

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 26, 2020

OR

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

Commission File Number 001-07882



ADVANCED MICRO DEVICES, INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of
incorporation or organization)

94-1692300

(I.R.S. Employer
Identification No.)

2485 Augustine Drive
Santa Clara, California 95054
(Address of principal executive offices)

(408) 749-4000

(Registrant's telephone number, including area code)

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

(Title of each class)	(Trading symbol)	(Name of each exchange on which registered)
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.

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
Emerging growth company	<input type="checkbox"/>		

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

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

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

As of June 27, 2020, the aggregate market value of the registrant's common stock held by non-affiliates of the registrant was approximately \$58.5 billion based on the reported closing sale price of \$50.10 per share as reported on The NASDAQ Global Select Market (NASDAQ) on June 26, 2020, 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: 1,211,280,009 shares of common stock, \$0.01 par value per share, as of January 22, 2021.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's proxy statement for the 2021 Annual Meeting of Stockholders (2021 Proxy Statement) are incorporated into Part III hereof. The 2021 Proxy Statement will be filed with the U.S. Securities and Exchange Commission within 120 days after the registrant's fiscal year ended December 26, 2020.

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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 the two joint ventures AMD holds equity in with Higon Information Technology Co., Ltd. (THATIC JVs) products to be developed on the basis of such licensed IP; sales patterns of AMD’s products; international sales will continue to be a significant portion of total sales in the foreseeable future; that AMD’s cash, cash equivalents and short-term investment balances together with the availability under that certain revolving credit facility (the Revolving Credit 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 have a material effect on our financial condition, cash flows or results of operations; 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 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; a small number of customers will continue to account for a substantial part of AMD’s revenue in the future; and the acquisition of Xilinx, Inc. is currently expected to close by the end of calendar year 2021. 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.

From time to time, we may also sell or 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 14 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 2020, 2019 and 2018 refer to the fiscal year unless explicitly stated otherwise.

Pending Acquisition

On October 26, 2020, we entered into an Agreement and Plan of Merger (the Merger Agreement) with Thrones Merger Sub, Inc., our wholly owned subsidiary (Merger Sub), and Xilinx, Inc. (Xilinx), whereby Merger Sub will merge with and into Xilinx (the Merger), with Xilinx surviving such Merger as a wholly owned subsidiary of ours. Under the Merger Agreement, at the effective time of the Merger (the Effective Time), each share of common stock of Xilinx (Xilinx Common Stock) issued and outstanding immediately prior to the Effective Time (other than treasury shares and any shares of Xilinx Common Stock held directly by us or Merger Sub) will be converted into the right to receive 1.7234 fully paid and non-assessable shares of our common stock and, if applicable, cash in lieu of fractional shares, subject to any applicable withholding. As of the signing of the Merger Agreement, the transaction was valued at \$35 billion. The actual valuation of the transaction could differ significantly from the estimated amount due to movements in the price of our Common Stock, the number of shares of Xilinx common stock outstanding on the closing date of the Merger and other factors. The closing of the Merger is subject to customary conditions, including regulatory approval and approval by our stockholders and Xilinx stockholders. The transaction is currently expected to close by the end of calendar year 2021.

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 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, AMD CDNA, AMD Instinct, AMD RDNA, EPYC, FirePro, FreeSync, Geode, Opteron, Radeon, Radeon Instinct, RDNA, Ryzen, Threadripper, Infinity Fabric, and combinations thereof are trademarks of Advanced Micro Devices, Inc.

Microsoft, Windows, DirectX and Xbox One are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. PCIe is a registered trademark of PCI-SIG Corporation. Chromebook and Stadia are trademarks of Google Inc. Linux is the registered trademark of Linus Torvalds in the United States and other countries. PlayStation is a registered trademark or trademark of Sony Interactive Entertainment, Inc. Arm is a registered trademark of ARM Limited (or its subsidiaries) in the US and/or elsewhere. Vulkan and the Vulkan logo are registered trademarks of Khronos Group Inc.

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

The Computing and Graphics market addresses the need for computational and visual data processing in computing devices that include personal computers, laptops / notebooks, and workstations. We service this market with our CPU, GPU, APU, system-on-chip and chipset product offerings.

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 a 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 high-performance computing (HPC), 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 are 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 usually 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. 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. Our microprocessors for desktop platforms currently include the AMD Ryzen™ series processors and AMD Athlon™ processors. In April 2020, we expanded our 3rd Gen AMD Ryzen desktop processor family by adding AMD Ryzen 3 3100 and AMD Ryzen 3 3300X processors with “Zen 2” core architecture to business users, gamers and creators. In June 2020, we announced further additions to the 3rd Gen AMD Ryzen desktop processor family, by introducing the AMD Ryzen 9 3900XT, AMD Ryzen 7 3800XT and AMD Ryzen 5 3600XT desktop processors designed for the enthusiast market. In July 2020, we introduced for the consumer market, the AMD Ryzen 4000 series desktop processors and the AMD Athlon 3000 series desktop processors with built-in Radeon™ graphics. The AMD Ryzen 4000 G-Series desktop processors offer power efficiency for consumers, gamers, streamers and creators and include multi-layered security features. The AMD Athlon 3000 G-Series desktop processors provide responsive performance and features for entry-level PCs using “Zen” core architecture. In October 2020, we introduced the AMD Ryzen 5000 Series desktop processor family powered by “Zen 3” core architecture. The AMD Ryzen 5000 Series processors have up to 16 cores and deliver across the board leadership performance for gamers and content creators.

Notebooks and 2-in-1s. We continue to invest in designing and developing high performing and low power APUs for notebook PC platforms and we offer AMD Ryzen and AMD Athlon mobile processors for the consumer and commercial markets. In January 2020, we introduced the AMD Ryzen 4000 Series Mobile Processors for ultrathin and gaming laptops designed to deliver performance and power efficiency. In September 2020, we introduced the

first mobile AMD Ryzen and AMD Athlon processors for Chromebooks. The AMD Ryzen and Athlon 3000 C-Series mobile processors are designed to enable thinner and lighter Chromebook designs with long battery life and enhanced connectivity.

Commercial. We offer enterprise-class desktop and notebook PC solutions sold as AMD PRO Mobile and AMD PRO desktop processors with Radeon graphics for the commercial market. These solutions are designed to provide enterprise customers with the performance, security capabilities and business features such as enhanced security and manageability, platform longevity and extended image stability. In May 2020, we announced the global availability of the AMD Ryzen PRO 4000 series mobile family for commercial notebooks built with enterprise-grade AMD PRO technologies, which deliver a set of security and manageability features for Enterprise IT deployments. In July 2020, we introduced the AMD Ryzen PRO 4000 series and AMD Athlon PRO 3000 series desktop processors with built-in Radeon graphics for the commercial market. Also in July, we announced the new AMD Ryzen Threadripper™ PRO Processor family with up to 64 cores and built with enterprise grade AMD PRO technologies. Designed for professional workstations from OEMs and system integrators, AMD Ryzen Threadripper PRO processors offer full spectrum compute capabilities for multi-threaded workloads and high frequency single core performance for lightly threaded workloads.

Chipsets. We offer a full suite of chipset products, including the X570 chipset which supports PCIe® 4.0 (fourth generation Peripheral Component Interconnect Express motherboard interface) designed for enthusiast desktop platforms. We also introduced the B550 chipset in April 2020 and the A520 chipset in July 2020 for socket AM4 for 3rd Gen AMD Ryzen desktop processors and 5000 processors. In addition, we continue to offer the B450 and A320 chipsets that are combined with AMD Ryzen processors for the AM4 desktop platform for the performance and affordable mainstream platforms segments. In the High-End Desktop (HEDT) and Workstation segments, we offer the TRX40 and the WRX80 chipsets, respectively, to support the 3rd generation Ryzen Threadripper and Threadripper Pro platforms offering high speed I/O and platform bandwidth.

Graphics Market

The semiconductor graphics market addresses the need for improved visual and data processing in various computing devices. Many consumers use PCs as entertainment platforms, in addition to traditional productivity and communications uses, and therefore value a richer, more visually compelling and immersive experience. As a result, visual realism and graphical display capabilities are key product differentiation elements among computing devices. This has led to the increased creation and use of processing-intensive multimedia content for playing games, capturing media, viewing online videos, editing photos and managing digital content on computing devices. 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 demand for accelerated computing, powered by graphics processors in markets such as high performance computing (HPC), artificial intelligence, and Cloud Visualization (Virtual Desktop Infrastructure & Cloud Gaming). Traditional HPC focused on scientific research, model simulation, and exploration is driving an increased need for computing throughput at universities and government research centers. Artificial intelligence is a rapidly growing area of machine learning and deep learning workloads. Graphics processors are used primarily in the training of machine learning models. The cloud visualization market is fueled by the trend to in work from home and thus the increased need for remote accessibility, and the shift from traditional desktop and notebook workloads to the cloud. 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 specially 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. We have developed RDNA™ 2, a high performing and power efficient graphics architecture, which is the foundation for next-generation PC gaming graphics, the PlayStation 5 and Xbox Series S and X consoles. Additionally, the RDNA 2 architecture supports advanced graphics features such as ray tracing, Infinity Cache and variable rate shading. Our hardware and software components are used to implement ray tracing technology to simulate the paths of light rays moving through a movie or game scene, resulting in photorealistic 3D images.

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 interfaces (APIs) like DirectX® 12 Ultimate and Vulkan®, support new displays using AMD FreeSync™, AMD FreeSync Premium, and AMD FreeSync Premium Pro technologies, and are designed to support VR in PC platforms. In August 2020, we announced the availability of the new AMD Radeon Pro 5000 series GPUs for the updated 27-inch iMac bringing a wide variety of graphically intensive applications and workloads to consumer and professional users. In October 2020, we unveiled the AMD Radeon RX™ 6000 series graphics cards for enthusiast-class PC gaming experiences. The AMD Radeon RX 6000 series includes the AMD Radeon RX 6800 and Radeon RX 6800 XT graphics cards as well as the Radeon RX 6900 XT built upon the AMD RDNA 2 gaming architecture that spans from game consoles to PCs. The AMD RDNA 2 GPUs feature enhancements in the compute unit, advancements in the visual pipeline, and the introduction of a new high-speed cache called AMD Infinity Cache. These architecture enhancements enable ultra-high performance and ultra-high fidelity in the latest games. Complimenting the introduction of the new AMD RX 6000 Series graphics cards, AMD introduced AMD Smart Access Memory, which when combined with an AMD Ryzen 5000 series processor, offers an incremental performance boost in many games.

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 February 2020, we announced the AMD Radeon Pro W5500 workstation graphics card for Design & Manufacturing and Architecture, Engineering & Construction (AEC) professionals. We also announced the AMD Radeon Pro W5500M GPU designed and optimized to power next-generation, high-performance professional mobile workstations. In May 2020, we announced the AMD Radeon Pro VII workstation graphics card for broadcast and engineering professionals. In June 2020, we announced the AMD Radeon Pro 5600M mobile GPU built with 7 nanometer (nm) process technology and advanced AMD RDNA architecture for pro applications, including video editing, color grading, application development, game creation and more.

Data Center Graphics. We offer two families of products to accelerate workloads in the data center. Our visual cloud data center GPUs include a range of solutions tailored towards workloads requiring remote visualization, such as Desktop-as-a-Service, Workstation-as-a-Service and Cloud Gaming. These GPUs are designed to cover the full range of graphical application acceleration, from light desktop tasks, to workstation tasks, multi-GPU high end rendering, and cloud gaming activities. Our software solutions carry certification for a number of professional software vendor applications as well as being optimized for modern gaming titles. In December 2020 Amazon Web Services announced and made available their new “G4ad” instance, designed for graphics intensive applications such as virtual workstations, game streaming and graphics rendering. G4ad utilizes both AMD EPYC processors and the AMD Radeon Pro V520 GPU. The AMD Radeon Pro V520 is the first AMD RDNA based, 7 nm GPU

released for cloud environments.

Our AMD Radeon Instinct™ and AMD Instinct family of GPU products are specifically designed to address growing demand for compute-oriented data center applications, including deep learning training and traditional HPC workloads such as simulation where the compute capabilities of GPUs provide exceptional flexibility and performance. Combined with our ROCm™ open software platform, our customers can deliver differentiated acceleration platforms to address the next-generation of computing challenges while minimizing power and space needs in the data center. In November 2020, we announced the AMD Instinct MI100 accelerator built on the new AMD CDNA™ architecture. The MI100 GPU is built to accelerate workloads in the scientific computing and AI markets.

Enterprise, Embedded and Semi-Custom

The Enterprise, Embedded and Semi-Custom Markets

The Enterprise, Embedded and Semi-Custom Markets address the need for computational and visual data processing in the Server, Embedded computing device, and custom designed computing device markets. We service these markets with our CPU, GPU, APU, and customized designed system-on-chips products.

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 enterprise-class telecommunications, networking, security, storage systems and thin clients (which are computers that serve as an access device on a network). 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 important in some 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 leverage our core IP, including our graphics and processing technologies to develop semi-custom solutions for the PC and gaming markets. In this market, semiconductor suppliers work alongside system designers and manufacturers to enhance the performance and overall user experience for semi-custom customers. We have 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. We leverage 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 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. The AMD EPYC 7001 Series of high-performance processors have up to 32 “Zen” compute cores with 2nd Gen AMD EPYC 7002 Series containing up to 64 “Zen 2” compute cores. Both are designed to support a full range of integer, floating point, memory bandwidth and I/O benchmarks and workloads. In April 2020, we announced the extension of the 2nd Gen AMD EPYC processor family with three new processors: AMD EPYC 7F32 (8 cores), AMD EPYC 7F52 (16 cores) and AMD EPYC 7F72 (24 cores). These new processors leverage up to 500 MHz of additional base frequency and large amounts of cache. AMD EPYC processors are powering cloud

instances from leading cloud providers.

Embedded Processors. Our embedded processors are designed to support greater connectivity and security, and we believe they can be a strong driver for the high-performance bandwidth and storage requirements of enterprise and cloud infrastructure and “immersive computing” areas in the computing industry. Our products for embedded platforms include AMD Embedded EPYC CPUs, 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 February 2020, we announced the expansion of the embedded family with two new AMD Ryzen Embedded R1000 low-power processors that provide customers with a thermal design power (TDP) range of 6 up to 10 watts. The AMD Ryzen Embedded R1000 family now includes the Ryzen Embedded R1102G and R1305G processors, designed for efficient power envelopes and giving customers the ability to create fanless systems. In November 2020, we launched the AMD Ryzen Embedded V2000 Series processor built with 7 nm process technology, up to eight “Zen 2” cores and seven AMD Radeon graphics CPU compute units, providing power efficiency and enterprise-class security features for embedded customers.

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 with our customers to define solutions to precisely match the requirements of the device or application. We developed the semi-custom SoC products that power both the Sony PlayStation®4 and Sony PlayStation®5 as well as the Microsoft® Xbox One X, Microsoft® Xbox One S, Microsoft® Xbox Series X™ and Xbox Series S™ game consoles. Microsoft and Sony launched their new consoles in November 2020.

Sales and Marketing

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 microprocessor product brands are AMD Ryzen™, AMD Ryzen™ PRO, Ryzen™ Threadripper™, AMD A-Series, AMD FX™, AMD Athlon™, AMD Athlon™ PRO, and AMD Pro A-Series. 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 and AMD FirePro™ graphics. Our product brand for data center graphics is Radeon Instinct™ and AMD 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 public cloud service providers, 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).

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.

No single customer accounted for more than 10% of our consolidated net revenue for the year ended December 26, 2020.

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' business; however, a growing focus for us is the Value Added Reseller (VAR) channel which resells OEM systems to the mid-market and the small and medium business (SMB) segments. 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 less 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. Intel exerts substantial influence over computer manufacturers and their channels of distribution through various brand and other marketing programs. 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. We expect Intel to continue to invest heavily in marketing, research and development, new manufacturing facilities and other technology companies.

A variety of companies provide or have developed ARM-based microprocessors and platforms. ARM-based designs

are being used in the PC and server markets, which could lead to further growth and development of the ARM ecosystem. In 2020, Nvidia announced that it had entered into an agreement to acquire ARM Holdings. Nvidia is our principal competitor in the discrete graphics market. 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 providing preferential access to its proprietary graphics interface or other useful information to our competitors in the graphics market or restricting access to external companies, while 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. We believe that the growing complexity of graphics processors and the associated research and development costs represent a high and growing barrier to entry in this market.

Also, Intel has announced that it is developing their own high-end discrete GPUs.

Competition in the Enterprise, Embedded and Semi-Custom Markets

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

In the data center, our principal competitor is Nvidia as the adoption of its proprietary CUDA software platform established its market share in HPC and machine learning. Another competitor is Intel as it builds products for acceleration in the data center, such as Intel Xe or Habana AI processors. Other competitors include numerous deep learning accelerator companies, consisting mostly of early to late stage start-ups. Large cloud service providers have also shown interest in building their own products to accelerate AI.

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

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. Another important area of focus is on HPC. HPC has traditionally been synonymous with scientific computing and supercomputers, but we are seeing a blurring of boundaries between HPC and machine learning along with high-performance CPU and GPU deployments going into workstations and cloud computing data centers as well as supercomputers. 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 these platforms will bring customers increased performance and energy efficiency. We also work on advanced memory technologies. As SoC technology advances, the memory can sometimes limit CPU performance and we work on improving memory technology to improve performance. Another area of focus is machine intelligence which is the platform for the growing field of machine learning. Our CPUs, GPUs, accelerators, and APUs offer the computation capability and the flexibility required for various deployments of machine learning. 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

We have foundry arrangements with Taiwan Semiconductor Manufacturing Company Limited (TSMC) for the production of wafers for certain products, including the production of all our 7 nm products.

We are also a party to a Wafer Supply Agreement (WSA) with GLOBALFOUNDRIES Inc. (GF), pursuant to which 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.

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 26, 2020, we had approximately 4,200 patents in the United States and approximately 1,000 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 10,600 patent matters worldwide consisting of approximately 7,500 issued patents and 3,000 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. Although such orders or agreements may provide visibility into future quarters, they may not necessarily be indicative of actual sales for any succeeding period as some of these orders or agreements may be revised or canceled without penalty. 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.

Human Capital

As of December 26, 2020, we had approximately 12,600 employees in our global workforce. We believe we are at our best when our culture of innovation, creative minds and people from all kinds of backgrounds work together in an engaging and open environment. Areas of focus for us include the following:

Mission, Culture, and Engagement

Our History - Founded in 1969 as a Silicon Valley start-up, the AMD journey began with dozens of employees focused on leading-edge semiconductor products. From those modest beginnings, we have grown into a global company achieving many important industry firsts along the way. Today, we develop high-performance computing and visualization products to solve some of the world's toughest and most interesting challenges.

Our Vision - High performance computing is transforming our lives.

Our Mission - Build great products that accelerate next-generation computing experiences.

Our employees are driven by this vision and mission. Innovation occurs when creative minds and diverse perspectives from all over the world work together. This is the foundation of our unique culture and the reason why AMD employees are among the most engaged in our industry.

We conduct a confidential annual survey of our global workforce to measure our culture, engagement, and manager quality. The results are reviewed by the AMD Board of Directors and acted upon by our senior leadership team and individual managers at every level. Results from our 2020 survey reported continued improvement across all categories, and scores were among the very best for global companies in the technology industry. Our employees described our culture as innovative, open, and respectful, and rated the quality of our managers among the top 10% of our technology industry peers.

Belonging and Inclusion

Our diverse and inclusive workforce encourages employees to share their opinions and different perspectives. We believe that building a diverse talent pipeline, encouraging a culture of respect and belonging, and increasing inclusion of unique and underrepresented voices makes AMD stronger. AMD's Employee Resource Groups encourage employee engagement and play an important role in our culture.

We are focused on hiring and developing under-represented minorities and women leaders. We are proud to be led by a highly regarded CEO who has won many esteemed awards for her business and technical prowess. In 2020, Lisa Su received the chip industry's highest honor as the 2020 recipient of the Robert N. Noyce Award. Dr. Su also ranked #2 on Fortune's Businessperson of the Year list for her strategic vision and successful company turn around.

