our 2020 Proxy Statement is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information under the captions “Item 2—Ratification of Appointment of Independent Registered Public Accounting Firm—Independent Registered Public Accounting Firm’s Fees” in our 2020 Proxy Statement is incorporated herein by reference.

With the exception of the information specifically incorporated by reference in Part III of this Annual Report on Form 10-K from our 2020 Proxy Statement, our 2020 Proxy Statement will not be deemed to be filed as part of this report. Without limiting the foregoing, the information under the captions “Compensation Committee Report” and “Audit Committee Report” in our 2020 Proxy Statement is not incorporated by reference in this Annual Report on Form 10-K.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

1. Financial Statements

The financial statements of AMD are set forth in Item 8 of this Annual Report on Form 10-K.

All schedules have been omitted because the required information is not present or is not present in amounts sufficient to require submission of the schedules or because the information required is included in the Consolidated Financial Statements or related notes.

2. Exhibits

The exhibits listed in the accompanying Index to Exhibits are filed as part of, or incorporated by reference into, this Annual Report on Form 10-K. The following is a list of such Exhibits:

Exhibit	Description of Exhibits
3.1	<u>Amended and Restated Certificate of Incorporation of Advanced Micro Devices, Inc., dated May 2, 2018, filed as Exhibit 3.1 to AMD's Quarterly Report on Form 10-Q for the period ended June 30, 2018, is hereby incorporated by reference.</u>
3.2	<u>Advanced Micro Devices, Inc. Amended and Restated Bylaws, as amended on July 30, 2009, filed as Exhibit 3.1 to AMD's Current Report on Form 8-K dated July 30, 2009, are hereby incorporated by reference.</u>
4.1	<u>Description of Advanced Micro Devices, Inc. Common Stock</u>
4.2	<u>Indenture governing 7.50% Senior Notes due 2022, including the Form of 7.50% Note, between Advanced Micro Devices, Inc. and Wells Fargo Bank, N.A., dated as of August 15, 2012, filed as Exhibit 4.1 to AMD's Current Report on Form 8-K dated August 15, 2012, is hereby incorporated by reference.</u>
4.3	<u>Indenture by and among Advanced Micro Devices, Inc. and Wells Fargo Bank N.A., dated September 14, 2016, filed as Exhibit 4.1 to AMD's Current Report on Form 8-K dated September 14, 2016, is hereby incorporated by reference.</u>
4.4	<u>First Supplemental Indenture governing 2.125% Convertible Senior Notes due 2026, including Form of 2.125% Note, between Advanced Micro Devices, Inc. and Wells Fargo Bank, N.A. dated September 14, 2016, filed as Exhibit 4.2 to AMD's Current Report on Form 8-K dated September 14, 2016, is hereby incorporated by reference.</u>
4.5	<u>First Supplemental Indenture by and among Advanced Micro Devices, Inc. and Wells Fargo Bank N.A., dated September 23, 2016, filed as Exhibit 4.1 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 24, 2016, is hereby incorporated by reference.</u>
*10.1	<u>2011 Executive Incentive Plan, filed as Exhibit 10.2 to AMD's Quarterly Report on Form 10-Q for the period ended April 2, 2011, is hereby incorporated by reference.</u>
*10.2	<u>SeaMicro, Inc. Amended and Restated 2007 Equity Incentive Plan, filed as Exhibit 10.1 on AMD's Registration Statement on Form S-8, filed with the SEC on March 23, 2012, is hereby incorporated by reference.</u>

- *10.3 [AMD Executive Severance Plan and Summary Plan Description for Senior Vice Presidents, effective June 1, 2013, filed as Exhibit 10.1 to AMD's Current Report on Form 8-K dated June 7, 2013, is hereby incorporated by reference.](#)
- *10.4 [Guidelines for Business Aircraft Usage And Commercial Travel By Personal Guests, revised as of May 16, 2013, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q for the period ended June 29, 2013, is hereby incorporated by reference.](#)