Total Rewards

We invest in our workforce by offering competitive salaries, incentives, and benefits that are determined based on employee's preferences. Our incentives are meritocracy-based and we have a strong pay for performance culture that we believe drives superior results. We benchmark our total rewards annually to ensure our compensation and benefit programs remain competitive with our peers.

Development

We offer our employees opportunities to advance their careers at AMD. We are focused on leadership progression and encourage our employees take advantage of new opportunities. Our manager and leadership development programs are highly rated and we provide specialized development programs for our 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 \$4 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.

Risk Factors Summary

The following is a summary of the principal risks that could adversely affect our business, operations and financial results.

Economic and Strategic Risks

- Intel Corporation's dominance of the microprocessor market and its aggressive business practices may limit our ability to compete effectively on a level playing field.
- Global economic and market uncertainty may adversely impact our business and operating results.
- The loss of a significant customer may have a material adverse effect on us.
- The ongoing novel coronavirus (COVID-19) pandemic could materially adversely affect our business, financial condition and results of operations.
- The markets in which our products are sold are highly competitive.
- Our operating results are subject to quarterly and seasonal sales patterns.
- 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.
- 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.
- 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.
- Unfavorable currency exchange rate fluctuations could adversely affect us.

Operational and Technology Risks

- 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.
- Failure to achieve expected manufacturing yields for our products could negatively impact our financial results.
- If essential equipment, materials, substrates or manufacturing processes are not available to manufacture our products, we could be materially adversely affected.
- 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 receipt of revenue from our semi-custom SoC products is dependent upon our semi-custom SoC products being incorporated into customer's products and the success of those products.
- Our products may be subject to security vulnerabilities that could have a material adverse effect on us.
- 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.
- Uncertainties involving the ordering and shipment of our products could materially adversely affect us.
- Our ability to design and introduce new products in a timely manner is dependent upon third-party intellectual property.
- 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.
- 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 reliance on third-party distributors and AIB partners subjects us to certain risks.
- 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.

- If our products are not compatible with some or all industry-standard software and hardware, we could be materially adversely affected.
- Costs related to defective products could have a material adverse effect on us.
- 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.
- We outsource to third parties certain supply-chain logistics functions, including portions of our product distribution, transportation management and information technology support services.
- Our inability to effectively control the sales of our products on the gray market could have a material adverse effect on us.

Legal and Regulatory Risks

- 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.
- If we cannot realize our deferred tax assets, our results of operations would be adversely affected
- Our business is subject to potential tax liabilities.
- 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.
- 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.

Xilinx Merger and Acquisition Risks

- Acquisitions, joint ventures and/or investments, including our recently announced acquisition of Xilinx, and the failure to integrate acquired businesses, could disrupt our business and/or dilute or adversely affect the price of our common stock.
- Our ability to complete the Merger is subject to closing conditions, including approval by our and Xilinx's stockholders and the receipt of consents and approvals from governmental authorities, which may impose conditions that could adversely affect us or cause the Merger not to be completed.
- Whether or not it is completed, the announcement and pendency of the Merger could cause disruptions in our business, which could have an adverse effect on our business and financial results.
- Any impairment of the combined company's tangible, definite-lived intangible or indefinite-lived intangible assets, including goodwill, may adversely impact the combined company's financial position and results of operations.

Liquidity and Capital Resources Risks

- The agreements governing our notes and our Revolving Credit Facility impose restrictions on us that may adversely affect our ability to operate our business.
- Our indebtedness could adversely affect our financial position and prevent us from implementing our strategy or fulfilling our contractual obligations.
- We may not be able to generate sufficient cash to service our debt obligations or meet our working capital requirements.
- 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 Revolving Credit Facility, which would result in a default under the indentures and our Revolving Credit Facility.
- 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.

General Risks

- Our worldwide operations are subject to political, legal and economic risks and natural disasters, which could have a material adverse effect on us.
- We may incur future impairments of goodwill and technology license purchases.
- Our inability to continue to attract and retain qualified personnel may hinder our business.
- Our stock price is subject to volatility.
- Worldwide political conditions may adversely affect demand for our products.

For a more complete discussion of the material risks facing our business, see below.

Economic and Strategic Risks

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

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.

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 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.

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.

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.

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.

The ongoing novel coronavirus (COVID-19) pandemic could materially adversely affect our business, financial condition and results of operations.

The COVID-19 pandemic has caused government authorities to implement numerous public health measures, including quarantines, business closures, travel bans, and restrictions related to social gathering and mobility, to contain the virus. We have experienced and expect to continue to experience disruptions to our business as these measures have, and will continue to have, an effect on our business operations and practices.

While many of our offices around the world remain open, either because the pandemic has been contained in that location or to enable critical on-site business functions in compliance with government guidelines, most of our employees continue to work from home until further notice. It is uncertain as to when the measures put in place to attempt to contain the spread of COVID-19 will be lifted or whether there will be additional measures put into place. If COVID-19 continues to spread or if there are further waves of the virus, we may need to further limit operations or modify our business practices in a manner that may impact our business. If our employees are not able to perform their job duties due to self-isolation, quarantine, travel restrictions or illness, or are unable to perform them as efficiently at home for an extended period of time, we may not be able to meet our product schedules, roadmaps and customer commitments and we may experience an overall lower productivity of our workforce. We continue to monitor our operations and public health measures implemented by governmental authorities in response to COVID-19. Although some public health measures have eased and a small portion of our employees are at work in certain offices, our efforts to reopen our offices safely may not be successful and could expose our employees to health risks. Even when COVID-19 measures regarding mobility are lifted or modified, our employees' ability to return to work may delay the return of our full workforce and the resumption of normal business operations.

We have experienced some disruptions to parts of our supply chain as the result of COVID-19. We continue to monitor demand signals as we adjust our supply chain requirements based on changing customer needs and demands. If the supply of our products to customers is delayed, reduced or canceled due to disruptions encountered by our third-party manufacturing, suppliers or vendors as a result of facility closures, border and port closures, and mobility limitations put on their workforces, it could have a material adverse effect on our business.

COVID-19 has in the short-term and may in the long-term adversely impact the global economy, potentially leading to an economic downturn. This could negatively impact consumer confidence and spending causing our customers to postpone or cancel purchases, or delay paying or default on payment of outstanding amounts due to us, which may have a material adverse effect on our business. For example, we experienced some softness in PC-related sales in China, one of the largest global markets for desktop and notebook PCs, during the first quarter of 2020. Also, we experienced some delays in payments from customers due to COVID-19 during the first half of 2020.

COVID-19 has also led to a disruption and volatility in the global capital and financial markets. While we believe our cash, cash equivalents and short-term investments along with our Revolving Credit Facility will be sufficient to fund operations, including capital expenditures, over the next 12 months, to the extent we may require additional funding to finance our operations and capital expenditures and such funding may not be available to us as a result of contracting capital and financial markets resulting from COVID-19, it may have an adverse effect on our business.

The extent to which COVID-19 impacts our business and financial results will depend on future developments, which are unpredictable and highly uncertain, including the continued spread, duration and severity of the outbreak, the breadth and duration of business disruptions related to COVID-19, the availability and distribution of effective vaccines, and public health measures and actions taken throughout the world to contain COVID-19. The prolonged effect of COVID-19 could materially adversely impact our business, financial condition and results of operations.

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 that 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 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 is seeking 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. Furthermore, we may face competition from some of our customers who internally develop the same products as us. 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.

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 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 and next generation consoles for Sony and Microsoft, 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. Alternatively, countries may create, or in the case of China are creating, their own cryptocurrencies or equivalents that could also impact interest in mining. 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.

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.

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. Also, due to measures to slow down the outbreak of COVID-19, various patent offices and courts have been adversely impacted and there is a potential for delay or disruptions that might affect certain of our patent rights.

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.

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.

Operational and Technology Risks

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. For the production of wafers for certain products, including the production of all our 7 nanometer (nm) products, we use Taiwan Semiconductor Manufacturing Company Limited (TSMC). We purchase wafers for all our CPU and APU products, and wafers for a certain portion of our GPU products manufactured at process nodes larger than 7 nm, with limited exceptions, from GLOBALFOUNDRIES, Inc. (GF). 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. For example, if TSMC is not able to manufacture wafers for our 7 nm products in sufficient quantities to meet customer demand, it could 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 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, suffer any other disruption or reduction in efficiency, or experience uncertain social economic or political circumstances or conditions, 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 a party to a wafer supply agreement (WSA) with GF that 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 wafers for all of our CPU and APU product requirements and wafers for a certain portion of our GPU product requirements from GF manufactured at process nodes larger than 7 nm, with limited exceptions. 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. 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 ATMP JVs and there is no guarantee that the ATMP 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 nm product portfolio on TSMC's 7 nm process. If TSMC is not able to manufacture wafers for our 7 nm 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.

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

We may purchase equipment, materials and substrates 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. If we are unable to procure a stable supply of substrates on an ongoing basis and at reasonable costs to meet our production requirements, we could experience a shortage in substrate supply or an increase in production costs, which could have a material adverse effect on our business. 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.

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 7 nm 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.

Our receipt of revenue from our semi-custom SoC products is dependent upon our semi-custom SoC products being incorporated into customer's 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.

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 like AMD 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 and consumers. 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.

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.

Many of our 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 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, manufacturing technology, 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.

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 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 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.

Legal and Regulatory Risks

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 equity interests in two joint ventures (collectively, the THATIC JV) with Higon Information Technology Co., Ltd. (THATIC), a third-party Chinese entity. In June 2019, the Bureau of Industry and Security (BIS) of the United States Department of Commerce 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.

If we cannot realize our deferred tax assets, our results of operations could be adversely affected.

In the fourth quarter of 2020, we reduced the valuation allowance against a significant portion of our deferred tax assets resulting in \$1.4 billion of deferred tax assets on our balance sheet. Our deferred tax assets include net operating losses and tax credit carryforwards that can be used to offset taxable income and reduce income taxes payable in future periods. Each quarter, we consider both positive and negative evidence to determine whether all or a portion of the deferred tax assets are more likely than not to be realized. If we determine that some or all of our deferred tax assets are not realizable, it could result in a material expense in the period in which this determination is made which may have a material adverse effect on our financial condition and results of operations.

In addition, a significant amount of our deferred tax assets and a portion of the deferred tax assets related to net operating losses or tax credits which remain under a valuation allowance 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 our ability to utilize the net operating losses or tax credits before the expiration of the tax attributes.

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. Any changes to tax laws could have a material adverse effect on 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 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 17 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 17 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 17 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.

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 be 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 polices and they may choose a competitor’s product.

Xilinx Merger and Acquisition Risks

Acquisitions, joint ventures and/or investments, including our recently announced acquisition of Xilinx, and the failure to integrate acquired businesses, 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.

For example, on October 26, 2020, we, along with a direct wholly-owned subsidiary of ours, entered into an Agreement and Plan of Merger (the Merger Agreement) with Xilinx, Inc. (Xilinx), whereby we agreed to acquire Xilinx (the Merger). We entered into the Merger Agreement with the belief that the Merger will result in certain benefits, including certain operational synergies and cost efficiencies, and drive product innovations. Achieving these anticipated benefits will depend on successfully combining our and Xilinx’s businesses together. It is not certain that Xilinx’s business can be successfully integrated with our business in a timely manner or at all, or that any of the anticipated benefits will be realized for a variety of reasons, including, but not limited to: failure to obtain applicable regulatory or stockholder approvals in a timely manner or otherwise; failure to satisfy other closing conditions to the Merger; our inability to integrate or benefit from Xilinx’s acquired technologies or services in a profitable manner; diversion of capital and other resources, including management’s attention from our existing business; unanticipated costs or liabilities associated with the Merger; failure to leverage the increased scale of the combined businesses quickly and effectively; coordinating and integrating in countries in which we have not previously operated; the potential impact of the Merger on our relationships with employees, vendors, suppliers and customers; the impairment of relationships with, or the loss of, Xilinx’s employees, vendors, suppliers and customers; adverse changes in general economic conditions in regions in which we and Xilinx operate; potential litigation associated with the Merger; difficulties in the assimilation of employees and culture; difficulties in managing the expanded operations of a larger and more complex company; challenges in attracting and retaining key personnel; and difficulties with harmonizing our and Xilinx’s financial reporting systems. Many of these factors will be outside of our control and any one of them could result in increased costs, decreases in expected revenues and diversion of management’s time and attention, which could materially impact the combined company. In addition, even if the operations of the businesses are integrated successfully, the full benefits of the Merger may not be realized within the anticipated time frame or at all. All of these factors could decrease or delay the expected accretive effect of the Merger and negatively impact the combined company. If we cannot successfully integrate our

and Xilinx's businesses and operations, or if there are delays in combining the businesses, it could negatively impact our ability to develop or sell new products and impair our ability to grow our business, which in turn could adversely affect our financial condition and operating results.

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 acquisitions or joint ventures, which could harm our operating results. In addition, to complete an acquisition (and as contemplated in the Merger), we may issue equity securities, which would dilute our stockholders' ownership and could adversely affect the price of our common stock, and/or incur debt, assume contingent liabilities or have amortization expenses and write-downs of acquired assets, which could adversely affect our results of operations. 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 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 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 risks 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 ATMP 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.

In addition, we may not realize the anticipated benefits from our business initiatives. For example, we may not realize the expected benefits from the THATIC JV's expected future performance, including the receipt of any future milestone payments and any royalties from certain licensed intellectual property. In June 2019, the BIS 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 ability to complete the Merger is subject to closing conditions, including approval by our and Xilinx's stockholders and the receipt of consents and approvals from governmental authorities, which may impose conditions that could adversely affect us or cause the Merger not to be completed.

The Merger is subject to a number of closing conditions as specified in the Merger Agreement. These include, among others, approvals by our and Xilinx's stockholders, the receipt of approvals under certain competition laws and the absence of governmental restraints or prohibitions preventing the consummation of the Merger. No assurance can be given that the required consents and approvals will be obtained or that the closing conditions will be satisfied in a timely manner or at all. Any delay in completing the Merger could cause the combined company not to realize, or to be delayed in realizing, some or all of the benefits that we expect to achieve. In addition, we can provide no assurance that these conditions will not result in the abandonment or delay of the Merger. The occurrence of any of these events could have a material adverse effect on our results of operations and the trading price of our common stock. Additionally, under the Merger Agreement, Xilinx will be required to pay a termination fee to us equal to \$1 billion if the Merger Agreement is terminated in certain circumstances, including if the Merger Agreement is terminated because Xilinx's board of directors has changed its recommendation. We will be required to pay a termination fee to Xilinx equal to \$1.5 billion if the Merger Agreement is terminated in certain circumstances, including if the Merger Agreement is terminated because our board of directors has changed its recommendation. We will be required to pay a termination fee equal to \$1 billion if the Merger Agreement is terminated in certain circumstances related to the failure to obtain required regulatory approvals by October 26, 2021 (subject to automatic extension first to January 26, 2022 and then to April 26, 2022, in each case, to the extent the regulatory closing conditions remain outstanding).

Whether or not it is completed, the announcement and pendency of the Merger could cause disruptions in our business, which could have an adverse effect on our business and financial results.

Whether or not it is completed, the announcement and pendency of the Merger could cause disruptions in our business: our and Xilinx's current and prospective employees may experience uncertainty about their future roles with the combined company, which might adversely affect the ability to retain key employees; uncertainty regarding the completion of the Merger may cause customers, suppliers, distributors, vendors, strategic partners or others to delay or defer entering into contracts, make other decisions or seek to change or cancel existing business

relationships; and the attention of management may be directed toward the completion of the Merger. If the Merger is not completed, we will have incurred significant costs, including the potential payment of termination fees and the diversion of management resources, for which we will have received little or no benefit.

Any impairment of the combined company's tangible, definite-lived intangible or indefinite-lived intangible assets, including goodwill, may adversely impact the combined company's financial position and results of operations.

The Merger will be accounted for using the acquisition method of accounting under the provisions of ASC 805, Business Combinations, with AMD representing the accounting acquirer under this guidance. We will record assets acquired, including identifiable intangible assets, and liabilities assumed from Xilinx at their respective fair values at the date of completion of the Merger. Any excess of the purchase price over the net fair value of such assets and liabilities will be recorded as goodwill. In connection with the Merger, the combined company is expected to record significant goodwill and other intangible assets on its consolidated balance sheet.

Indefinite-lived intangible assets, including goodwill, will be tested for impairment at least annually, and all tangible and intangible assets including goodwill will be tested for impairment when certain indicators are present. If, in the future, the combined company determines that tangible or intangible assets, including goodwill, are impaired, the combined company would record an impairment charge at that time. Impairment testing of goodwill and intangible assets requires significant use of judgment and assumptions, particularly as it relates to the determination of fair value. A decrease in the long-term economic outlook and future cash flows of the combined company's business could significantly impact asset values and potentially result in the impairment of intangible assets, including goodwill, which may have a material adverse impact on the combined company's financial position and results of operations.

Liquidity and Capital Resources Risks

The agreements governing our notes and our Revolving Credit 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 Revolving Credit 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 Revolving Credit 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 Revolving Credit Facility contain cross-default provisions whereby a default under certain agreements with respect to other indebtedness would result in cross defaults under the indentures or the Revolving Credit Facility. 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 Revolving Credit Facility. The occurrence of a default under any of these borrowing arrangements would permit the applicable note holders or the lenders under our Revolving Credit Facility to declare all amounts outstanding under the indentures or the Revolving Credit Facility 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 Revolving Credit Facility accelerate the repayment of borrowings, we cannot assure you that we will have sufficient assets to repay those borrowings.

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 calendar quarter of 2020, the sale price of our common stock for conversion was satisfied as of December 31, 2020 and as a result, the 2.125% Notes are eligible for conversion during the first calendar quarter of 2021. 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.

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 outstanding as of December 26, 2020 was \$338 million. 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 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 revolving credit facility for a principal amount up to \$500 million (our Revolving Credit 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 Revolving Credit 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 Revolving Credit Facility, which would result in a default under the indentures and our Revolving Credit 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 Revolving Credit Facility. As of December 26, 2020, \$338 million principal amount was outstanding, consisting of 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 Revolving Credit Facility.

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.

General Risks

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 77% for the year ended December 26, 2020. 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, fires 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 COVID-19, 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, governments worldwide have implemented, and continue to implement, measures to slow down the outbreak of COVID-19. We have experienced, and will continue to experience, disruptions to our business as these measures have, and will continue to have, an effect on our business operations and practices. 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.

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 other non-current 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.

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

Much of our future success depends upon the continued service 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 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.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

As of December 26, 2020, we leased approximately 2.46 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, two design centers in Bangalore and Hyderabad, India, 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 approximately 251,000 square

feet of space in our headquarters in Santa Clara, California under an operating lease which expires in July 2027. We have the option to extend the term of the lease for two additional five-year periods. The lease for our principal administrative facilities in Austin, Texas for approximately 511,000 square feet expires in March 2025, and provides for one ten-year optional renewal. The leases for our facilities in Markham, Ontario, Canada for approximately 365,000 square feet expire in February 2028, and provide for one five-year optional renewals. We occupy approximately 265,000 square feet of space in our design center in Shanghai, China under a ten-year operating lease, which expires in March 2028. We also occupy approximately 287,000 square feet, in aggregate, under two leases in India. The lease for our design center in Bangalore, India expires in September 2026, with an undefined term renewal option. The lease for our design center in Hyderabad, India expires in November 2022, with a five-year renewal option.

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

For a discussion of our legal proceedings, refer to Note 17 – Contingencies of the Notes to Consolidated Financial Statements (Part II, Item 8 of this Form 10-K).

ITEM 4. MINE SAFETY DISCLOSURES

Not Applicable.

PART II

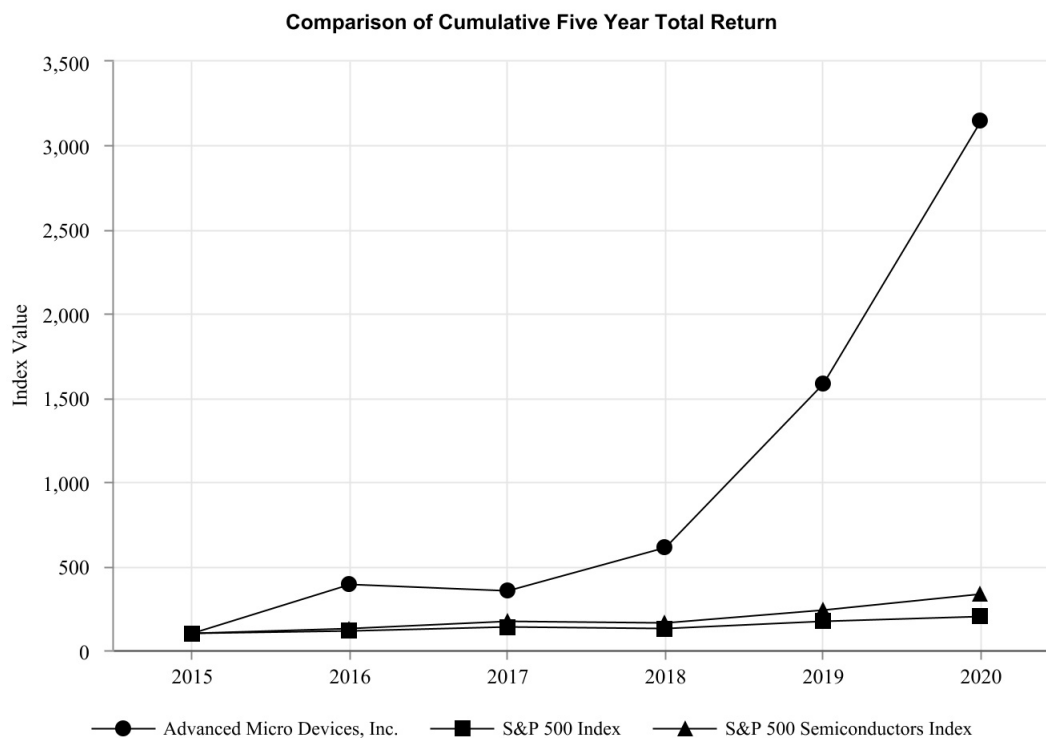
ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Our common stock is listed on The NASDAQ Global Select Market (NASDAQ) under the symbol "AMD". On January 22, 2021, there were 4,155 registered holders of our common stock, and the closing price of our common stock was \$92.79 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 26, 2015 through December 26, 2020. The past performance of our common stock is no indication of future performance.



Company / Index	Base Period			Years Ending		
	12/26/2015	12/31/2016	12/30/2017	12/29/2018	12/28/2019	12/26/2020
Advanced Micro Devices, Inc.	100	388	352	610	1,582	3,144
S&P 500 Index	100	111	135	128	171	199
S&P 500 Semiconductors Index	100	126	171	160	236	331

Unregistered Sales of Equity Securities

We issued warrants dated December 28, 2020 to purchase 42,439 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 28, 2023. The warrants were issued pursuant to Section 4(a)(2) of the Securities Act of 1933, as amended.

ITEM 6. SELECTED FINANCIAL DATA

	2020 ⁽¹⁾	2019 ⁽¹⁾	2018 ⁽¹⁾	2017 ⁽¹⁾⁽²⁾	2016 ⁽¹⁾⁽²⁾
	In millions except per share amounts				
Net revenue	\$ 9,763	\$ 6,731	\$ 6,475	\$ 5,253	\$ 4,319
Net income (loss) ⁽³⁾	\$ 2,490	\$ 341	\$ 337	\$ (33)	\$ (498)
Earnings (loss) per share					
Basic	\$ 2.10	\$ 0.31	\$ 0.34	\$ (0.03)	\$ (0.60)
Diluted	\$ 2.06	\$ 0.30	\$ 0.32	\$ (0.03)	\$ (0.60)
Shares used in per share calculation					
Basic	1,184	1,091	982	952	835
Diluted	1,207	1,120	1,064	952	835
Long-term debt, net and other long-term liabilities ⁽⁴⁾	\$ 507	\$ 643	\$ 1,306	\$ 1,443	\$ 1,559
Total assets	\$ 8,962	\$ 6,028	\$ 4,556	\$ 3,552	\$ 3,328

(1) 2020, 2019, 2018, and 2017 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 2020, we recognized a \$1.3 billion income tax benefit upon the release of a portion of the valuation allowance on deferred tax assets, which resulted in an equivalent increase to our deferred tax assets and thus an increase to total assets. 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 wafer sourcing agreement (WSA) with Global Foundries. 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 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 26, 2020 and December 28, 2019 and for each of the three years in the period ended December 26, 2020 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 2020 compared to 2019, an analysis of changes in our financial condition and a discussion of our contractual obligations and off-balance sheet arrangements. Discussions of 2018 items and year-to-year comparisons between 2019 and 2018 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 28, 2019.

Overview

During 2020, we continued to build on our technical, operational and financial foundation to drive our long-term growth strategy. We delivered strong financial results and further extended our industry-leading product portfolio despite the backdrop of the COVID-19 pandemic. Net revenue for 2020 was \$9.8 billion, an increase of 45% compared to 2019 net revenue of \$6.7 billion. Gross margin, as a percentage of net revenue for 2020, was 45%, compared to 43% in 2019. Our operating income for 2020 improved to \$1.4 billion compared to operating income of \$631 million for 2019. Our net income for 2020 improved to \$2.5 billion compared to \$341 million in the prior year. We recognized a \$1.3 billion income tax benefit upon the release of a portion of the valuation allowance on deferred tax assets. We made significant progress towards improving our balance sheet in 2020. Cash, cash equivalents and short-term investments as of December 26, 2020 were \$2.3 billion, compared to \$1.5 billion at the end of 2019. The aggregate principal amount of total debt as of December 26, 2020 was \$338 million, compared to \$563 million as of December 28, 2019.

During 2020, we consistently executed our product roadmap and launched multiple products in leading-edge manufacturing technologies. We introduced a number of 7 nanometer (nm) products during the year, including new additions to our 3rd Gen AMD Ryzen™ desktop processor family, the AMD Ryzen 3 3100 and AMD Ryzen 3 3300X for the mainstream market, and the AMD Ryzen 9 3900XT, AMD Ryzen 7 3800XT and AMD Ryzen 5 3600XT processors for the enthusiast market. In July 2020, we introduced the AMD Ryzen Threadripper™ PRO Processor family designed for professional workstations from OEMs to system integrators and AMD Ryzen 4000 Series desktop processors with Radeon™ graphics for consumers, gamers, streamers and creators. We also introduced AMD Athlon™ 3000 Series desktop processors using the same Zen core architecture and built-in Radeon graphics as the AMD Ryzen desktop processor family. Also, the AMD Ryzen PRO 4000 series and AMD Athlon PRO 3000 series desktop processors were introduced for the commercial market. In October 2020, we introduced the AMD Ryzen 5000 Series desktop processor family powered by "Zen 3" core architecture. We also expanded our notebook products in 2020. In May 2020, we announced the global availability of the AMD Ryzen™ PRO 4000 Series Mobile family for commercial notebooks built with enterprise-grade AMD PRO technologies, which deliver a set of security and manageability features for Enterprise IT deployments. Also, we announced the AMD Ryzen 3000 C-Series mobile processors and the AMD Athlon 3000 C-Series mobile processors for Chromebook platforms designed for multi-tasking and content creation in distance learning and remote working. With respect to our graphics products, we expanded our professional offerings with the AMD Radeon™ Pro VII workstation graphics card designed for broadcast and engineering professionals. In August 2020, we announced the availability of the new AMD Radeon Pro 5000 series GPUs for the updated 27-inch iMac bringing a wide variety of graphically intensive applications and workloads to consumer and professional users. We also introduced the AMD Radeon RX 6000 Series graphics cards built on AMD RDNA™ 2 gaming architecture and designed for enthusiast-class PC gaming. In November 2020, we introduced our data center graphics processor, the AMD Instinct™ MI100 GPU accelerator, the first accelerator to use new AMD CDNA architecture dedicated to HPC workloads.

We expanded our EPYC server family during the year. In April 2020, we announced the extension of the 2nd Gen AMD EPYC processor family with three new processors: AMD EPYC 7F32 (8 cores), AMD EPYC 7F52 (16 cores) and AMD EPYC 7F72 (24 cores). These new processors leverage up to 500 MHz of additional base frequency and large amounts of cache. In October 2020, we announced the AMD EPYC™ processor based Azure Dav4, Eav4,

Easv4 and Lsv2 VMs for use to improve real-time analysis on large volumes of data streaming from applications, websites and more. We also expanded our embedded processor family with two new AMD Ryzen Embedded R1000 low-power processors that provide customers with a thermal design power (TDP) range of 6 up to 10 watts. In November 2020, we launched the AMD Ryzen Embedded V2000 series processor built on 7 nm process technology, “Zen 2” cores and high-performance AMD Radeon graphics.

While the current COVID-19 pandemic continues to impact our business operations and practices, and we expect that it may continue to impact our business, we experienced limited financial disruption during 2020. Although many of our offices remained open to enable critical on-site business functions in accordance with local government guidelines, most of our employees worked from home during 2020. During the second half of 2020, the majority of our employees in China returned to work and we maintained normal business operations subject to local government health measures. We continue to monitor and take measures to protect the health and safety of our employees, and support those employees who work from home so that they can be productive. We monitor demand signals as we adjust our supply chain requirements based on changing customer needs and demands. We also assess our product schedules and roadmaps to make any adjustments that may be necessary to support remote working requirements and address the geographic and market demand shifts caused by COVID-19.

As part of our strategy to establish AMD as the industry’s high performance computing leader, we announced in October 2020 that we entered into a definitive agreement to acquire Xilinx, Inc. in an all-stock transaction. The transaction is currently expected to close by the end of calendar year 2021.

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 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 Allowances. Revenue contracts with our customers include variable amounts which we evaluate under ASC 606-10-32-8 through 14 in order to determine the net amount of consideration to which we are entitled and which we recognize as revenue. We determine the net amount of consideration to which we are entitled by estimating the most likely amount of consideration we expect to receive from the customer after adjustments to the contract price for rights of return and rebates to our OEM customers and rights of return, rebates and price protection on unsold merchandise to our distributor customers.

We base our determination of necessary adjustments to the contract price by reference to actual historical activity and experience, including actual historical returns, rebates and credits issued to OEM and distributor customers adjusted, as applicable, to include adjustments, if any, for known events or current economic conditions, or both.

Our estimates of necessary adjustments for distributor price incentives and price protection on unsold products held by distributors are based on actual historical incentives provided to distributor customers and known future price movements based on our internal and external market data analysis.

Our estimates of necessary adjustments for OEM price incentives utilize, in addition to known pricing agreements, actual historical rebate attainment rates and estimates of future OEM rebate program attainment based on internal and external market data analysis.

We offer incentive programs through cooperative advertising and marketing promotions. Where funds provided for such programs can be estimated, we recognize a reduction to revenue at the time the related revenue is recognized; otherwise, we recognize such reduction to revenue at the later of when: i) the related revenue transaction occurs; or ii) the program is offered. For transactions where we reimburse 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.

We also provide limited product return rights to certain OEMs and to most distribution customers. These return rights are generally limited to a contractual percentage of the customer's prior quarter shipments, although, from time to time we may approve additional product returns beyond the contractual arrangements based on the applicable facts and circumstances. In order to estimate adjustments to revenue to account for these returns, including product restocking rights provided to distributor and OEM customers, we utilize relevant, trended actual historical product return rate information gathered, adjusted for actual known information or events, as applicable.

Overall, our estimates of adjustments to contract price due to variable consideration under our contracts with OEM and distributor customers, based on our assumptions and include adjustments, if any, for known events, have been materially consistent with actual results; however, 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. We value inventory at standard cost, adjusted to approximate the lower of actual cost or estimated net realizable value using assumptions about future demand and market conditions. Material assumptions we use to estimate necessary inventory carrying value adjustments can be unique to each product and are based on specific facts and circumstances. In determining excess or obsolescence reserves for products, we consider assumptions such as changes in business and economic conditions, other-than-temporary decreases in demand for our products, and changes in technology or customer requirements. In determining the lower of cost or net realizable value reserves, we consider assumptions such as recent historical sales activity and selling prices, as well as estimates of future selling prices. If in any period we anticipate a change in assumptions such as 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, resulting in a negative impact to our gross margin in that period. If in any period we are able to sell inventories that had been written down to a level below the ultimate realized selling price in a previous period, related revenue would be recorded with a lower or no offsetting charge to cost of sales resulting in a net benefit to our gross margin in that period. Overall, our estimates of inventory carrying value adjustments have been materially consistent with actual results.

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.

We first analyze qualitative factors to determine if it is more likely than not that the fair value of a reporting unit exceeds its carrying amount. Qualitative factors include industry and market considerations, overall financial performance, share price trends and market capitalization and Company-specific events. 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 a reporting unit's fair value is less than its carrying value, not to 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 regularly 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. When considering all available evidence, if we determine it is more-likely-than-not we will realize our deferred tax assets, we will reverse some or all of 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 determining the need to establish or maintain a valuation allowance, we consider the four sources of jurisdictional taxable income: (i) carryback of net operating losses to prior years; (ii) future reversals of existing taxable temporary differences; (iii) viable and prudent tax planning strategies; and (iv) future taxable income exclusive of reversing temporary differences and carryforwards.

Through the end of 2020, we demonstrated consistent, continued and increasing profitability over the preceding three-year period. Our ability to sustain and grow our profitability is supported by the continued positive momentum of our consumer and commercial products, including our newly released desktop, mobile and graphics processors, greater market acceptance for our server products, the successful adoption of our new game console processor products, and our leadership in the continued development of HPC products. In assessing the realizability of the deferred tax assets, we considered the highly dynamic and competitive landscape of our industry, the continued performance and market acceptance of our new products, and the impact of such market acceptance on our estimates of future profitability. As a result, in the fourth quarter of 2020, we concluded that our history of profitable operating results, including the current period results, along with increasingly favorable forecasts of continued future profitability, provided sufficient positive evidence supporting the realizability of a certain amount of our U.S. deferred tax assets, accordingly, the release of the related valuation allowance previously recorded against these deferred tax assets, resulting in a tax benefit of \$1.3 billion in the fourth quarter of 2020.

We continue to maintain a valuation allowance of approximately \$1.6 billion for certain federal, state, and foreign tax attributes. The federal valuation allowance maintained is due to current limitations, including limitations under Internal Revenue Code Section 382 or 383, separate return loss year rules, or dual consolidated loss rules. The state and foreign valuation allowance maintained is due to lack of sufficient sources of income.

In addition, the calculation of our tax liabilities involves addressing uncertainties in the application of complex, multi-jurisdictional 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 could result.

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 14 – 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 2020, 2019 and 2018.

	2020	2019	2018
	(In millions)		
Net revenue:			
Computing and Graphics	\$ 6,432	\$ 4,709	\$ 4,125
Enterprise, Embedded and Semi-Custom	3,331	2,022	2,350
Total net revenue	\$ 9,763	\$ 6,731	\$ 6,475
Operating income (loss):			
Computing and Graphics	\$ 1,266	\$ 577	\$ 470
Enterprise, Embedded and Semi-Custom	391	263	163
All Other	(288)	(209)	(182)
Total operating income	\$ 1,369	\$ 631	\$ 451

Computing and Graphics

Computing and Graphics net revenue of \$6.4 billion in 2020 increased by 37%, compared to \$4.7 billion in 2019, primarily as a result of a 37% increase in unit shipments and a 2% increase in average selling price. The increase in unit shipments was primarily due to higher demand for our Ryzen processors. The increase in average selling price was primarily driven by a richer mix of client processors from higher sales of our Ryzen processors, which have a higher average selling price, partially offset by lower average selling price for our Radeon products due to product cycle timing.

Computing and Graphics operating income was \$1.3 billion in 2020 compared to \$577 million in 2019. The increase in operating income was primarily driven by the margin contribution from higher sales which more than offset higher 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 \$3.3 billion in 2020 increased by 65% compared to net revenue of \$2.0 billion in 2019, primarily driven by higher sales of our EPYC server processors and higher semi-custom revenue.

Enterprise, Embedded and Semi-Custom operating income was \$391 million in 2020 compared to \$263 million in 2019. The increase in operating income was primarily due to the margin contribution from the increase in revenue which more than offset higher operating expenses in 2020 and a \$60 million licensing gain recorded in 2019. Operating expenses increased for the reasons outlined under "Expenses" below.

All Other

All Other operating loss of \$288 million in 2020 included stock-based compensation expense of \$274 million and acquisition-related costs of \$14 million.

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.

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 2020, 2019 and 2018:

	2020		2019		2018
	(In millions, except for percentages)				
Net revenue	\$	9,763	\$	6,731	\$ 6,475
Cost of sales		5,416		3,863	4,028
Gross profit		4,347		2,868	2,447
Gross margin		45 %		43 %	38 %
Research and development		1,983		1,547	1,434
Marketing, general and administrative		995		750	562
Licensing gain		—		(60)	—
Interest expense		(47)		(94)	(121)
Other expense, net		(47)		(165)	—
Income tax provision (benefit)		(1,210)		31	(9)

Gross Margin

Gross margin as a percentage of net revenue was 45% in 2020 compared to 43% in 2019. The increase in gross margin was primarily driven by sales of Ryzen and EPYC processors in 2020, which have a higher gross margin than the corporate average, partially offset by sales of semi-custom products and Radeon products, which have a lower gross margin than the corporate average.

Expenses

Research and Development Expenses

Research and development expenses of \$2.0 billion in 2020 increased by \$436 million, or 28%, compared to \$1.5 billion in 2019. The increase was primarily driven by an increase in product development costs in both the Computing and Graphics and Enterprise and Embedded and Semi-Custom segments, due to an increase in headcount and higher annual employee incentives driven by improved financial performance.

Marketing, General and Administrative Expenses

Marketing, general and administrative expenses of \$995 million in 2020 increased by \$245 million, or 33%, compared to \$750 million in 2019. 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, and an increase in headcount and higher annual employee incentives driven by improved financial performance.

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 \$47 million in 2020 decreased by \$47 million compared to \$94 million in 2019, primarily due to lower debt balances.

Other Expense, Net

Other expense, net decreased in 2020 by \$118 million from net of \$165 million in 2019. Other expense, net for both periods primarily comprised of losses on redemptions, repurchases and conversions of our outstanding debt and convertible debt instruments.

Income Taxes Provision (Benefit)

Through the end of 2020, we demonstrated consistent, continued and increasing profitability over the preceding three-year period. Our ability to sustain and grow such profitability is supported by the continued positive momentum of our consumer and commercial products including our newly released desktop, mobile and graphics processors, greater market acceptance for our server products, the successful adoption of our new game console processor products, and our continued leadership in the development of HPC products. In assessing the realizability of the deferred tax assets, we considered the highly dynamic and competitive landscape of our industry, the continued performance and market acceptance of our new products, and the impact of such market acceptance on forecasts of future profitability. As a result, in the fourth quarter of 2020, we concluded that our history of profitable operating results, including the current period results, along with increasingly favorable forecasts of continued future profitability, provided sufficient positive evidence supporting the realizability of a certain amount of our U.S. deferred tax assets and, accordingly, the release of the related valuation allowance previously recorded against these deferred tax assets, resulting in a tax benefit of \$1.3 billion in the fourth quarter of 2020.

We continue to maintain a valuation allowance of approximately \$1.6 billion for certain federal, state, and foreign tax attributes. The federal valuation allowance maintained is due to current limitations, including limitations under Internal Revenue Code Section 382 or 383, separate return loss year rules, or dual consolidated loss rules. The state and foreign valuation allowance maintained is due to lack of sufficient sources of income.

We recorded an income tax benefit of \$1.2 billion in 2020 and an income tax provision of \$31 million in 2019. The income tax benefit in 2020 was primarily due to \$1.3 billion of tax benefit from the valuation allowance release in the U.S. This benefit was partially offset by approximately \$10 million of withholding tax expense related to cross-border transactions, \$13 million of state and foreign taxes, and a \$75 million increase in valuation allowance against certain state and foreign tax credits, which are reflected as part of the state taxes and foreign rate benefit in the reconciliation table in the tax footnote.

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.

International Sales

International sales as a percentage of net revenue were 77% in 2020 and 74% in 2019. 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 26, 2020, our cash, cash equivalents and short-term investments were \$2.3 billion compared to \$1.5 billion as of December 28, 2019. The percentage of cash and cash equivalents held domestically was 94% as of December 26, 2020, and 90% as of December 28, 2019.