- *10.5 [AMD Deferred Income Account Plan, as amended and restated, effective January 1, 2008, filed as Exhibit 10.18 to AMD's Annual Report on Form 10-K for the fiscal year ended December 29, 2007, is hereby incorporated by reference.](#)
- *10.6 [Amendment No. 1 to the AMD Deferred Income Account Plan, as amended and restated, effective July 1, 2012, filed as Exhibit 10.16\(a\) to AMD's Annual Report on Form 10-K for the period ended December 29, 2012, is hereby incorporated by reference.](#)
- *10.7 [Form of Indemnity Agreement, between Advanced Micro Devices, Inc. and its officers and directors, filed as Exhibit 10.1 to AMD's Current Report on Form 8-K dated October 6, 2008, is hereby incorporated by reference.](#)
- *10.8 [Form of Management Continuity Agreement, as amended and restated, filed as Exhibit 10.13\(b\) to AMD's Annual Report on Form 10-K for the fiscal year ended December 29, 2007, is hereby incorporated by reference.](#)
- *10.9 [Form of Change in Control Agreement, filed as Exhibit 10.11 to AMD's Annual Report on Form 10-K for the fiscal year ended December 26, 2009, is hereby incorporated by reference.](#)
- *10.10 [Amended and Restated Management Continuity Agreement, between Advanced Micro Devices, Inc. and Devinder Kumar, filed as Exhibit 10.3 to AMD's Quarterly Report on Form 10-Q for the period ended September 29, 2012, is hereby incorporated by reference.](#)
- *10.11 [Offer Letter, between Advanced Micro Devices, Inc. and Mark D. Papermaster, dated October 7, 2011, filed as Exhibit 10.63 to AMD's Annual Report on Form 10-K for the period ended December 31, 2011, is hereby incorporated by reference.](#)
- **10.12 [Wafer Supply Agreement, among Advanced Micro Devices, Inc., The Foundry Company and AMD Fab Technologies US, Inc., dated March 2, 2009, filed as Exhibit 10.5 to AMD's Current Report on Form 8-K dated March 2, 2009, is hereby incorporated by reference.](#)
- **10.13 [Wafer Supply Agreement Amendment No. 1, among Advanced Micro Devices, Inc., GLOBALFOUNDRIES Inc., GLOBALFOUNDRIES U.S. Inc. and GLOBALFOUNDRIES Singapore, Pte. Ltd., dated March 29, 2011, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q/A for the period ended April 2, 2011, is hereby incorporated by reference.](#)
- **10.14 [Wafer Supply Agreement Amendment No. 2, among Advanced Micro Devices, Inc., GLOBALFOUNDRIES Inc., GLOBALFOUNDRIES U.S. Inc., Advanced Technology Investment Company LLC and ATIC International Investment Company LLC, dated March 4, 2012, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q for the period ended March 31, 2012, is hereby incorporated by reference.](#)
- **10.15 [Wafer Supply Agreement Amendment No. 3, among Advanced Micro Devices, Inc., GLOBALFOUNDRIES Inc. and GLOBALFOUNDRIES U.S. Inc., dated December 6, 2012, filed as Exhibit 10.34\(c\) to AMD's Annual Report on Form 10-K for the period ended December 29, 2012, is hereby incorporated by reference.](#)
- 10.16 [Settlement Agreement, between Advanced Micro Devices, Inc. and Intel Corporation, dated November 11, 2009, filed as Exhibit 10.1 to AMD's Current Report on Form 8-K dated November 11, 2009, is hereby incorporated by reference.](#)
- **10.17 [Patent Cross License Agreement, between Advanced Micro Devices, Inc. and Intel Corporation filed, dated November 11, 2009, as Exhibit 10.2 to AMD's Current Report on Form 8-K dated November 17, 2009, is hereby incorporated by reference.](#)
- 10.18 [Sublease Agreement, between Lantana HP, LTD and Advanced Micro Devices, Inc., dated March 26, 2013, filed as Exhibit 10.2 to AMD's Quarterly Report on Form 10-Q for the period ended March 30, 2013, is hereby incorporated by reference.](#)