Our operating, investing and financing cash flow activities for fiscal 2020, 2019 and 2018 were as follows:

	2020	2019	2018
	(In millions)		
Net cash provided by (used in):			
Operating activities	\$ 1,071	\$ 493	\$ 34
Investing activities	(952)	(149)	(170)
Financing activities	6	43	28
Net increase (decrease) in cash and cash equivalents, and restricted cash	<u>\$ 125</u>	<u>\$ 387</u>	<u>\$ (108)</u>

Our aggregate principal debt obligations were \$338 million and \$563 million as of December 26, 2020 and December 28, 2019, respectively.

We believe our cash, cash equivalents and short-term investments balance along with our Revolving Credit Facility entered into in June 2019 (refer to Note 6 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

Our working capital cash inflows and outflows from operations are primarily cash collections from our customers, payments for inventory purchases and payments for employee-related expenditures.

Net cash provided by operating activities was \$1.1 billion in 2020, primarily due to our net income of \$2.5 billion, adjusted for non-cash adjustments of \$488 million and net cash outflows of \$931 million from changes in our operating assets and liabilities. The primary drivers of the changes in operating assets and liabilities included a \$219 million increase in accounts receivable driven primarily by \$1.1 billion higher revenue in the fourth quarter of 2020 compared to the fourth quarter of 2019, partially offset by higher collections due to better revenue linearity in the fourth quarter of 2020 compared to the fourth quarter of 2019, a \$417 million increase in inventories driven by an increase in product build in support of customer demand, a \$231 million increase in prepaid expenses and other assets due primarily to an increase in vendor credits, a \$513 million decrease in accounts payable primarily due to timing of payments to our suppliers, offset by a \$574 million increase in accrued liabilities and other driven by higher marketing accruals and higher accrued annual employee incentives due to improved financial performance.

Net cash provided by operating activities was \$493 million in 2019, primarily due to our net income of \$341 million, adjusted for non-cash and non-operating charges of \$694 million and net cash outflows of \$542 million from changes in our operating assets and liabilities. The primary drivers of the changes in operating assets and liabilities included a \$623 million increase in account receivable driven primarily by \$708 million higher revenue during the fourth quarter of 2019 compared to the fourth quarter of 2018, a \$137 million increase in inventories driven by an increase in wafer purchases during the fourth quarter of 2019 compared to the fourth quarter of 2018, and a \$176 million increase in prepaid expenses and other assets due primarily to an increase in vendor credits and other non-current assets, partially offset by a \$153 million increase in accounts payable due to an increase in inventory purchases and a \$220 million increase in accrued liabilities and other driven by higher marketing accruals.

Investing Activities

Net cash used in investing activities was \$952 million in 2020, which primarily consisted of \$850 million for purchases of short-term investments and \$294 million for purchases of property and equipment, partially offset by \$192 million for maturities of short-term investments.

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.

Financing Activities

Net cash provided by financing activities was \$6 million in 2020, which primarily consisted of proceeds from the issuance of common stock under our employee equity plans of \$85 million, partially offset by \$78 million of common stock repurchased to cover employee withholding taxes on vesting of employee equity grants. We borrowed \$200 million of short-term debt during the second quarter of 2020 and paid off the balance during the third quarter of 2020.

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.

Contractual Obligations

The following table summarizes our consolidated principal contractual cash obligations, as of December 26, 2020, and is supplemented by the discussion following the table:

(In millions)	Payment due by period						
	Total	2021	2022	2023	2024	2025	2026 and thereafter
Term debt ⁽¹⁾	\$ 338	\$ —	\$ 312	\$ —	\$ —	\$ —	\$ 26
Aggregate interest obligation ⁽²⁾	54	25	25	1	1	1	1
Other long-term liabilities ⁽³⁾	159	55	64	19	10	8	3
Operating leases ⁽⁴⁾	284	52	55	48	41	34	54
Purchase obligations ⁽⁵⁾	3,032	2,971	7	15	15	15	9
Total contractual obligations ⁽⁶⁾	\$ 3,867	\$ 3,103	\$ 463	\$ 83	\$ 67	\$ 58	\$ 93

- (1) See Note 6 – Debt and Revolving Credit Facility of the Notes to Consolidated Financial Statements for additional information.
- (2) Represents interest obligations, payable in cash, for our outstanding debt.
- (3) 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.
- (4) See Note 16 – Commitments and Guarantees of the Notes to Consolidated Financial Statements for additional information.
- (5) 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.
- (6) 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.

Our total gross unrecognized tax benefits were \$119 million as of December 26, 2020. We have foreign and U.S. state tax audits in process at any one point in time. At this time, we are unable to make a reasonably reliable estimate of the timing of payments due to uncertainties in the timing of tax audit outcomes; therefore, such amounts are not included in the above contractual obligations table.

Off-Balance Sheet Arrangements

As of December 26, 2020, 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 26, 2020, our investment portfolio consisted of time deposits and commercial paper. 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 26, 2020, 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 26, 2020, 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.

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.

The following table provides information about our foreign currency forward contracts as of December 26, 2020 and December 28, 2019. All of our foreign currency forward contracts mature within 12 months.

	December 26, 2020			December 28, 2019		
	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	\$ 261	6.8160	\$ 8	\$ 277	6.9890	\$ (1)
Canadian Dollar	247	1.3165	6	249	1.3183	2
Indian Rupee	97	76.0259	1	76	72.9476	—
Singapore Dollar	50	1.3574	1	50	1.3597	—
Euro	35	0.8578	1	48	0.8927	1
Taiwan Dollar	58	28.0978	—	38	30.1873	—
Pound Sterling	3	0.7375	—	1	0.7614	—
Malaysian Ringgit	3	4.0456	—	—	4.0889	—
Japanese Yen	1	103.5000	—	—	—	—
Total	\$ 755		\$ 17	\$ 739		\$ 2

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Advanced Micro Devices, Inc.
Consolidated Statements of Operations

	Year Ended		
	December 26, 2020	December 28, 2019	December 29, 2018
	(In millions, except per share amounts)		
Net revenue	\$ 9,763	\$ 6,731	\$ 6,475
Cost of sales	5,416	3,863	4,028
Gross profit	4,347	2,868	2,447
Research and development	1,983	1,547	1,434
Marketing, general and administrative	995	750	562
Licensing gain	—	(60)	—
Operating income	1,369	631	451
Interest expense	(47)	(94)	(121)
Other expense, net	(47)	(165)	—
Income before income taxes and equity income (loss)	1,275	372	330
Income tax provision (benefit)	(1,210)	31	(9)
Equity income (loss) in investee	5	—	(2)
Net income	\$ 2,490	\$ 341	\$ 337
Earnings per share			
Basic	\$ 2.10	\$ 0.31	\$ 0.34
Diluted	\$ 2.06	\$ 0.30	\$ 0.32
Shares used in per share calculation			
Basic	1,184	1,091	982
Diluted	1,207	1,120	1,064

See accompanying notes to consolidated financial statements.

Advanced Micro Devices, Inc.

Consolidated Statements of Comprehensive Income

	Year Ended		
	December 26, 2020	December 28, 2019	December 29, 2018
	(In millions)		
Net income	\$ 2,490	\$ 341	\$ 337
Other comprehensive income (loss)			
Net change in unrealized gains (losses) on cash flow hedges	17	8	(14)
Cumulative-effect adjustment to accumulated deficit related to the adoption of ASU 2016-01, Financial Instruments	—	—	2
Total comprehensive income	\$ 2,507	\$ 349	\$ 325

See accompanying notes to consolidated financial statements.

Advanced Micro Devices, Inc.

Consolidated Balance Sheets

	December 26, 2020	December 28, 2019
(In millions, except par value amounts)		
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 1,595	\$ 1,466
Short-term investments	695	37
Accounts receivable, net	2,066	1,859
Inventories	1,399	982
Receivables from related parties	10	20
Prepaid expenses and other current assets	378	233
Total current assets	6,143	4,597
Property and equipment, net	641	500
Operating lease right-of-use assets	208	205
Goodwill	289	289
Investment: equity method	63	58
Deferred tax assets	1,245	22
Other non-current assets	373	357
Total assets	\$ 8,962	\$ 6,028
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 468	\$ 988
Payables to related parties	78	213
Accrued liabilities	1,796	1,084
Other current liabilities	75	74
Total current liabilities	2,417	2,359
Long-term debt, net	330	486
Long-term operating lease liabilities	201	199
Other long-term liabilities	177	157
Commitments and Contingencies (see Notes 16 and 17)		
Stockholders' equity:		
Capital stock:		
Common stock, par value \$0.01; shares authorized: 2,250; shares issued: 1,217 and 1,175; shares outstanding: 1,211 and 1,170	12	12
Additional paid-in capital	10,544	9,963
Treasury stock, at cost (shares held: 6 and 5)	(131)	(53)
Accumulated deficit	(4,605)	(7,095)
Accumulated other comprehensive income	17	—
Total stockholders' equity	5,837	2,827
Total liabilities and stockholders' equity	\$ 8,962	\$ 6,028

See accompanying notes to consolidated financial statements.

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

	Year Ended		
	December 26, 2020	December 28, 2019	December 29, 2018
(In millions)			
Capital stock			
Common stock			
Balance, beginning of period	\$ 12	\$ 10	\$ 9
Common stock issued under employee equity plans	—	—	1
Issuance of common stock upon warrant exercise	—	1	—
Issuance of common stock to settle convertible debt	—	1	—
Balance, end of period	<u>\$ 12</u>	<u>\$ 12</u>	<u>\$ 10</u>
Additional paid-in capital			
Balance, beginning of period	\$ 9,963	\$ 8,750	\$ 8,464
Common stock issued under employee equity plans	85	74	71
Stock-based compensation	274	197	137
Issuance of common stock upon warrant exercise	—	448	—
Issuance of common stock to settle convertible debt	217	485	—
Issuance of treasury stock to partially settle debt	—	4	78
Issuance of warrants	5	5	—
Balance, end of period	<u>\$ 10,544</u>	<u>\$ 9,963</u>	<u>\$ 8,750</u>
Treasury stock			
Balance, beginning of period	\$ (53)	\$ (50)	\$ (108)
Common stock repurchases for tax withholding on employee equity plans	(78)	(6)	(6)
Issuance of treasury stock to partially settle debt	—	3	64
Balance, end of period	<u>\$ (131)</u>	<u>\$ (53)</u>	<u>\$ (50)</u>
Accumulated deficit			
Balance, beginning of period	\$ (7,095)	\$ (7,436)	\$ (7,775)
Net income	2,490	341	337
Cumulative effect adjustment to accumulated deficit related to the adoption of ASU 2016-01, Financial Instruments	—	—	2
Balance, end of period	<u>\$ (4,605)</u>	<u>\$ (7,095)</u>	<u>\$ (7,436)</u>
Accumulated other comprehensive income (loss)			
Balance, beginning of period	\$ —	\$ (8)	\$ 6
Other comprehensive income (loss)	17	8	(14)
Balance, end of period	<u>\$ 17</u>	<u>\$ —</u>	<u>\$ (8)</u>
Total stockholders' equity	<u><u>\$ 5,837</u></u>	<u><u>\$ 2,827</u></u>	<u><u>\$ 1,266</u></u>

See accompanying notes to consolidated financial statements.

Advanced Micro Devices, Inc.
Consolidated Statements of Cash Flows

	Year Ended		
	December 26, 2020	December 28, 2019	December 29, 2018
	(In millions)		
Cash flows from operating activities:			
Net income	\$ 2,490	\$ 341	\$ 337
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	312	222	170
Stock-based compensation	274	197	137
Amortization of debt discount and issuance costs	14	30	38
Amortization of operating lease right-of-use assets	42	36	—
Loss on debt redemption, repurchase and conversion	54	176	12
Loss on sale/disposal of property and equipment	33	42	27
Impairment of technology licenses	—	—	45
Deferred income taxes	(1,223)	(7)	(4)
Other	6	(2)	(1)
Changes in operating assets and liabilities:			
Accounts receivable, net	(219)	(623)	(806)
Inventories	(417)	(137)	(151)
Receivables from related parties	10	14	(28)
Prepaid expenses and other assets	(231)	(176)	(70)
Payables to related parties	(135)	7	35
Accounts payable	(513)	153	212
Accrued liabilities and other	574	220	81
Net cash provided by operating activities	1,071	493	34
Cash flows from investing activities:			
Purchases of property and equipment	(294)	(217)	(163)
Purchases of short-term investments	(850)	(284)	(123)
Proceeds from maturity of short-term investments	192	325	45
Collection of deferred proceeds on sale of receivables	—	25	71
Other	—	2	—
Net cash used in investing activities	(952)	(149)	(170)
Cash flows from financing activities:			
Proceeds from short-term borrowings	200	—	—
Repayments and extinguishment of debt	(200)	(473)	(41)
Proceeds from warrant exercise	—	449	—
Proceeds from sales of common stock through employee equity plans	85	74	70
Common stock repurchases for tax withholding on employee equity plans	(78)	(6)	(6)
Other	(1)	(1)	5
Net cash provided by financing activities	6	43	28
Net increase (decrease) in cash and cash equivalents, and restricted cash	125	387	(108)
Cash, cash equivalents and restricted cash at beginning of year	1,470	1,083	1,191
Cash, cash equivalents and restricted cash at end of year	\$ 1,595	\$ 1,470	\$ 1,083

	Year Ended		
	December 26, 2020	December 28, 2019	December 29, 2018
	(In millions)		
Supplemental cash flow information:			
Cash paid during the year for:			
Interest	\$ 31	\$ 67	\$ 79
Income taxes, net of refund	\$ 8	\$ (4)	\$ (8)
Non-cash investing and financing activities:			
Purchases of property and equipment, accrued but not paid	\$ 31	\$ 65	\$ 49
Issuance of common stock to settle convertible debt	\$ 217	\$ 377	\$ —
Transfer of assets for the acquisition of property and equipment	\$ 111	\$ 115	\$ 28
Issuance of treasury stock to partially settle debt	\$ —	\$ 7	\$ 141
Deferred proceeds on sale of receivables	\$ —	\$ —	\$ 25
Non-cash activities for leases:			
Operating lease right-of-use assets acquired by assuming related liabilities	\$ 45	\$ 22	\$ —
Reconciliation of cash, cash equivalents and restricted cash			
Cash and cash equivalents	\$ 1,595	\$ 1,466	\$ 1,078
Restricted cash included in Prepaid expense and other current assets	\$ —	\$ 4	\$ 5
Total cash, cash equivalents and restricted cash	\$ 1,595	\$ 1,470	\$ 1,083

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. AMD's products include x86 microprocessors (CPUs), accelerated processing units which integrate microprocessors and graphics (APUs), discrete graphics processing units (GPUs), semi-custom System-on-Chip (SOC) products and chipsets for the PC, gaming, datacenter and embedded markets. In addition, AMD provides development services and sells or licenses portions of its intellectual property portfolio.

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 2020, 2019 and 2018 ended December 26, 2020, December 28, 2019 and December 29, 2018, respectively. Fiscal 2020, 2019 and 2018 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 assessing potential impairment, if any, of goodwill and deferred income taxes.

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. Substantially all the Company's revenue is derived from product sales, representing a single performance obligation.

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. Non-custom product arrangements generally comprise a single performance obligation. 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.

Constraints of variable consideration have not been material.

Custom products

Custom products which are associated with the Company's Enterprise, Embedded, and Semi-Custom segment (semi-custom products), sold under non-cancellable purchase orders, for which the Company has an enforceable right to payment, and which have no alternative use to the Company at contract inception, are recognized as revenue, over the time of production of the products by the Company. The Company utilizes a cost-based input method, calculated as cost incurred plus estimated margin, to determine the amount of revenue to recognize for in-process, but incomplete, customer orders at a reporting date. The Company believes that a cost-based input method is the most appropriate manner to measure how the Company satisfies its performance obligations to customers because the effort and costs incurred best depict the Company's satisfaction of its performance obligation.

Sales of semi-custom products are not subject to a right of return. Custom products arrangements involve a single performance obligation. There are no variable consideration estimates associated with custom products.

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 Company's 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. The Company evaluates whether the licensing component is distinct. A licensing component is distinct if it is both (i) capable of being distinct and (ii) distinct in the context of the arrangement. If the license is not distinct it is combined with the development services as a single performance obligation and recognized over time. If the license is distinct, revenue is recognized at a point in time when the customer has the ability to benefit from the license.

From time to time, the Company may enter into arrangements with customers that solely involve the sale or licensing of its patents or IP. Generally, there are no performance obligations beyond transferring the designated license to the Company's patents or IP. Accordingly, revenue is recognized at a point in time when the customer has the ability to benefit from the license.

There are no variable consideration estimates associated with either combined development and intellectual property arrangements or for standalone arrangements involving either the sale or licensing of IP.

Total revenue recognized over time associated with custom products and development services accounted for approximately 18%, 19% and 29% of the Company's revenue in 2020, 2019 and 2018, respectively.

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

The Company values inventory at standard cost, adjusted to approximate the lower of actual cost or estimated net realizable value using assumptions about future demand and market conditions. In determining excess or obsolescence reserves for its products, the Company considers assumptions such as changes in business and economic conditions, other-than-temporary decreases in demand for its products, and changes in technology or customer requirements. In determining the lower of cost or net realizable value reserves, the Company considers assumptions such as recent historical sales activity and selling prices, as well as estimates of future selling prices. 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 and non-cancellable purchase orders 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 carrying value 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.

The Company first analyzes qualitative factors to determine if it is more likely than not that the fair value of a reporting unit exceeds its carrying amount. Qualitative factors include industry and market considerations, overall financial performance, share price trends and market capitalization and Company-specific events. 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 a 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 a reporting unit's fair value is less than its carrying value, not to exceed the total amount of goodwill allocated to that reporting unit.

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 and Short-term Investments

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. Other investments in time deposits due within 12 months and marketable securities are included in short-term investments. Classification of marketable 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.

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. If an available-for-sale debt security's fair value is less than its amortized cost basis, then the Company evaluates whether the decline is the result of a credit loss, in which case an impairment is recorded through an allowance for credit losses. Unrealized gains and losses not attributable to credit losses are included, net of tax, in accumulated other comprehensive income (loss), a component of stockholders' equity. The cost of securities sold is determined based on the specific identification method.

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 development services recognized as revenue but not yet invoiced to customers and 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 twelve months.

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 maintains an allowance for doubtful accounts, consisting of known specific troubled accounts as well as an amount based on overall estimated

potential uncollectible accounts receivable based on historical experience and review of their current credit quality. The Company does not believe the receivable balance from its customers represents a significant credit risk.

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 sheets. The Company's finance leases are immaterial.

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 2020, 2019 and 2018 were approximately \$314 million, \$217 million and \$176 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 Black-Scholes model. For time-based restricted stock units (RSUs), 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 RSUs 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 Employee Stock Purchase plan (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 RSUs with performance or market conditions (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. The assessment requires significant judgment and is performed in each of the applicable taxing jurisdictions. 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

In June 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (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. The Company adopted this standard in the first quarter of 2020 using the modified retrospective adoption method. This standard did not have an impact on the consolidated financial statements upon adoption.

Recently Issued Accounting Standards

In August 2020, the FASB issued ASU 2020-06, *Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Contracts in Entity's Own Equity (Subtopic 815-40), Accounting for Convertible Instruments and Contracts in an Entity's Own Equity*. This standard simplifies the accounting for convertible instruments and its application of the derivatives scope exception for contracts in its own equity by eliminating some of the models that require separating embedded conversion features from convertible instruments. The guidance also addresses how convertible instruments are accounted for in the diluted earnings per share calculation and enhances disclosures about the terms of convertible instruments and contracts in an entity's own equity. The standard is effective for fiscal years beginning after December 15, 2021, with early adoption permitted, and can be adopted through either a modified retrospective method with a cumulative effect adjustment to opening retained earnings or a full retrospective method. 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 Financial Statement Information

Short-term Investments

As of December 26, 2020, the Company had \$400 million of time deposits and \$295 million of commercial paper. As of December 28, 2019, the Company had \$37 million of commercial paper.

Accounts Receivable, net

As of December 26, 2020 and December 28, 2019, Accounts receivable, net included unbilled accounts receivable of \$123 million and \$197 million, respectively.

Inventories

	December 26, 2020	December 28, 2019
	(In millions)	
Raw materials	\$ 93	\$ 94
Work in process	1,139	691
Finished goods	167	197
Total inventories	<u>\$ 1,399</u>	<u>\$ 982</u>

Property and Equipment, net

	December 26, 2020	December 28, 2019
	(In millions)	
Leasehold improvements	\$ 208	\$ 203
Equipment	1,209	951
Construction in progress	136	114
Property and equipment, gross	1,553	1,268
Accumulated depreciation	(912)	(768)
Total property and equipment, net	<u>\$ 641</u>	<u>\$ 500</u>

Depreciation expense for 2020, 2019 and 2018 was \$217 million, \$142 million and \$94 million, respectively.

Other Non-current Assets

	December 26, 2020	December 28, 2019
	(In millions)	
Software and technology licenses, net	\$ 229	\$ 210
Other	144	147
Total other non-current assets	<u>\$ 373</u>	<u>\$ 357</u>

Accrued Liabilities

	December 26, 2020	December 28, 2019
	(In millions)	
Accrued compensation and benefits	\$ 513	\$ 285
Accrued marketing programs and advertising expenses	839	454
Other accrued and current liabilities	444	345
Total accrued liabilities	<u>\$ 1,796</u>	<u>\$ 1,084</u>

Unearned Revenue

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 26, 2020	December 28, 2019
	(In millions)	
Beginning balance	\$ 2	\$ 11
Unearned revenue	22	43
Revenue recognized during the period	(9)	(52)
Ending balance	<u>\$ 15</u>	<u>\$ 2</u>

Revenue allocated to remaining performance obligations that are unsatisfied (or partially unsatisfied) as of December 26, 2020 was \$337 million, which may include amounts received from customers 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 \$174 million of revenue allocated to remaining performance obligations in the next 12 months.

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

NOTE 4 – Related Parties—Equity Joint Ventures

ATMP Joint Ventures

The Company holds a 15% equity interest in two joint ventures (collectively, the ATMP JV) with affiliates of Tongfu Microelectronics Co., Ltd, a Chinese joint stock 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 the Company's inventory management program are reported within purchases and resales with the ATMP JV and do not impact the Company's consolidated statement of operations.

The Company's purchases from the ATMP JV during 2020 and 2019 amounted to \$831 million and \$660 million, respectively. As of December 26, 2020 and December 28, 2019, the amounts payable to the ATMP JV were \$78 million and \$213 million, respectively, and are included in Payables to related parties on the Company's consolidated balance sheets. The Company's resales to the ATMP JV during 2020 and 2019 amounted to \$28 million and \$56 million, respectively. As of December 26, 2020 and December 28, 2019, the Company had receivables from ATMP JV of \$10 million and \$7 million, respectively, included in Receivables from related parties on the Company's consolidated balance sheets.

During 2020, the Company recorded a gain of \$5 million in Equity income (loss) in investee on its consolidated statements of operations. During 2019, the Company did not record any gain or loss in Equity income (loss) in investee. During 2018, the Company recorded a \$2 million loss in Equity income (loss) in investee, which included certain expenses incurred by the Company on behalf of the ATMP JV. As of December 26, 2020 and December 28, 2019, the carrying value of the Company's investment in the ATMP JV were approximately \$63 million and \$58 million, respectively.

THATIC Joint Ventures

The Company holds equity interests in two joint ventures (collectively, the THATIC JV) with Higon Information Technology Co., Ltd. (THATIC), a third-party Chinese entity. The Company holds a majority interest in one of the joint ventures and a minority interest in the other. The Company is not a primary beneficiary of the THATIC JV and, as such, the Company does not consolidate either of these entities and accounts for its equity interests in the THATIC JV under the equity method of accounting.

The Company's share in the net losses of the THATIC JV 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 both December 26, 2020 and 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.

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

As of December 26, 2020, the Company had no receivables from the THATIC JV. The Company's receivable from the THATIC JV was \$13 million as of December 28, 2019, included in Receivables from related parties on its consolidated balance sheets.

In June 2019, the Bureau of Industry and Security of the United States Department of Commerce 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 – Goodwill

The carrying amount of goodwill as of both December 26, 2020 and December 28, 2019 was \$289 million, which was all allocated to reporting units within the Company's Enterprise, Embedded and Semi-Custom segment.

In the fourth quarters of 2020 and 2019, the Company conducted its annual impairment tests of goodwill and concluded that there was no goodwill impairment with respect to its reporting units.

NOTE 6 – Debt and Revolving Credit Facility

Debt

The Company's total debt as of December 26, 2020 and December 28, 2019 consisted of:

	December 26, 2020	December 28, 2019
	(In millions)	
7.50% Senior Notes Due 2022 (7.50% Notes)	\$ 312	\$ 312
2.125% Convertible Senior Notes Due 2026 (2.125% Notes)	26	251
Total debt (principal amount)	338	563
Unamortized debt discount for 2.125% Notes	(7)	(73)
Unamortized debt issuance costs for 2.125% Notes	—	(3)
Unamortized debt issuance costs for 7.50% Notes	(1)	(1)
Total long-term debt (net)	\$ 330	\$ 486

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. As of December 26, 2020, the outstanding aggregate principal amount of the 2.125% Notes was \$26 million.

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 2020 and, as a result, the 2.125% Notes are convertible at the option of the holder from January 1, 2021 and remain convertible until March 31, 2021.

During 2020, holders of the 2.125% Notes converted \$225 million principal amount of these notes, for which the Company issued approximately 28 million shares of the Company's common stock at the conversion price of \$8.00 per share. The Company recorded a loss of \$54 million from these conversions in Other expense, net on its consolidated statements of operations.

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 26, 2020.

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

Based on the closing price of the Company's common stock of \$91.81 on December 24, 2020, the last trading day of 2020, the if-converted value of the 2.125% Notes exceeded its principal amount by approximately \$272 million.

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 26, 2020:

	December 26, 2020	December 28, 2019
	(In millions)	
Contractual interest expense	\$ 4	\$ 15
Interest cost related to amortization of debt issuance costs	\$ —	\$ 1
Interest cost related to amortization of the debt discount	\$ 6	\$ 22

The carrying amount of the equity component of the 2.125% Notes was \$10 million and \$95 million as of December 26, 2020 and December 28, 2019, respectively.

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. As of December 26, 2020, 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.

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.

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.

Revolving Credit Facility

On June 7, 2019, the Company entered into a secured revolving credit facility for up to \$500 million (the Revolving Credit 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 Revolving Credit 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.

Prior to the third quarter ended September 26, 2020, obligations under the Credit Agreement were secured by a lien on substantially all the Company's property, other than intellectual property. During the third quarter ended September 26, 2020, as a result of upgrades of the Company's debt ratings, the security requirements under the Credit Agreement were terminated and the liens on the Company's collateral were released.

The Credit Agreement also provides the ability to increase the Revolving Credit Facility or incur incremental term loans or other incremental equivalent. The Company's available borrowings under the Revolving Credit Facility are also subject to reduction.

Borrowings under the Revolving Credit Facility bear interest at either the LIBOR rate or the base rate at the Company's option (in each case, as customarily defined) plus an applicable margin.

The Credit Agreement contains customary affirmative and negative covenants, as well as a total leverage covenant. The Credit Agreement also contains customary events of default.

On April 6, 2020, the Company borrowed \$200 million under the Credit Agreement via the LIBOR rate loan option at an annual interest rate of 2.37%. The Company repaid the \$200 million borrowing plus interest on July 6, 2020. As of December 26, 2020, the Company had \$13 million of letters of credit outstanding under the Credit Agreement and the Company was in compliance with all required covenants under the Credit Agreement.

Future Payments on Total Debt

As of December 26, 2020, the Company's future debt payment obligations were as follows:

	Term Debt (Principal only)	
	(In millions)	
2022	\$	312
2026		26
Total	\$	338

NOTE 7 – Financial Instruments

Fair Value Measurements

Financial Instruments Recorded at Fair Value on a Recurring Basis

As of December 26, 2020 and December 28, 2019, the Company had \$295 million and \$37 million of commercial paper, respectively, included in Short-term investments on the Company's consolidated balance sheets. The commercial paper is classified within Level 2 as its fair value estimates were based on quoted prices for comparable instruments.

In addition, as of December 26, 2020 and December 28, 2019, the Company also had approximately \$46 million and \$30 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 non-current assets on the Company's consolidated balance sheets. As of December 28, 2019, the Company also had approximately \$4 million 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. These 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

The Company carries its financial instruments at fair value with the exception of its long-term debt. The carrying amounts and estimated fair values of the Company's long-term debt are as follows:

	December 26, 2020		December 28, 2019	
	Carrying Amount	Estimated Fair Value	Carrying Amount	Estimated Fair Value
	(In millions)			
Long-term debt, net	\$ 330	\$ 642	\$ 486	\$ 1,823

The estimated fair value of the Company's long-term debt are based on Level 2 inputs as the fair value is based on quoted prices for the Company's debt and comparable instruments in inactive markets. The Company's 2.125% Notes, included in Long-term debt, net, above, were convertible at the option of the holder as of December 26, 2020. The estimated fair value of the 2.125% Notes as of December 26, 2020 takes into account the value of the Company's stock price of \$91.81 as of December 24, 2020, the last trading date for the year ended December 26, 2020 and the initial conversion price of approximately \$8.00 per share of common stock.

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

Hedging Transactions and Derivative Financial Instruments

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

The Company enters into foreign currency forward contracts to hedge its exposure to foreign currency exchange rate risk related to future forecasted transactions denominated in currencies other than the U.S. Dollar. These contracts generally mature within 12 months and are designated as accounting hedges. As of December 26, 2020 and December 28, 2019, the notional values of the Company's outstanding foreign currency forward contracts designated as cash flow hedges were \$501 million and \$467 million, respectively. The fair value of these contracts was not material as of December 26, 2020 and December 28, 2019.

The Company also enters into foreign currency forward contracts to reduce the short-term effects of foreign currency fluctuations on certain receivables or payables denominated in currencies other than the U.S. Dollar. These forward contracts generally mature within 3 months and are not designated as accounting hedges. As of December 26, 2020 and December 28, 2019, the notional values of outstanding contracts were \$254 million and \$272 million, respectively. The fair value of these contracts was not material as of December 26, 2020 and December 28, 2019.

NOTE 8 – 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):

	2020	2019	2018
	(In millions)		
Gains (losses) on cash flow hedges:			
Beginning balance	\$ —	\$ (8)	\$ 6
Net unrealized gains (losses) arising during the period	18	2	(19)
Net losses (gains) reclassified into income during the period	(1)	6	5
Total other comprehensive income (loss)	17	8	(14)
Ending balance	\$ 17	\$ —	\$ (8)

NOTE 9 – Concentrations of Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist primarily of investments in time deposits, available-for-sale debt securities and trade receivables.

The Company places its investments with high credit quality financial institutions. 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 18%, 17% and 6%, respectively, of the total consolidated accounts receivable balance as of December 26, 2020 and 15%, 9% and 8%, respectively, of the total consolidated accounts receivable balance as of December 28, 2019. 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.

NOTE 10 – Earnings Per Share

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

Diluted earnings 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 Company's stock options, RSUs (including PRSUs), common stock to be issued under the ESPP and 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 per share:

	2020	2019	2018
	(In millions, except per share amounts)		
Numerator			
Net income for basic earnings per share	\$ 2,490	\$ 341	\$ 337
Effect of potentially dilutive shares:			
Interest expense related to the 2.125% Notes	1	—	—
Net income for diluted earnings per share	<u>\$ 2,491</u>	<u>\$ 341</u>	<u>\$ 337</u>
Denominator			
Basic weighted average shares	1,184	1,091	982
Effect of potentially dilutive shares:			
Employee equity plans and warrants	20	29	82
2.125% Notes	3	—	—
Diluted weighted average shares	<u>1,207</u>	<u>1,120</u>	<u>1,064</u>
Earnings per share:			
Basic	\$ 2.10	\$ 0.31	\$ 0.34
Diluted	\$ 2.06	\$ 0.30	\$ 0.32

Potential shares from employee equity plans and the impact from the conversion of the 2.125% Notes up to the conversion date, totaling 22 million for 2020, were not included in the earnings per share calculation because their inclusion would have been anti-dilutive.

Potential shares from employee equity plans, the impact from the conversion of the 2.125% Notes up to the conversion date and the assumed conversion of the remaining outstanding 2.125% Notes, totaling 93 million and 105 million shares for 2019 and 2018, respectively, were not included in the earnings per share calculation because their inclusion would have been anti-dilutive.

NOTE 11 – Common Stock and Stock-Based Compensation

Common Stock

Shares of common stock outstanding were as follows:

	Year Ended		
	December 26, 2020	December 28, 2019	December 29, 2018
	(In millions)		
Balance, beginning of period	1,170	1,005	967
Common stock issued under employee equity plans	14	20	31
Common stock repurchases for tax withholding on equity awards	(1)	—	—
Issuance of common stock upon warrant exercise	—	75	—
Issuance of common stock to settle convertible debt	28	69	—
Issuance of treasury stock to partially settle debt	—	1	7
Balance, end of period	<u>1,211</u>	<u>1,170</u>	<u>1,005</u>

Stock-Based Compensation

The Company's employee equity 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, as amended and restated (the 2004 Plan). In the fourth quarter of 2017, the Company introduced the 2017 Employee Stock Purchase Plan, as amended and restated (the 2017 Plan).

Under the 2004 Plan, stock options generally vest and become exercisable over a three-year period from the date of grant and expire within seven 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 PRSUs.

Stock Options. 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.

PRSUs. 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.

ESPP. Under the 2017 Plan, eligible employees who participate in an offering period may have up to 10% of their eligible 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 26, 2020, the Company had 57 million shares of common stock that were available for future grants and 22 million shares reserved for issuance upon the exercise of outstanding stock options or the vesting of unvested RSUs, including PRSUs, under the 2004 Plan. In addition, the Company had 40 million shares of common stock that were available for issuance under the 2017 plan.

Valuation and Expense

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

	2020	2019	2018
	(In millions)		
Cost of sales	\$ 6	\$ 6	\$ 4
Research and development	173	129	91
Marketing, general, and administrative	95	62	42
Total stock-based compensation expense before income taxes	274	197	137
Income tax benefit	(42)	—	—
Total stock-based compensation expense, net of income taxes	\$ 232	\$ 197	\$ 137

Stock Options. The weighted-average estimated fair value of employee stock options granted for the years ended December 26, 2020, December 28, 2019 and December 29, 2018 was \$38.49, \$13.31 and \$7.62 per share, respectively, using the following assumptions:

	2020	2019	2018
Expected volatility	57.87 %	52.60% - 56.51%	51.51% - 60.46%
Risk-free interest rate	0.18 %	1.53% - 2.51%	2.20% - 2.83%
Expected dividends	— %	— %	— %
Expected life (in years)	4.3	3.94 - 3.95	3.92 - 3.94

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. 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.

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 28, 2019	10	\$ 7.56		
Granted	—	\$ 84.85		
Exercised	(3)	\$ 3.62		
Balance as of December 26, 2020	7	\$ 12.91	\$ 589	2.92
Exercisable December 26, 2020	6	\$ 7.01	\$ 538	2.43

The total intrinsic value of stock options exercised for 2020, 2019 and 2018 was \$180 million, \$84 million and \$67 million, respectively.

As of December 26, 2020, the Company had \$19 million of total unrecognized compensation expense related to stock options, which will be recognized over the weighted-average period of 1.66 years.

Time-based RSUs. The weighted-average grant date fair values of time-based RSUs granted during 2020, 2019 and 2018 were \$78.59, \$32.52 and \$17.66 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 28, 2019	18	\$ 22.93		
Granted	4	\$ 78.59		
Forfeited	(1)	\$ 30.82		
Vested	(9)	\$ 20.67		
Unvested shares as of December 26, 2020	12	\$ 43.98	\$ 1,078	1.13

The total fair value of time-based RSUs vested during 2020, 2019 and 2018 was \$642 million, \$395 million and \$315 million, respectively.

As of December 26, 2020, the Company had \$462 million of total unrecognized compensation expense related to time-based RSUs, which will be recognized over the weighted-average period of 1.69 years.

PRsUs. The weighted-average grant date fair values of PRsUs granted during 2020, 2019 and 2018 were \$122.95, \$50.00 and \$21.67, respectively, using the following assumptions:

	2020	2019	2018
Expected volatility	55.74% - 60.10%	60.54% - 62.52%	63.77% - 67.97%
Risk-free interest rate	0.14% - 1.41%	1.56% - 2.49%	2.06% - 2.82%
Expected dividends	— %	— %	— %
Expected term (in years)	2.48 - 3.00	2.48 - 5.00	2.48 - 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 requisite service periods of these PRsUs.

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)
Unvested shares as of December 28, 2019	3	\$ 36.13		
Granted	1	\$ 122.95		
Forfeited	—	\$ 45.25		
Vested	(1)	\$ 16.45		
Unvested shares as of December 26, 2020	3	\$ 55.63	\$ 248	2.25

The total fair value of PRSUs vested during 2020, 2019 and 2018 was \$76 million, \$65 million and \$84 million, respectively.

As of December 26, 2020, the Company had \$102 million of total unrecognized compensation expense related to PRSUs, which will be recognized over the weighted-average period of 1.73 years.

ESPP. The weighted-average grant date fair value for the ESPP during 2020, 2019 and 2018 was \$20.97, \$9.96 and \$4.71 per share, respectively, using the following assumptions:

	2020	2019	2018
Expected volatility	55.16% - 66.53%	48.95% - 67.02%	45.88% - 66.66%
Risk-free interest rate	0.11% - 0.15%	1.58% - 2.46%	2.05% - 2.52%
Expected dividends	— %	— %	— %
Expected term (in years)	0.50	0.50	0.50

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 six-month offering period.

During 2020, 2 million shares of common stock were purchased under the ESPP at a purchase price of \$37.81 resulting in aggregate cash proceeds of \$75 million. As of December 26, 2020, the Company had \$12 million of total unrecognized compensation expense related to the ESPP, which will be recognized over the weighted-average period of 0.37 years.

NOTE 12 – 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 eligible compensation. The Company's contributions to the 401(k) plan for 2020, 2019 and 2018 were approximately \$29 million, \$25 million and \$21 million, respectively.

NOTE 13 – Income Taxes

Income before income taxes consists of the following:

	2020	2019	2018
	(In millions)		
U.S.	\$ 1,213	\$ 334	\$ 114
Non-U.S.	67	38	214
Total pre-tax income including equity income (loss) in investee	\$ 1,280	\$ 372	\$ 328

The income tax provision (benefit) consists of:

	2020	2019	2018
	(In millions)		
Current:			
U.S. Federal	\$ —	\$ (13)	\$ 12
U.S. State and Local	5	1	—
Non-U.S.	8	50	(17)
Total	13	38	(5)
Deferred:			
U.S. Federal	(1,193)	—	—
U.S. State and Local	(28)	—	—
Non-U.S.	(2)	(7)	(4)
Total	(1,223)	(7)	(4)
Income tax provision (benefit)	\$ (1,210)	\$ 31	\$ (9)

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

	2020	2019	2018
	(In millions)		
Statutory federal income tax expense at 21%	\$ 269	\$ 78	\$ 69
State taxes	(6)	1	1
Foreign withholding taxes (refund)	10	22	(29)
Foreign rate detriment / (benefit)	(3)	2	2
Valuation allowance change	(1,301)	(59)	(64)
Research credits	(57)	—	(1)
Excess tax benefits relating to share-based compensation	(116)	—	—
Tax Reform Act	—	(13)	13
Other	(6)	—	—
Income tax provision (benefit)	\$ (1,210)	\$ 31	\$ (9)

The income tax benefit in 2020 was primarily due to \$1.3 billion of tax benefit from the valuation allowance release in the U.S. This benefit was partially offset by approximately \$10 million of withholding tax expense related to cross-border transactions, \$13 million of state and foreign taxes and \$75 million increase in valuation allowance against certain state and foreign tax credits, which are reflected as part of the state taxes and foreign rate benefit in the reconciliation table above.

The income tax provision in 2019 was primarily due to \$22 million of withholding tax related to cross-border transactions and \$22 million of tax in foreign locations, partially 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, partially offset by \$13 million of U.S. income taxes resulting from the Tax Reform Act, a \$7 million tax provision in foreign locations and \$7 million of withholding taxes on cross-border transactions.