- 10.19 [Master Landlord's Consent to Sublease, between 7171 Southwest Parkway Holdings, L.P., Lantana HP, Ltd. and Advanced Micro Devices, Inc., dated March 26, 2013, filed as Exhibit 10.3 to AMD's Quarterly Report on Form 10-Q for the period ended March 30, 2013, is hereby incorporated by reference.](#)
- 10.20 [Lease Agreement, between 7171 Southwest Parkway Holdings, L.P. and Lantana HP, Ltd., dated March 26, 2013, filed as Exhibit 10.4 to AMD's Quarterly Report on Form 10-Q for the period ended March 30, 2013, is hereby incorporated by reference.](#)

- **10.21** [Wafer Supply Agreement Amendment No. 4, among Advanced Micro Devices, Inc., GLOBALFOUNDRIES Inc. and GLOBALFOUNDRIES U.S. Inc., dated March 30, 2014, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q/A for the fiscal quarter ended March 29, 2014, is hereby incorporated by reference.](#)
- *10.22** [Employment Agreement by and between Lisa T. Su and Advanced Micro Devices, Inc. effective October 8, 2014, filed as Exhibit 10.2 to AMD's Current Report on Form 8-K/A dated October 14, 2014, is hereby incorporated by reference.](#)
- *10.23** [Form of Stock Option Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 27, 2014, is hereby incorporated by reference.](#)
- *10.24** [Offer Letter, between Advanced Micro Devices, Inc. and Forrest E. Norrod, dated October 20, 2014, filed as Exhibit 10.66 to AMD's Annual Report on Form 10-K for the fiscal year ended December 27, 2014, is hereby incorporated by reference.](#)
- *10.25** [Advanced Micro Devices, Inc. Executive Severance Plan and Summary Plan Description for Senior Vice Presidents effective December 31, 2014, filed as Exhibit 10.68 to AMD's Annual Report on Form 10-K for the fiscal year ended December 27, 2014, is hereby incorporated by reference.](#)
- *10.26** [Offer Letter between Advanced Micro Devices, Inc. and Jim R. Anderson, dated April 17, 2015, filed as Exhibit 10.3 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended June 27, 2015, is hereby incorporated by reference.](#)
- *10.27** [Form of Stock Option Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 26, 2015, is hereby incorporated by reference.](#)
- 10.28** [Equity Interest Purchase Agreement by and between Advanced Micro Devices, Inc. and Nantong Fujitsu Microelectronics Co., Ltd. dated as of October 15, 2015, filed as Exhibit 10.1 to AMD's Current Report on Form 8-K dated October 15, 2015, is hereby incorporated by reference.](#)
- **10.29** [Wafer Supply Agreement Amendment No. 5, among Advanced Micro Devices, Inc., GLOBALFOUNDRIES Inc. and GLOBALFOUNDRIES U.S. Inc., dated as of April 16, 2015, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q/A for the fiscal quarter ended June 27, 2015, is hereby incorporated by reference.](#)
- *10.30** [Form of Stock Option Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.78 to AMD's Annual Report on Form 10-K for the fiscal year ended December 26, 2015, is hereby incorporated by reference.](#)
- *10.31** [Form of Restricted Stock Unit Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.79 to AMD's Annual Report on Form 10-K for the fiscal year ended December 26, 2015, is hereby incorporated by reference.](#)
- *10.32** [Form of Performance-Based Restricted Stock Unit Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.80 to AMD's Annual Report on Form 10-K for the fiscal year ended December 26, 2015, is hereby incorporated by reference.](#)
- **10.33** [Wafer Supply Agreement Amendment No. 6, among Advanced Micro Devices, Inc., GLOBALFOUNDRIES, Inc. and GLOBALFOUNDRIES U.S., Inc., dated August 30, 2016, filed as Exhibit 10.3 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 24, 2016, is hereby incorporated by reference.](#)
- *10.34** [Form of Stock Option Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.88 to AMD's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, is hereby incorporated by reference.](#)

- *10.35 [Form of Restricted Stock Unit Agreement for Senior Vice Presidents and Above under the 2004 Equity Plan, filed as Exhibit 10.89 to AMD's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, is hereby incorporated by reference.](#)
- *10.36 [Form of Performance-Based Restricted Stock Unit Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.90 to AMD's Annual Report on Form 10-K for the fiscal year ended December 31, 2016, is hereby incorporated by reference.](#)

- *10.37 [Form of Stock Option Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.2 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended April 4, 2017, is hereby incorporated by reference.](#)
- *10.38 [2004 Equity Incentive Plan, as amended and restated, filed as Exhibit 10.1 to AMD's Registration Statement on Form S-8 filed with the SEC on May 8, 2017, is hereby incorporated by reference.](#)
- *10.39 [Amended and Restated 2017 Employee Stock Purchase Plan dated August 23, 2018, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 29, 2018, is hereby incorporated by reference.](#)
- *10.40 [Outside Director Equity Compensation Policy, amended and restated as of October 31, 2017, filed as Exhibit 10.2 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 30, 2017, is hereby incorporated by reference.](#)
- *10.41 [2017 Employee Stock Purchase Plan, as amended and restated October 12, 2017, filed as Exhibit 10.98 to AMD's Annual Report on Form 10-K for the fiscal year ended December 30, 2017, is hereby incorporated by reference.](#)
- *10.42 [Form of Stock Option Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.99 to AMD's Annual Report on Form 10-K for the fiscal year ended December 30, 2017, is hereby incorporated by reference.](#)
- *10.43 [Form of Restricted Stock Unit Award Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.100 to AMD's Annual Report on Form 10-K for the fiscal year ended December 30, 2017, is hereby incorporated by reference.](#)
- *10.44 [Form of Performance-Based Restricted Stock Unit Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan filed as Exhibit 10.101 to AMD's Annual Report on Form 10-K for the fiscal year ended December 30, 2017, is hereby incorporated by reference.](#)
- *10.45 [Amendment to Advanced Micro Devices, Inc. Executive Incentive Plan dated as of February 8, 2018, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2018, is hereby incorporated by reference.](#)
- *10.46 [Form of Stock Option Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive plan, filed as Exhibit 10.103 to AMD's Annual Report on Form 10-K for the fiscal year ended December 29, 2018, is hereby incorporated by reference.](#)
- *10.47 [Form of Performance-based Restricted Stock Unit Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.104 to AMD's Annual Report on Form 10-K for the fiscal year ended December 29, 2018, is hereby incorporated by reference.](#)
- *10.48 [Form of Restricted Stock Unit Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.105 to AMD's Annual Report on Form 10-K for the fiscal year ended December 29, 2018, is hereby incorporated by reference.](#)
- **10.49 [Wafer Supply Agreement Amendment No. 7, among Advanced Micro Devices, Inc., GLOBALFOUNDRIES Inc. and GLOBALFOUNDRIES U.S. Inc., dated January 28, 2019, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended March 30, 2019, is hereby incorporated by reference.](#)
- *10.50 [Offer Letter, between Advanced Micro Devices, Inc. and Sandeep Chennakeshu, dated January 14, 2019, filed as Exhibit 10.2 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended March 30, 2019, is hereby incorporated by reference.](#)
- *10.51 [Sign-On Bonus Agreement, between Advanced Micro Devices, Inc. and Sandeep Chennakeshu, dated January 19, 2019, filed as Exhibit 10.3 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended March 30, 2019, is hereby incorporated by reference.](#)