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 26, 2020 and December 28, 2019 were as follows:

	December 26, 2020	December 28, 2019
(In millions)		
Deferred tax assets:		
Net operating loss carryovers	\$ 1,029	\$ 1,357
Accruals and reserves not currently deductible	514	257
Acquired intangibles and goodwill	—	50
Federal and state tax credit carryovers	569	584
Foreign research and development ITC credits	489	429
Capitalized costs	174	232
Lease liability	72	57
Other	149	105
Total deferred tax assets	2,996	3,071
Less: valuation allowance	(1,576)	(2,867)
Total deferred tax assets, net of valuation allowance	1,420	204
Deferred tax liabilities:		
Right-of-use assets	(62)	(49)
Discount of convertible notes	(2)	(16)
Undistributed foreign earnings	(114)	(111)
Other	(8)	(17)
Total deferred tax liabilities	(186)	(193)
Net deferred tax assets	\$ 1,234	\$ 11

The movement in the deferred tax valuation allowance was as follows:

	2020	2019	2018
(In millions)			
Balance at beginning of year	\$ 2,867	\$ 2,443	\$ 2,621
Charges (reductions) to income tax expense/other accounts*	(1,301)	(61)	(59)
Net (deductions) recoveries ⁺	10	485	(119)
Balance at end of year	\$ 1,576	\$ 2,867	\$ 2,443

* Amounts recorded against other accounts are not material

+ The 2019 and 2020 net recoveries were primarily related to net originating deferred tax assets and newly generated tax credits

Deferred tax liabilities are included in Other long-term liabilities on the consolidated balance sheets. The breakdown between deferred tax assets and deferred tax liabilities as of December 26, 2020 and December 28, 2019 is as follows:

	December 26, 2020	December 28, 2019
(In millions)		
Deferred tax assets	\$ 1,245	\$ 22
Deferred tax liabilities	(11)	(11)
Net deferred tax assets	\$ 1,234	\$ 11

Through the end of 2020, the Company demonstrated consistent and continued profitability over the preceding three-year period. The Company's ability to sustain and grow its such profitability is supported by the continued positive momentum of its consumer and commercial products including its newly released desktop, mobile and graphics processors, greater market acceptance for its server products, the successful adoption of its new game console processor products, and its continued leadership in the development of HPC products. In assessing the realizability of the deferred tax assets, the Company considered the highly dynamic and competitive landscape of its industry, the continued performance and market acceptance of its new products, and the impact of such market acceptance on forecasts of future profitability. As a result, in the fourth quarter of 2020, the Company concluded that its history of profitable operating results, including the current period results, along with increasingly favorable forecasts of continued future profitability, provided sufficient positive evidence supporting the realizability of a certain amount of its U.S. deferred tax assets and, accordingly, the release of the related valuation allowance previously recorded against these deferred tax assets, resulting in a tax benefit of \$1.3 billion in the fourth quarter of 2020.

The Company continues to maintain a valuation allowance of approximately \$1.6 billion for certain federal, state, and foreign tax attributes. The federal valuation allowance maintained is due to current limitations, including limitations under Internal Revenue Code Section 382 or 383, separate return loss year rules, or dual consolidated loss rules. The state and foreign valuation allowance maintained is due to lack of sufficient sources of income.

The Company's United States federal and state net operating losses carryforwards as of December 26, 2020, were \$5.2 billion and \$343 million, respectively. The United States federal net operating losses will expire between 2029 and 2037, and the state net operating losses will expire at various dates through 2039. The federal tax credits of \$385 million will expire at various dates between 2021 and 2040. The state tax credits of \$252 million will expire at various dates between 2021 through 2035 except for California R&D credit, which does not expire. The Company also has \$494 million of credit carryforward in Canada that will expire between 2026 and 2040.

Under current U.S. tax law the impact of future distributions of undistributed earnings that are indefinitely reinvested are anticipated to be withholding taxes from local jurisdictions and non-conforming U.S. state jurisdictions. The amount of cumulative undistributed earnings that are permanently reinvested that could be subject to withholding taxes are \$304 million as of December 26, 2020.

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

	2020		2019		2018
	(In millions)				
Balance at beginning of year	\$	65	\$	49	\$ 49
Increases for tax positions taken in prior years		41		5	1
Decreases for tax positions taken in prior years		(15)		—	(1)
Increases for tax positions taken in the current year		30		15	3
Decreases for settlements with taxing authorities		(1)		(3)	(2)
Decreases for lapsing of the statute of limitations		(1)		(1)	(1)
Balance at end of year	\$	119	\$	65	\$ 49

The amount of unrecognized tax benefits that would impact the effective tax rate was \$77 million, \$17 million and \$9 million as of December 26, 2020, December 28, 2019 and December 29, 2018, respectively. The Company had no material amounts of accrued interest and accrued penalties related to unrecognized tax benefits as of December 26, 2020, December 28, 2019 and December 29, 2018.

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 2007 onwards due to the net operating losses.

NOTE 14 – 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. From time to time, the Company may also sell or license 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. From time to time, the Company may also sell or license 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 2020, 2019 and 2018.

	2020	2019	2018
	(In millions)		
Net revenue:			
Computing and Graphics	\$ 6,432	\$ 4,709	\$ 4,125
Enterprise, Embedded and Semi-Custom	3,331	2,022	2,350
Total net revenue	<u>\$ 9,763</u>	<u>\$ 6,731</u>	<u>\$ 6,475</u>
Operating income (loss):			
Computing and Graphics	\$ 1,266	\$ 577	\$ 470
Enterprise, Embedded and Semi-Custom	391	263	163
All Other	(288)	(209)	(182)
Total operating income	<u>\$ 1,369</u>	<u>\$ 631</u>	<u>\$ 451</u>

The following table provides items included in All Other category:

	2020	2019	2018
	(In millions)		
Operating loss:			
Stock-based compensation expense	\$ (274)	\$ (197)	\$ (137)
Acquisition-related costs	(14)	—	—
Impairment of technology licenses	—	—	(45)
Loss contingency on legal matter	—	(12)	—
Total operating loss	<u>\$ (288)</u>	<u>\$ (209)</u>	<u>\$ (182)</u>

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

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

	2020	2019	2018
	(In millions)		
United States	\$ 2,294	\$ 1,764	\$ 1,327
China (including Hong Kong)	2,329	1,736	1,319
Japan	1,033	840	1,225
Europe	1,108	762	470
Taiwan	1,187	719	1,197
Singapore	1,096	597	728
Other countries	716	313	209
Total sales to external customers	<u>\$ 9,763</u>	<u>\$ 6,731</u>	<u>\$ 6,475</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:

	2020	2019	2018
Customer A	*	12 %	19 %
Customer B	*	*	11 %

* Less than 10%

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

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

	December 26, 2020	December 28, 2019
	(In millions)	
United States	\$ 421	\$ 300
Canada	126	99
China	34	36
Singapore	32	33
Other countries	28	32
Total property and equipment, net	<u>\$ 641</u>	<u>\$ 500</u>

NOTE 15 – Other Expense, Net

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

	2020	2019	2018
	(In millions)		
Interest income	\$ 8	\$ 15	\$ 18
Loss on debt redemption, repurchase and conversion	(54)	(176)	(12)
Other	(1)	(4)	(6)
Other expense, net	<u>\$ (47)</u>	<u>\$ (165)</u>	<u>\$ —</u>

NOTE 16 – 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 five years.

For 2020, 2019 and 2018, the Company recorded \$59 million, \$56 million and \$53 million, respectively, of operating lease expense, including short-term lease expense. For 2020 and 2019, the Company recorded \$27 million and \$25 million, respectively, of variable lease expense, which primarily included operating expenses and property taxes associated with the usage of facilities under the operating leases. For 2020 and 2019, cash paid for operating leases included in operating cash flows was \$55 million and \$47 million, respectively. The Company's finance leases and short-term leases are immaterial.

Supplemental information related to leases is as follows:

	December 26, 2020
Weighted-average remaining lease term – operating leases	5.56 years
Weighted-average discount rate – operating leases	5.29 %

Future minimum lease payments under non-cancellable operating lease liabilities as of December 26, 2020 are as follows:

Year	(In millions)
2021	\$ 52
2022	55
2023	48
2024	41
2025	34
2026 and thereafter	54
Total minimum lease payments	284
Less: interest	(42)
Present value of net minimum lease payments	242
Less: current portion	(41)
Total long-term operating lease liabilities	\$ 201

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 sheets, which primarily consisted of \$149 million of payments due under certain software and technology licenses and IP licenses that will be paid through 2025.

Total future unconditional purchase obligations as of December 26, 2020 were as follows:

Year	(In millions)
2021	\$ 3,026
2022	71
2023	34
2024	25
2025	23
2026 and thereafter	12
Total unconditional purchase commitments	\$ 3,191

Warranties and Indemnities

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.

Changes in the Company's estimated liability for product warranty during the years ended December 26, 2020 and December 28, 2019 are as follows:

	December 26, 2020	December 28, 2019
	(In millions)	
Beginning balance	\$ 15	\$ 13
Provisions during the period	82	31
Settlements during the period	(60)	(29)
Ending balance	<u>\$ 37</u>	<u>\$ 15</u>

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. In addition, the impact from changes in estimates for pre-existing warranties has been immaterial.

NOTE 17 – 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. On March 16, 2020, the Ninth Circuit affirmed the district court's dismissal of the Ha complaint and the time to seek further appeals has since expired. On the same day, the Ninth Circuit also reversed and remanded the district court's dismissal of the Hamilton complaint for further consideration of defendants' motion to dismiss. Following supplemental briefing, that motion to dismiss remains pending. On August 27, 2020, the California Court of Appeal affirmed the district court's dismissal of the Wessels complaint and the time to seek further appeals has since expired.

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. On May 15, 2020, the Ninth Circuit affirmed the district court's ruling dismissing the subset of claims currently at issue against the Company. On August 14, 2020, the district court dismissed the remaining claims with prejudice.

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. On May 14, 2020, at the request of Polaris, the Court dismissed all claims related to one of the two patents in suite in the *Polaris* case. On June 10, 2020, the Court granted AMD's motions to stay the *Polaris* and *Aquila* cases pending the completion of *inter partes* review of each of the patents-in-suit in those cases by the Patent Trial and Appeals Board.

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.

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. On February 5, 2020, Monterey Research filed an amended complaint. On February 19, 2020, the Company filed a renewed motion to dismiss part of Monterey Research's complaint. On October 13, 2020, the Court granted-in-part and denied-in-part the Company's renewed motion to dismiss. On October 27, 2020, the Company filed its answer to Monterey's complaint and also filed counterclaims based on Monterey's breach of the parties' pre-suit non-disclosure agreement. On December 1, 2020, Monterey filed a motion to dismiss the Company's counterclaims. On January 5, 2021, the Court granted the Company's motion to stay the litigation pending *inter partes* review of the patents-in-suit by the Patent Trial and Appeals Board.

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.

City of Pontiac Police and Fire Retirement System Litigation

On September 29, 2020, the City of Pontiac Police and Fire Retirement System, an AMD shareholder, filed a shareholder derivative complaint (the "Complaint") against AMD and the members of its Board of Directors (collectively, "Defendants") in the United States District Court for the Northern District of California. See *City of Pontiac Police and Fire Retirement System v. Caldwell, et al.*, No. 5:20-cv-6794 (N.D. Cal.). The Complaint alleges that Defendants breached their fiduciary duties, violated Section 14(a) of the Exchange Act of 1934, and were unjustly enriched by misrepresenting the Company's commitment to diversity, particularly with respect to the composition of the membership of AMD's Board of Directors and senior leadership team. On December 18, 2020, Defendants filed a motion to dismiss the 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.

Xilinx Acquisition Litigation

On October 26, 2020, the Company, its wholly owned subsidiary, Thrones Merger Sub, Inc., and Xilinx, Inc. ("Xilinx") entered a definitive agreement (the "Merger Agreement") in which the Company will acquire Xilinx by merging Thrones Merger Sub, Inc. with and into Xilinx, with Xilinx continuing as the surviving corporation and becoming a wholly owned subsidiary of the Company (the "Proposed Transaction"). See Note 18 of Notes to Consolidated Financial Statements for additional information. On December 3, 2020, the Company and Xilinx filed a Registration Statement on Form S-4 (together with the joint proxy statement and prospectus contained therein, the "Registration Statement") describing the Proposed Transaction and other related matters. On December 11, 2020, a Xilinx shareholder filed a putative class action in the New York State Supreme Court, New York County, regarding the Proposed Transaction. *Nunez v. Xilinx*, Case No. 656971/2020 (N.Y. Sup. Ct.). The lawsuit alleges that the Board of Directors of Xilinx breached their fiduciary duties to Xilinx shareholders in connection with the Proposed Transaction.

by allegedly failing to obtain fair, adequate and maximum consideration for Xilinx shareholders in connection with the Proposed Transaction and by not disclosing certain material information about the Proposed Transaction in the Registration Statement. The lawsuit asserts a single claim against the Company, alleging that it aided and abetted the Xilinx directors' breach of their fiduciary duties. The lawsuit seeks to enjoin or rescind any transaction with Xilinx as well as certain other equitable relief, unspecified damages and attorneys' fees and costs.

On December 15, 2020, a Xilinx shareholder filed a lawsuit in the United States District Court for the Southern District of New York, regarding the Proposed Transaction. *Shumacher v. Xilinx*, Case No. 1:20-cv-10595 (S.D.N.Y.). The lawsuit alleges that Xilinx and its Board of Directors disseminated a false and misleading Registration Statement that omitted material information regarding the Proposed Transaction, thereby violating Section 14(a) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). The lawsuit also asserts a single claim against the Company, alleging that it acted as a controlling person of Xilinx within the meaning of Section 20(a) of the Exchange Act by virtue of its supervisory control over the composition of the Registration Statement. The lawsuit seeks to enjoin or rescind any transaction with Xilinx as well as certain other equitable relief, unspecified damages and attorneys' fees and costs.

On December 23, 2020, a shareholder of the Company filed a lawsuit in the United States District Court of the Southern District of New York regarding the Proposed Transaction. *Vazirani v. Advanced Micro Devices*, Case No. 1:20-cv-10894 (S.D.N.Y.). The lawsuit alleges that the Company and its Board of Directors disseminated a false and misleading Registration Statement that omitted material information regarding the Proposed Transaction, thereby violating Sections 14(a) and 20(a) of the Exchange Act. The lawsuit seeks to enjoin or rescind any transaction with Xilinx as well as certain other equitable relief, unspecified damages and attorneys' fees and costs.

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.

Future Link Systems Litigation

On December 21, 2020, Future Link Systems, LLC filed a patent infringement complaint against the Company in the United States District Court for the Western District of Texas. Future Link Systems alleges that the Company infringes three U.S. patents: 7,983,888 (related to simulated PCI express circuitry); 6,363,466 (related to out of order data transactions); and 6,622,108 (related to interconnect testing). Future Link Systems seeks unspecified monetary damages, enhanced damages, interest, fees, expenses, costs, and injunctive relief against the Company.

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 \$4 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.

NOTE 18 – Pending Acquisition

On October 26, 2020, the Company entered into an Agreement and Plan of Merger (the Merger Agreement), with Thrones Merger Sub, Inc., a wholly owned subsidiary of the Company (Merger Sub), and Xilinx, Inc. (Xilinx), whereby Merger Sub will merge with and into Xilinx (the Merger), with Xilinx surviving such Merger as a wholly owned subsidiary of the Company. Under the Merger Agreement, at the effective time of the Merger (the Effective Time), each share of common stock of Xilinx (Xilinx Common Stock) issued and outstanding immediately prior to the Effective Time (other than treasury shares and any shares of Xilinx Common Stock held directly by the Company or Merger Sub) will be converted into the right to receive 1.7234 fully paid and non-assessable shares of common stock of the Company and, if applicable, cash in lieu of fractional shares, subject to any applicable withholding. As of the signing of the Merger Agreement, the transaction was valued at \$35 billion. The actual valuation of the transaction could differ significantly from the estimated amount due to movements in the price of the Company's common stock, the number of shares of Xilinx common stock outstanding on the closing date of the Merger and other factors.

Under the Merger Agreement, the Company will be required to pay a termination fee to Xilinx equal to \$1.5 billion if the Merger Agreement is terminated in certain circumstances, including if the Merger Agreement is terminated because the Company's board of directors has changed its recommendation. The Company will be required to pay a termination fee equal to \$1 billion if the Merger Agreement is terminated in certain circumstances related to the failure to obtain required regulatory approvals prior to October 26, 2021 (subject to automatic extension first to January 26, 2022 and then to April 26, 2022, in each case, to the extent the regulatory closing conditions remain outstanding).

The closing of the Merger is subject to customary conditions, including regulatory approval and approval by the stockholders of both the Company and Xilinx. The Merger is currently expected to close by the end of calendar year 2021.

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 26, 2020 and December 28, 2019, the related consolidated statements of operations, comprehensive income, stockholders' equity and cash flows for each of the three years in the period ended December 26, 2020, 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 26, 2020 and December 28, 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 26, 2020, 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 26, 2020, 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 January 29, 2021 expressed an unqualified opinion thereon.

Basis for Opinion

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

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

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of the critical audit matters 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 matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Inventory Valuation

Description of the Matter At December 26, 2020, the Company's net inventory balance was \$1,399 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.

Deferred Tax Asset Valuation Allowance

Description of the Matter As discussed in Note 13 to the consolidated financial statements, at December 26, 2020, the Company carried deferred tax assets of \$1,420 million, net of a \$1,576 million valuation allowance. Deferred tax assets are reduced by a valuation allowance if, based on the weight of all available evidence, in management's judgment it is more likely than not that some portion, or all, of the deferred tax assets will not be realized. Once established, the valuation allowance is released when, based on the weight of all available evidence, management concludes that related deferred tax assets are more likely than not to be realized. In 2020, management concluded sufficient positive evidence exists to release a portion of the valuation allowance related to U.S. deferred tax assets, resulting in an income tax benefit of \$1,301 million in 2020.

Auditing management's analysis of the realizability of the deferred tax assets was complex and highly judgmental because the assessment process involves significant judgment and subjective evaluation of assumptions that may be affected by future operations of the Company, market or economic conditions.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design and tested the operating effectiveness of controls that address the risks of material misstatement relating to the realizability of deferred tax assets, including controls over management's evaluation of the nature of its tax attributes and projections of the future reversal of existing taxable temporary differences and future taxable income.

We evaluated the Company's assessment of the realizability of its U.S. deferred tax assets and the resultant release of valuation allowance. Our audit procedures included, among others, evaluation of the nature of the Company's tax attributes, application of the technical tax guidance related to attributes subject to additional limitation, projections of the future reversal of existing taxable temporary differences and assumptions used by the Company to assess reliability of its projected future taxable income. We compared the projections of future taxable income with the actual results of prior periods and assessed management's consideration of current industry and economic trends. We also compared the projections of future taxable income with other forecasted financial information prepared by the Company. Further, we tested the completeness and accuracy of the underlying data used in the Company's projections. We involved our tax professionals with specialized skills and knowledge to evaluate the Company's assessment of the scheduling of the reversal of existing temporary taxable differences and carryforward amounts and the carryforward lives of its deferred tax assets, and whether the estimated future sources of taxable income were of the appropriate character to utilize the deferred tax assets in the relevant time period.

/s/ Ernst & Young LLP

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

San Jose, California

January 29, 2021

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 26, 2020, 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 26, 2020, 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 26, 2020 and December 28, 2019, the related consolidated statements of operations, comprehensive income, stockholders' equity and cash flows for each of the three years in the period ended December 26, 2020, and the related notes and our report dated January 29, 2021 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 the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

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

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

Definition and Limitations of Internal Control Over Financial Reporting

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

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

/s/ Ernst & Young LLP

San Jose, California

January 29, 2021

Supplementary Financial Information (unaudited)

The Company uses a 52- or 53-week fiscal year ending on the last Saturday in December. All quarters of 2020 and 2019 consisted of 13 weeks.

	(In millions, except per share amounts)							
	2020				2019			
	Dec 26	Sep 26	June 27	Mar 28	Dec 28	Sep 28	June 29	Mar 30
Net revenue	\$ 3,244	\$ 2,801	\$ 1,932	\$ 1,786	\$ 2,127	\$ 1,801	\$ 1,531	\$ 1,272
Cost of sales	1,793	1,571	1,084	968	1,178	1,024	910	751
Gross profit	1,451	1,230	848	818	949	777	621	521
Research and development	573	508	460	442	395	406	373	373
Marketing, general and administrative	308	273	215	199	206	185	189	170
Licensing gain	—	—	—	—	—	—	—	(60)
Operating income	570	449	173	177	348	186	59	38
Interest expense	(9)	(11)	(14)	(13)	(18)	(24)	(25)	(27)
Other income (expense), net	(15)	(37)	1	4	(125)	(36)	3	(7)
Income before income taxes	546	401	160	168	205	126	37	4
Income tax provision (benefit) ⁽¹⁾	(1,232)	12	4	6	35	7	2	(13)
Equity income (loss) in investee	3	1	1	—	—	1	—	(1)
Net income	\$ 1,781	\$ 390	\$ 157	\$ 162	\$ 170	\$ 120	\$ 35	\$ 16
Earnings per share								
Basic	\$ 1.48	\$ 0.33	\$ 0.13	\$ 0.14	\$ 0.15	\$ 0.11	\$ 0.03	\$ 0.01
Diluted	\$ 1.45	\$ 0.32	\$ 0.13	\$ 0.14	\$ 0.15	\$ 0.11	\$ 0.03	\$ 0.01
Shares used in per share calculation								
Basic	1,205	1,184	1,174	1,170	1,140	1,097	1,084	1,044
Diluted	1,226	1,215	1,227	1,224	1,188	1,117	1,109	1,094

⁽¹⁾ During the fourth quarter of 2020, the Company recognized a \$1.3 billion income tax benefit upon the release of a portion of the valuation allowance on U.S. deferred tax assets.

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 26, 2020, 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 26, 2020 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 26, 2020, 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 2021 annual meeting of stockholders (our 2021 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 “2020 Non-Employee Director Compensation”), “Compensation Discussion and Analysis,” “Compensation Policies and Practices,” “Executive Compensation” (including “2020 Summary Compensation Table,” “2020 Nonqualified Deferred Compensation,” “Outstanding Equity Awards at 2020 Fiscal Year-End,” “Grants of Plan-Based Awards in 2020” and “Option Exercises and Stock Vested in 2020”) and “Severance and Change in Control Arrangements” in our 2021 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 2021 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 2021 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 2021 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 2021 Proxy Statement, our 2021 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 2021 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 information is not required, is not applicable, or is included in the Notes to the Consolidated Financial Statements.

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
2.1	Agreement and Plan of Merger by and among Advanced Micro Devices, Inc., Thrones Merger Sub, Inc., and Xilinx, Inc. dated October 26, 2020, filed as exhibit 2.1 to AMD's Current Report on Form 8-K dated October 26, 2020, is hereby incorporated by reference.
3.1	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.
3.2	Advanced Micro Devices, Inc. Amended and Restated Bylaws, as amended on January 29, 2021.
4.1	Description of Advanced Micro Devices, Inc. Common Stock, filed as Exhibit 4.1 to AMD's Annual Report on Form 10-K for the period ended December 28, 2019, is hereby incorporated by reference.
4.2	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.
4.3	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.
4.4	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.
4.5	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.
*10.1	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.
*10.2	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.
*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	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.

- *10.5 [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.](#)
- *10.6 [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.](#)
- *10.7 [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.](#)
- *10.8 [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.](#)
- *10.9 [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.](#)
- *10.10 [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.](#)
- 10.11 [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.](#)
- **10.12 [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.](#)
- 10.13 [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.](#)
- 10.14 [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.](#)
- 10.15 [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.](#)
- *10.16 [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.](#)
- *10.17 [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.](#)
- *10.18 [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.](#)
- *10.19 [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.](#)
- *10.20 [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.](#)

- 10.21 [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.](#)
- *10.22 [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.](#)
- *10.23 [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.](#)
- *10.24 [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.](#)
- *10.25 [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.](#)
- *10.26 [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.](#)
- *10.27 [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.](#)
- *10.28 [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.](#)
- *10.29 [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.](#)
- *10.30 [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.](#)
- *10.31 [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.](#)
- *10.32 [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.](#)
- *10.33 [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.](#)
- *10.34 [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.](#)
- *10.35 [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.](#)
- *10.36 [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.](#)
- *10.37 [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.](#)

- *10.38 [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.](#)
- 10.39 [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.](#)
- *10.40 [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.](#)
- *10.41 [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.](#)
- *10.42 [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.](#)
- *10.43 [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.](#)
- *10.44 [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.](#)
- *10.45 [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.](#)
- *10.46 [Outside Director Equity Compensation Policy, as amended and restated, dated as of February 12, 2020, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended March 28, 2020, 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 10.1 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended June 27, 2020, is hereby incorporated by reference.](#)
- *10.48 [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 June 27, 2020, is hereby incorporated by reference.](#)
- *10.49 [Form of Restricted Stock Unit Agreement for Senior Vice Presidents and Above under the 2004 Equity Incentive Plan, filed as Exhibit 10.3 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended June 27, 2020, is hereby incorporated by reference.](#)
- ***10.50 [Wafer Supply Agreement, among Advanced Micro Devices, Inc., The Foundry Company and AMD Fab Technologies US, Inc., dated March 2, 2009, filed as Exhibit 10.1 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 26, 2020, is hereby incorporated by reference.](#)
- ***10.51 [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 10.2 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 26, 2020, is hereby incorporated by reference.](#)

- ***10.52 [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 10.3 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 26October 28, 2020, is hereby incorporated by reference.](#)
- ***10.53 [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 10.4 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 26October 28, 2020, is hereby incorporated by reference.](#)
- ***10.54 [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 10.5 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 26October 28, 2020, is hereby incorporated by reference.](#)
- ***10.55 [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 10.6 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 26October 28, 2020, is hereby incorporated by reference.](#)
- ***10.56 [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 10.7 to AMD's Quarterly Report on Form 10-Q for the fiscal quarter ended September 26October 28, 2020, is hereby incorporated by reference.](#)
- **10.57 [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.](#)
- 10.58 [Company-Provided Business Aircraft Usage and Commercial Travel by Personal Guests Policy revised as of January 25, 2021.](#)
- 21 [List of AMD subsidiaries.](#)
- 23 [Consent of Independent Registered Public Accounting Firm.](#)
- 24 [Power of Attorney.](#)
- 31.1 [Certification of the Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.](#)
- 31.2 [Certification of the Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.](#)
- 32.1 [Certification of the Principal Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.](#)
- 32.2 [Certification of the Principal Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.](#)
- 101.INS XBRL Instance Document -the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
- 101.SCH XBRL Taxonomy Extension Schema Document
- 101.CAL XBRL Taxonomy Extension Calculation Linkbase Document
- 101.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.

*** Portions of this exhibit have been omitted because they are both (i) not material and (ii) would be competitively harmful if publicly disclosed.

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

ITEM 16. FORM 10-K SUMMARY

Not applicable.

SIGNATURES

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

January 29, 2021

ADVANCED MICRO DEVICES, INC.

By:

/s/Devinder Kumar

Devinder Kumar

Executive Vice President, Chief Financial Officer, and Treasurer

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

ADVANCED MICRO DEVICES, INC.
AMENDED AND RESTATED BYLAWS
(AS AMENDED January 29, 2021)

ARTICLE I
OFFICES

Section 1. The registered office shall be in the City of Wilmington, County of New Castle, State of Delaware.

Section 2. The Corporation may also have offices at such other places both within and without the State of Delaware as the Board of Directors (the "Board") may from time to time determine or the business of the Corporation may require.

ARTICLE II
MEETING OF STOCKHOLDERS

Section 1. The annual meeting of stockholders shall be held each year on a date and at a time designated by the Board. At the meeting, directors shall be elected and any other business properly brought before the meeting pursuant to these Bylaws may be transacted.

Section 2. No business shall be transacted at a meeting of stockholders except in accordance with the following procedures.

(a) At an annual meeting of stockholders, only such business shall be conducted as shall have been properly brought before the meeting. To be properly brought before an annual meeting, business must be (i) brought before the meeting by the Corporation and specified in the notice of meeting given by or at the direction of the Board, (ii) brought before the meeting by or at the direction of the Board (or any duly authorized committee thereof) or (iii) otherwise properly brought before the meeting by any stockholder of the Corporation who (A) was a stockholder of record of the Corporation (and, with respect to any beneficial owner, if different, on whose behalf such business is proposed, only if such beneficial owner was the beneficial owner of shares of the Corporation) both at the time the notice provided for in this Section 2 is delivered to the Secretary of the Corporation and at the time of the meeting, (B) who is entitled to vote at the meeting and (C) who complies with the notice procedures set forth in this Section 2. Except for (x) proposals properly made in accordance with Rule 14a-8 under the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder (as so amended and inclusive of such rules and regulations, the "Exchange Act"), (y) nominations by any stockholder in accordance with the procedures set forth in Article II, Section 3 and (z) nominations by any Eligible Stockholder (as defined in Article II, Section 14) in accordance with the procedures set forth in Article II, Section 14, in each case, included in the notice of meeting given by or at the direction of the Board, the foregoing clause (iii) shall be the exclusive means for a stockholder to propose business to be brought before an annual meeting of the stockholders. Stockholders shall not be permitted to propose business to be brought before a special meeting of the stockholders, and the only matters that may be brought before a special meeting are the matters specified in the notice of meeting given by or at the direction of the person calling the meeting pursuant to Section 4 of this Article II. Stockholders seeking to nominate persons for election to the Board must comply with Section 3 or Section 14 of this Article II, and this Section 2 shall not be applicable to nominations except as expressly provided in Section 3 or Section 14 of this Article II, as applicable.

(b) Without qualification, for business to be properly brought before an annual meeting by a stockholder pursuant to clause (iii) of paragraph (a) of this Section 2, the stockholder must have given timely notice thereof in writing and in proper form to the Secretary of the Corporation and provide any updates or supplements to such notice at the times and in the forms required by this Section 2, and such business must otherwise be a proper matter for stockholder action as determined by the Board. To be timely, a stockholder's notice must be delivered to the Secretary at the principal executive offices of the Corporation not less than ninety (90) nor more than one hundred twenty (120) days prior to the anniversary date of the immediately preceding annual meeting of stockholders; *provided, however*, that in the event that the annual meeting is called for on a date that is not within

thirty (30) days before or after such anniversary date, notice by the stockholder in order to be timely must be so received not later than the close of business on the tenth (10th) day following the day on which the first public announcement of the date of the annual meeting was made or the notice of the meeting was mailed, whichever first occurs. In no event shall the public announcement of an adjournment or postponement of an annual meeting of stockholders commence a new time period (or extend any time period) for the giving of a stockholder's notice as described above. The stockholder's notice shall contain, at a minimum, the information set forth in paragraph (c) of this Section 2. For purposes of these Bylaws, "public announcement" shall mean disclosure in a press release reported by the Dow Jones News Service, Associated Press or comparable national news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission (the "Commission") pursuant to Section 13, 14 or 15(d) of the Exchange Act.

(c) Contents of Stockholder's Notice. Any proper stockholder's notice required by this Section 2 shall set forth:

(i) For each item of business that the stockholder proposes for consideration before the annual meeting, (A) a reasonably detailed description of the business desired to be brought before the annual stockholder meeting, (B) the text of the proposal or business (including the text on any resolutions proposed for consideration and in the event that such business includes a proposal to amend the Bylaws of the Corporation, the language of the proposed amendment), (C) the reasons for conducting such business at the stockholder meeting and (D) a reasonably detailed description of any material interest in such business of such stockholder, beneficial owner, if any, on whose behalf the proposal is made, and any affiliate or associate (each within the meaning of Rule 12b-2 under the Exchange Act for purposes of these Bylaws) of such stockholder or beneficial owner (each, a "Proposing Person"), including all agreements, arrangements and understandings (x) between or among any of the Proposing Persons or (y) between or among any Proposing Person and any other person or entity (including their names) in connection with the proposal of such business by such stockholder;

(ii) As to each Proposing Person, (A) the name and address of such Proposing Person, as they appear on the Corporation's books, (B) the class and number of shares of capital stock of the Corporation which are owned beneficially and of record of such Proposing Person, except that such Proposing Person shall in all events be deemed to beneficially own any shares of any class of the Corporation as to which such Proposing Person has a right to acquire beneficial ownership at any time in the future (the disclosures to be made pursuant to the foregoing clauses (A) and (B) are referred to as "Stockholder Information"); and

(iii) As to each Proposing Person, (A) any derivative, swap or other transaction or series of transactions engaged in, directly or indirectly, by such Proposing Person, the purpose or effect of which is to give such Proposing Person economic risk similar to ownership of shares of any class or series of the Corporation, including due to the fact that the value of such derivative, swap or other transactions are determined by reference to the price, value or volatility of any shares of any class or series of the Corporation, or which derivative, swap or other transactions provide, directly or indirectly, the opportunity to profit from any increase in the price or value of shares of any class or series of the Corporation ("Synthetic Equity Interests"), which Synthetic Equity Interests shall be disclosed without regard to whether (x) the derivative, swap or other transactions convey any voting rights in such shares to such Proposing Person, (y) the derivative, swap or other transactions are required to be, or are capable of being, settled through delivery of such shares or (z) such Proposing Person may have entered into other transactions that hedge or mitigate the economic effect of such derivative, swap or other transactions (B) any proxy (other than a revocable proxy or consent given in response to a solicitation made pursuant to, and in accordance with, Section 14(a) of the Exchange Act by way of a solicitation statement filed on Schedule 14A), agreement, arrangement, understanding or relationship pursuant to which such Proposing Person has or shares a right to vote any shares of any class or series of the Corporation, (C) any agreement, arrangement, understanding or relationship, including any repurchase or similar so-called "stock borrowing" agreement or arrangement, engaged in, directly or indirectly, by such Proposing Person, the purpose or effect of which is to mitigate loss to, reduce the economic risk (of ownership or otherwise) of shares of any class or series of the Corporation by, manage the risk of share price changes for, or increase or decrease the voting power of, such Proposing Person with respect to the shares of any class or series of the Corporation, or which provides, directly or indirectly, the opportunity to profit from any decrease in the price or value of the shares of any class or series of the Corporation ("Short Interests"), (D) any performance related fees (other than an asset based fee) that such Proposing Person is entitled to based on any

increase or decrease in the price or value of shares of any class or series of the Corporation, or any Synthetic Equity Interests or Short Interests, if any, and (E) any other information relating to such Proposing Person that would be required to be disclosed in a proxy statement or other filing required to be made in connection with solicitations of proxies or consents by such Proposing Person in support of the business proposed to be brought before the meeting pursuant to Section 14(a) of the Exchange Act (the disclosures to be made pursuant to the foregoing clauses (A) through (E) are referred to as “Disclosable Interests”); *provided, however*, that Disclosable Interests shall not include any such disclosures with respect to the ordinary course business activities of any broker, dealer, commercial bank, trust company or other nominee who is a Proposing Person solely as a result of being the stockholder directed to prepare and submit the notice required by these Bylaws on behalf of a beneficial owner.

(d) A stockholder providing notice of business proposed to be brought before an annual meeting shall further update and supplement such notice, if necessary, so that the information provided or required to be provided in such notice pursuant to this Section 2 shall be true and correct as of the record date for the meeting and as of the date that is ten (10) business days prior to the meeting or any adjournment or postponement thereof, and such update and supplement shall be delivered to, or mailed and received by, the Secretary at the principal executive offices of the Corporation not later than five (5) business days after the record date for the meeting (in the case of the update and supplement required to be made as of the record date), and not later than eight (8) business days prior to the date for the meeting, if practicable (or, if not practicable, on the first practicable date prior to), or any adjournment or postponement thereof (in the case of the update and supplement required to be made as of ten (10) business days prior to the meeting or any adjournment or postponement thereof).

(e) Notwithstanding anything in these Bylaws to the contrary and except for (i) proposals properly made in accordance with Rule 14a-8 under the Exchange Act, (ii) nominations by any stockholder in accordance with the procedures set forth in Article II, Section 3 or (iii) nominations by any Eligible Stockholder in accordance with the procedures set forth in Article II, Section 14, no business shall be conducted at an annual meeting except in accordance with this Section 2. Except as otherwise provided by law, the chair of the meeting shall have the power and duty, if the facts warrant, to (i) determine whether any business proposed to be brought before an annual meeting was proposed in accordance with the procedures set forth in this Section 2 and (ii) if any proposed business is not in compliance with this Section 2 (including whether the stockholder or beneficial owner, if any, on whose behalf the proposal is made solicits (or is part of a group which solicits)), to declare that such proposed business shall not be transacted.

(f) This Section 2 is expressly intended to apply to any business proposed to be brought before an annual meeting of stockholders other than (i) any proposal made pursuant to Rule 14a-8 under the Exchange Act, (ii) any nomination by a stockholder in accordance with the procedures set forth in Article II, Section 3 or (iii) any nominations by an Eligible Stockholder in accordance with the procedures set forth in Article II, Section 14. Notwithstanding the foregoing provisions of this Section 2, a stockholder shall also comply with all applicable requirements of the Exchange Act and the rules and regulations thereunder with respect to the matters set forth in this Section 2. Nothing in this Section 2 shall be deemed to affect (i) any rights of stockholders to request inclusion of proposals in the Corporation’s proxy statement pursuant to Rule 14a-8 under the Exchange Act, (ii) the ability of any stockholder to request inclusion of a director nominee in the Corporation’s proxy statement pursuant to Article II, Section III or (iii) the ability of any Eligible Stockholder (as defined in Article II, Section 14) to request inclusion of a Nominee in the Corporation’s proxy statement pursuant to Article II, Section 14.

Section 3. Only persons who are nominated in accordance with the following procedures or in accordance with the procedures set forth in Article II, Section 14 shall be eligible for election as directors of the Corporation except as may be otherwise provided in the Certificate of Incorporation with respect to the right of holders of preferred shares of the Corporation to nominate and elect a specified number of directors in certain circumstances.

(a) (1) Nominations of persons for election to the Board may be made at an annual meeting or at a special meeting of stockholders (but only if the election of directors is a matter specified in the notice of meeting given by or at the direction of the person calling such special meeting) only (i) by or at the direction of the Board (or any duly authorized committee thereof) or the Chairman of the Board; (ii) by any stockholder of the Corporation who (A) was a stockholder of record of the Corporation (and, with respect to any beneficial owner, if different, on whose behalf such nomination is proposed to be made, only if such beneficial owner was the beneficial owner of

shares of the Corporation) both at the time the notice provided for in this Section 3 is delivered to the Secretary of the Corporation and at the time of the meeting, (B) who is entitled to vote at the meeting and (C) who complies with the notice procedures set forth in this Section 3 as to such nomination; or (iii) by any Eligible Stockholder (as defined in Article II, Section 14) in accordance with the procedures set forth in Article II, Section 14. The foregoing clauses (ii) and (iii) shall be the exclusive means for a stockholder to make any nomination of a person or persons for election to the Board at an annual meeting or special meeting.

(2) Without qualification, for a stockholder to make any nomination of a person or persons to the Board at an annual meeting or at a special meeting of stockholders pursuant to clause (ii) of paragraph (a)(1) of this Section 3, and for such nomination to be properly brought before such meeting (and, in the case of a special meeting, only if the election of directors is a matter specified in the notice of meeting given by or at the direction of the person calling such special meeting), the stockholder must have given timely notice thereof in writing and in proper form to the Secretary of the Corporation and must provide any updates or supplements to such notice at the times and in the forms required by this Section 3. In order for nominations of persons for election to the Board at an annual meeting in accordance with this Section 3 to be timely, a stockholder's notice must be delivered to the Secretary of the Corporation at the principal executive offices of the Corporation not less than ninety (90) nor more than one hundred twenty (120) days prior to the anniversary date of the immediately preceding annual meeting of stockholders; *provided, however*, that in the event that the annual meeting is called for on a date that is not within thirty (30) days before or after such anniversary date of the annual meeting, notice by the stockholder in order to be timely must be so received not later than the close of business on the tenth (10th) day following the day on which the first public announcement of the date of the annual meeting was made or the notice of the meeting was mailed, whichever first occurs. In order for nominations of persons for election to the Board at a special meeting (but only if the election of directors is a matter specified in the notice of meeting given by or at the direction of the person calling such special meeting) in accordance with this Section 3 to be timely, a stockholder's notice must be delivered to the Secretary of the Corporation at the principal executive offices of the Corporation not less than ninety (90) nor more than one hundred twenty (120) days prior to such special meeting; *provided, however*, that in the event that the special meeting is called for on a date that is less than ninety (90) days prior to the special meeting, notice by the stockholder in order to be timely must be so received not later than the close of business on the tenth (10th) day following the day on which the first public announcement of the date of the special meeting was made or the notice of the meeting was mailed, whichever first occurs. In no event shall the public announcement of an adjournment or postponement of an annual meeting or special meeting, as applicable, of stockholders commence a new time period (or extend any time period) for the giving of a stockholder's notice as described above. The stockholder's notice shall contain, at a minimum, the information set forth in paragraph (b) of this Section 3.