- 10.52 [Credit Agreement dated as of June 7, 2019 by and among Advanced Micro Devices, Inc., as borrower, the lenders as referred to therein, as lenders, and Wells Fargo Bank, National Association, as administrative agent, swingline agent and an issuing lender, filed as Exhibit 10.1 to AMD's Current Report on Form 8-K dated June 10, 2019, is hereby incorporated by reference.](#)
- *10.53 [Offer Letter between Advanced Micro Devices, Inc. and Rick Bergman dated August 1, 2019, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 28, 2019, is hereby incorporated by reference.](#)

*10.54	<u>Sign-On Bonus Letter between Advanced Micro Devices, Inc. and Rick Bergman dated August 1, 2019, filed as Exhibit 10.2 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 28, 2019, is hereby incorporated by reference.</u>
*10.55	<u>Value Creation Performance-Based Restricted Stock Unit Grant Notice between Advanced Micro Devices, Inc. and Lisa T. Su, dated August 9, 2019, filed as Exhibit 10.3 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 28, 2019, is hereby incorporated by reference.</u>
*10.56	<u>Value Creation Performance-Based Restricted Stock Unit Grant Notice between Advanced Micro Devices, Inc. and Mark Papermaster, dated August 9, 2019, filed as Exhibit 10.4 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 28, 2019, is hereby incorporated by reference.</u>
*10.57	<u>Advanced Micro Devices, Inc. Outside Director Equity Compensation Policy, as amended and restated, dated August 21, 2019, filed as Exhibit 10.5 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 28, 2019, is hereby incorporated by reference.</u>
*10.58	<u>Amendment to Advanced Micro Devices, Inc. Executive Incentive Plan dated as of August 21, 2019, filed as Exhibit 10.6 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 28, 2019, is hereby incorporated by reference.</u>
*10.59	<u>2004 Equity Incentive Plan, as amended and restated, dated August 21, 2019, filed as Exhibit 10.7 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 28, 2019, is hereby incorporated by reference.</u>
21	<u>List of AMD subsidiaries.</u>
23	<u>Consent of Independent Registered Public Accounting Firm</u>
24	<u>Power of Attorney.</u>
31.1	<u>Certification of the Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</u>
31.2	<u>Certification of the Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</u>
32.1	<u>Certification of the Principal Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</u>
32.2	<u>Certification of the Principal Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</u>
101.INS	XBRL Instance Document -the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

104 Cover Page Interactive Data File -the Cover Page Interactive Data File does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document

* Management contracts and compensatory plans or arrangements.

** Portions of this exhibit have been omitted pursuant to a request for confidential treatment, which has been granted. These portions have been filed separately with the SEC.

AMD will furnish a copy of any exhibit on request and payment of AMD's reasonable expenses of furnishing such exhibit.

Signature	Title	Date
<u>/s/Lisa T. Su</u> Lisa T. Su	President and Chief Executive Officer (Principal Executive Officer), Director	February 4, 2020
<u>/s/Devinder Kumar</u> Devinder Kumar	Senior Vice President, Chief Financial Officer and Treasurer (Principal Financial Officer)	February 4, 2020
<u>/s/Darla Smith</u> Darla Smith	Corporate Vice President, Chief Accounting Officer (Principal Accounting Officer)	February 4, 2020
<u>*</u> John E. Caldwell	Director, Chairman of the Board	February 4, 2020
<u>*</u> Nora M. Denzel	Director	February 4, 2020
<u>*</u> Dermot Mark Durcan	Director	February 4, 2020
<u>*</u> Michael P. Gregoire	Director	February 4, 2020
<u>*</u> Joseph A. Householder	Director	February 4, 2020
<u>*</u> John W. Marren	Director	February 4, 2020
<u>*</u> Abhi Y. Talwalkar	Director	February 4, 2020

*By: /s/Devinder Kumar
Devinder Kumar, Attorney-in-Fact