(3) Notwithstanding anything in the second sentence of paragraph (a)(2) of this Section 3 to the contrary, in the event that the number of directors to be elected to the Board of the Corporation at an annual meeting is increased and there is no public announcement by the Corporation naming all of the nominees for director or specifying the size of the increased Board at least one hundred (100) days prior to the first anniversary of the preceding year's annual meeting, a stockholder's notice required by this Section 3 shall also be considered timely, but only with respect to nominees for any new positions created by such increase, if it shall be delivered to the Secretary at the principal executive offices of the Corporation not later than the close of business on the tenth (10th) day following the day on which such public announcement is first made by the Corporation.

(b) Contents of Stockholder's Notice. Any proper stockholder's notice required by this Section 3 shall set forth:

(i) As to each stockholder providing the notice of the nomination proposed to be made at the meeting, beneficial owner or beneficial owners, if different, on whose behalf the notice of the nomination proposed to be made at the meeting is made, and any affiliate or associate of such stockholder or beneficial owner (each, a "Nominating Person"), the name, age, nationality, business address and residence address of such Nominating Person, (ii) the principal occupation and employment of such Nominating Person and (iii) the class or series and number of shares of capital stock of the Corporation which are owned beneficially or of record by such Nominating Person;

(ii) As to any Nominating Person, any Disclosable Interests (as defined in Section 2(c)(iii)), except that for purposes of this Section 3(b) the term “Nominating Person” shall be substituted for the term “Proposing Person” in all places it appears in Section 2(c)(iii) and the disclosure in clause (E) of Section 2(c)(iii) shall be made with respect to the election of directors at the meeting);

(iii) As to each person whom a Nominating Person proposes to nominate for election as a director, (A) all information with respect to such proposed nominee that would be required to be set forth in a stockholder’s notice pursuant to this Section 3(b) if such proposed nominee were a Nominating Person, (B) all information relating to such proposed nominee that is required to be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for election of directors in a contested election pursuant to Section 14(a) under the Exchange Act (including such proposed nominee’s written consent to being named in the proxy statement as a nominee and to serving as a director if elected), (C) a description of all direct and indirect compensation and other material monetary agreements, arrangements and understandings during the past three years, and any other material relationships, between or among any Nominating Person, on the one hand, and each proposed nominee, and his or her respective affiliates and associates, on the other hand, including, without limitation, all information that would be required to be disclosed pursuant to Item 404 under Regulation S-K if such Nominating Person were the “registrant” for purposes of such rule and the proposed nominee were a director or executive officer of such registrant, and (D) a completed and signed questionnaire, representation and agreement as provided in this Section 3(e); and

(iv) The Corporation may require any proposed nominee to furnish such other information (A) as may reasonably be required by the Corporation to determine the eligibility of such proposed nominee to serve as an independent director of the Corporation in accordance with the Corporation’s Principles of Corporate Governance or (B) that could be material to a reasonable stockholder’s understanding of the independence or lack of independence of such proposed nominee.

(c) A stockholder providing notice of any nomination proposed to be made at a meeting shall further update and supplement such notice, if necessary, so that the information provided or required to be provided in such notice pursuant to Section 3(b) shall be true and correct as of the record date for the meeting and as of the date that is ten (10) business days prior to the meeting or any adjournment or postponement thereof, and such update and supplement shall be delivered to, or mailed and received by, the Secretary at the principal executive offices of the Corporation not later than five (5) business days after the record date for the meeting (in the case of the update and supplement required to be made as of the record date), and not later than eight (8) business days prior to the date for the meeting, if practicable (or, if not practicable, on the first practicable date prior to), or any adjournment or postponement thereof (in the case of the update and supplement required to be made as of ten (10) business days prior to the meeting or any adjournment or postponement thereof).

(d) Notwithstanding anything in these Bylaws to the contrary, only such persons who are nominated in accordance with the procedures set forth in this Section 3 or in accordance with the procedures set forth in Article II, Section 14 shall be eligible to be elected at an annual or special meeting of stockholders of the Corporation to serve as directors. Except as otherwise provided by law, the chair of the meeting shall have the power and duty to determine (i) whether a nomination to be brought before an annual or special meeting was made in accordance with the procedures set forth in this Section 3 or Article II, Section 14, as applicable, and (ii) if any proposed nomination is not in compliance with such Section (including whether the stockholder or beneficial owner, if any, on whose behalf the nomination is made solicits (or is part of a group which solicits), or fails to so solicit (as the case may be), proxies in support of such stockholder’s nominee in compliance with such stockholder’s representation as required by paragraph (e) of this Section 3), to declare that such nomination shall be disregarded.

(e) To be eligible to be a nominee for election as a director of the Corporation pursuant to this Section 3, if so requested by the Corporation, the proposed nominee must deliver (in accordance with the time periods prescribed for delivery of notice under this Section 3) to the Secretary at the principal executive offices of the Corporation a written questionnaire with respect to the background and qualification of such proposed nominee (which questionnaire shall be provided by the Secretary upon written request) and a written representation and agreement (in the form provided by the Secretary upon written request) that such proposed nominee (1) is not and will not become a party to (A) any agreement, arrangement or understanding with, and has not given any

commitment or assurance to, any person or entity as to how such proposed nominee, if elected as a director of the Corporation, will act or vote on any issue or question (a "Voting Commitment") that has not been disclosed to the Corporation in writing or (B) any Voting Commitment that could limit or interfere with such proposed nominee's ability to comply, if elected as a director of the Corporation, with such proposed nominee's fiduciary duties under applicable law, (2) is not, and will not become a party to, any agreement, arrangement or understanding with any person or entity other than the Corporation with respect to any direct or indirect compensation, reimbursement or indemnification in connection with service or action as a director that has not been disclosed to the Corporation in writing and (3) in such proposed nominee's individual capacity and on behalf of the stockholder (or the beneficial owner, if different) on whose behalf the nomination is made, would be in compliance, if elected as a director of the Corporation, and will comply with applicable publicly disclosed corporate governance, conflict of interest, confidentiality and stock ownership and trading policies and guidelines of the Corporation.

(f) In addition to the requirements of this Section 3 with respect to any nomination proposed to be made at a meeting pursuant to this Section 3, each Nominating Person shall comply with all applicable requirements of the Exchange Act with respect to any such nominations.

Section 4. Special meetings of the stockholders, for any purpose or purposes, unless otherwise prescribed by statute or by the Certificate of Incorporation, may be called only by the Chairman of the Board or the Secretary of the Corporation at the request in writing of a majority of the Board.

Section 5. Whenever stockholders are required or permitted to take any action at a meeting, a written notice of the meeting shall be given that shall state the place, date and hour of the meeting and, in the case of a special meeting, the purpose or purposes for which the meeting is called. Unless otherwise provided by law, the Certificate of Incorporation or these Bylaws, the written notice of any meeting shall be given not less than ten (10) nor more than sixty (60) days before the date of the meeting to each stockholder entitled to vote at such meeting. If mailed, such notice shall be deemed to be given when deposited in the U.S. mail, postage prepaid, directed to the stockholder at the stockholder's address as it appears on the records of the Corporation.

Section 6. The officer who has charge of the stock ledger of the Corporation shall prepare and make, at least ten (10) days before every meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting, arranged in alphabetical order, and showing the address of each stockholder and the number of shares registered in the name of each stockholder. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting, for a period of at least ten (10) days prior to the meeting, either on a reasonably accessible electronic network, provided that the information required to gain access to such list is provided with the notice of the meeting, or during ordinary business hours, at the principal executive offices of the Corporation. The list shall also be produced and kept at the time and place of the meeting during the whole time thereof, and may be inspected by any stockholder who is present.

Section 7. Any meeting of stockholders, annual or special, may be adjourned solely by the chair of the meeting from time to time to reconvene at the same or some other time, date and place. The stockholders present at a meeting shall not have authority to adjourn the meeting. Notice need not be given of any such adjourned meeting if the time, date and place thereof are announced at the meeting at which the adjournment is taken. If the time, date and place of the adjourned meeting are not announced at the meeting at which the adjournment is taken, then the Secretary of the Corporation shall give written notice of the time, date and place of the adjourned meeting not less than ten (10) days prior to the date of the adjourned meeting. The provisions of Article II, Section 5 of these Bylaws shall govern the delivery of such notice.

At an adjourned meeting at which a quorum is present, the stockholders may transact any business which might have been transacted at the original meeting. Once a share is represented for any purpose at a meeting, it shall be present for quorum purposes for the remainder of the meeting and for any adjournment of that meeting unless a new record date is or must be set for the adjourned meeting. If the adjournment is for more than thirty (30) days, or if after the adjournment a new record date is fixed for the adjourned meeting, notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the adjourned meeting.

Section 8. The holders of a majority in voting power of the issued and outstanding shares of stock entitled to vote thereat, present in person or represented by proxy, shall constitute a quorum at all meetings of the stockholders

for the transaction of business except as otherwise provided by statute or by the Certificate of Incorporation. When a quorum is present at any meeting, the affirmative vote of the holders of a majority in voting power of the shares of stock of the Corporation having voting power present in person or represented by proxy and entitled to vote thereon shall decide any question brought before such meeting, unless the question is one upon which by express provision of applicable law, rule or regulation applicable to the Corporation or its securities or of the Certificate of Incorporation, a different vote is required in which case such express provision shall govern and control the decision of such question.

Section 9. Each stockholder shall at every meeting of the stockholders be entitled to one (1) vote in person or by proxy for each share of the capital stock having voting power held by such stockholder, but no proxy shall be voted on after three (3) years from its date, unless the proxy provides for a longer period.

Section 10. (a) Any action required or permitted to be taken at an annual or special meeting of stockholders may be taken without a meeting, without prior notice and without a vote, if a consent or consents sets forth, in writing, the action so taken (each such written consent and related revocation is referred to in this Section 10 as a "Consent") pursuant to the requirements of this Section 10. Every Consent shall bear the date of signature of each stockholder who signs the Consent, and no Consent shall be effective to take the corporate action referred to therein unless, within sixty (60) days of the earliest dated Consent delivered in the manner required by this Section 10, Consents signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or to take such action at a meeting at which all shares entitled to vote thereon were present and voted.

(b) A Consent shall be delivered to the Corporation to its registered office in the State of Delaware or to the Secretary of the Corporation at the Corporation's principal executive offices. Delivery to the Corporation's registered office shall be made by hand or by certified or registered mail, return receipt requested. In the event of the delivery to the Corporation of a Consent, the Secretary of the Corporation shall provide for the safe-keeping of such Consent and shall promptly conduct such ministerial review of the sufficiency of the Consents and of the validity of the action to be taken by stockholder consent as the Secretary deems necessary or appropriate, including, without limitation, whether the holders of a number of shares having the requisite voting power to authorize or take the action specified in the Consent have given consent; *provided, however*, that if the corporate action to which the Consent relates is the removal or replacement of one (1) or more members of the Board, the Secretary of the Corporation shall promptly designate two (2) persons, who shall not be members of the Board, to serve as inspectors with respect to such Consent and such Inspectors shall discharge the functions of the Secretary of the Corporation under this Section. If after such investigation the Secretary or the inspectors (as the case may be) shall determine that the Consent is valid and that the action therein specified has been validly authorized, that fact shall forthwith be certified on the records of the Corporation kept for the purpose of recording the proceedings of meetings of stockholders, and the Consent shall be filed in such records, at which time the Consent shall become effective as stockholder action. In conducting the investigation required by this Section 10, the Secretary or the inspectors (as the case may be) may, at the expense of the Corporation, retain special legal counsel and any other necessary or appropriate professional advisors, and such other personnel as they may deem necessary or appropriate to assist them, and shall be fully protected in relying in good faith upon the opinion of such counsel or advisors.

(c) No action by written consent without a meeting shall be effective until such date as the Secretary or the inspectors (as the case may be) certify to the Corporation that the Consents delivered to the Corporation in accordance with this Section 10 represent at least the minimum number of votes that would be necessary to take action.

(d) The record date for determining stockholders entitled to express consent to corporate action in writing without a meeting shall be as fixed by the Board or as otherwise established under this Section 10. Any person seeking to have the stockholders authorize or take corporate action by written consent without a meeting shall, by written notice addressed to the Secretary and delivered to the Corporation at the principal executive office of the Corporation and signed by a stockholder of record, request that a record date be fixed for such purpose. Following the receipt of the request in compliance with this Section 10, no later than ten (10) days after the date on which such request is received by the Corporation, the Board may fix a record date for such purpose which shall be no more than ten (10) days after the date upon which the resolution fixing the record date is adopted by the Board

and shall not precede the date such resolution is adopted. If the Board fails within ten (10) days after the date the Corporation receives such notice to fix a record date for such purpose, the record date shall be the day on which the first written consent is delivered to the Corporation in the manner described in this Section 10 unless prior action by the Board is required under the Delaware General Corporation Law, in which event the record date shall be at the close of business on the day on which the Board adopts the resolution taking such prior action.

(e) Notwithstanding anything in these Bylaws to the contrary, no action may be taken by the stockholders by written consent except in accordance with this Section 10. If the Board shall determine that any request to fix a record date or to take stockholder action by written consent was not properly made in accordance with this Section 10, or the stockholder or stockholders seeking to take such action do not otherwise comply with this Section 10, then the Board shall not be required to fix a record date and the Corporation shall be entitled to take such other actions in connection with any such purported action by written consent as permitted by applicable law. In addition to the requirements of this Section 10 with respect to stockholders seeking to take an action by written consent, any stockholder of record seeking to have the stockholders authorize or take any action by written consent shall comply with all requirements of applicable law, including all requirements of the Exchange Act, with respect to such action.

(f) Nothing contained in this Section 10 shall in any way be construed to suggest or imply that the Board or any stockholder shall not be entitled to contest the validity of any Consent or revocation thereof, whether before or after such certification by the Secretary or the inspectors, or to take any other action (including, without limitation, the commencement, prosecution, or defense of any litigation with respect thereto, and the seeking of injunctive relief in such litigation).

Section 11. Meetings of stockholders shall be presided over by the Chairman of the Board or by another chair designated by the Board. The date and time of the opening and the closing of the polls for each matter upon which the stockholders will vote at a meeting shall be determined by the chair of the meeting and announced at the meeting. The Board may adopt by resolution such rules and regulations for the conduct of the meeting of stockholders as it shall deem appropriate. Except to the extent inconsistent with such rules and regulations as adopted by the Board, the chair of any meeting of stockholders shall have the exclusive right and authority to prescribe such rules, regulations and procedures and to do all such acts as, in the judgment of such chair, are appropriate for the proper conduct of the meeting. Such rules, regulations or procedures, whether adopted by the Board or prescribed by the chair of the meeting, may include, without limitation, the following: (i) the establishment of an agenda or order of business for the meeting; (ii) rules and procedures for maintaining order at the meeting and the safety of those present; (iii) limitations on attendance at or participation in the meeting to stockholders of record of the Corporation, their duly authorized and constituted proxies or such other persons as the chair of the meeting shall determine; (iv) restrictions on entry to the meeting after the time fixed for the commencement thereof, and (v) limitations on the time allotted to questions or comments by participants. Unless and to the extent determined by the Board or the chair of the meeting, meetings of stockholders shall not be required to be held in accordance with the rules of parliamentary procedure.

Section 12. Any previously scheduled annual or special meeting of the stockholders may be postponed, and any previously scheduled annual or special meeting of the stockholders called by the Board may be canceled, by resolution of the Board upon public notice given prior to the time previously scheduled for such meeting of stockholders. The Board in its discretion may set a new record date for the postponed meeting.

Section 13. The Board may, and shall if required by law, in advance of any meeting of stockholders, appoint one or more inspectors of election, who may be employees of the Corporation, to act at the meeting or any adjournment thereof and to make a written report thereof. The Board may designate one or more persons as alternate inspectors to replace any inspector who fails to act. In the event that no inspector so appointed or designated is able to act at a meeting of stockholders, the person presiding at the meeting shall appoint one or more inspectors to act at the meeting. No person who is a candidate for an office at an election may serve as an inspector at such election.

Each inspector, before entering upon the discharge of his or her duties, shall take and sign an oath to execute faithfully the duties of inspector with strict impartiality and according to the best of his or her ability. The inspector or inspectors so appointed or designated shall (i) ascertain the number of shares of capital stock of the Corporation

outstanding and the voting power of each such share, (ii) determine the shares of capital stock of the Corporation represented at the meeting and the validity of proxies and ballots, (iii) count all votes and ballots, (iv) determine and retain for a reasonable period a record of the disposition of any challenges made to any determination by the inspectors, and (v) certify their determination of the number of shares of capital stock of the Corporation represented at the meeting and such inspector's count of all votes and ballots. Such certification and report shall specify such other information as may be required by law. In determining the validity and counting of proxies and ballots cast at any meeting of stockholders of the Corporation, the inspectors may consider such information as is permitted by applicable law. The results of any election at which inspectors are appointed shall not be deemed final and effective until the receipt and approval by the Board of the inspectors' certification and report.

Section 14. Proxy Access.

(a) Subject to the provisions of this Section 14, if any Eligible Stockholder (as defined below) or group of up to 20 Eligible Stockholders submits to the Corporation a Proxy Access Notice (as defined below) that complies with this Section 14 and such Eligible Stockholder or group of Eligible Stockholders otherwise satisfies all the terms and conditions of this Section 14 (such Eligible Stockholder or group of Eligible Stockholders, a "Nominating Stockholder"), the Corporation shall include in its proxy statement or on its form of proxy and ballot, as applicable (collectively, "proxy materials"), for any annual meeting of stockholders, in addition to any persons nominated for election by the Board or any committee thereof:

- (i) the name of any person or persons nominated by such Nominating Stockholder for election to the Board at such annual meeting of stockholders who meets the requirements of this Section 14 (a "Nominee");
- (ii) disclosure about the Nominee and the Nominating Stockholder required under the rules of the Commission or other applicable law to be included in the proxy materials;
- (iii) subject to the other applicable provisions of this Section 14, a written statement, not to exceed 500 words, that is not contrary to any of the Commission's proxy rules, including Rule 14a-9 under the Exchange Act (a "Supporting Statement"), included by the Nominating Stockholder in the Proxy Access Notice intended for inclusion in the proxy materials in support of the Nominee's election to the Board; and
- (iv) any other information that the Corporation or the Board determines, in its discretion, to include in the proxy materials relating to the nomination of the Nominee, including, without limitation, any statement in opposition to the nomination and any of the information provided pursuant to this Section 14.

(b) Maximum Number of Nominees.

(i) The Corporation shall not be required to include in the proxy materials for an annual meeting of stockholders more Nominees than that number of directors constituting 20% of the total number of directors of the Corporation on the last day on which a Proxy Access Notice may be submitted pursuant to this Section 14 (rounded down to the nearest whole number) (the "Maximum Number"). The Maximum Number for a particular annual meeting shall be reduced by: (A) the number of Nominees who are subsequently withdrawn or that the Board itself decides to nominate for election at such annual meeting of stockholders (including, without limitation, any person who is or will be nominated by the Board pursuant to any agreement or understanding with one or more stockholders to avoid such person being formally proposed as a Nominee), and (B) the number of incumbent directors who had been Nominees with respect to any of the preceding two annual meetings of stockholders and whose reelection at the upcoming annual meeting of stockholders is being recommended by the Board (including, without limitation, any person who was nominated by the Board pursuant to any agreement or understanding with one or more stockholders to avoid such person being formally proposed as a Nominee). In the

event that one or more vacancies for any reason occurs on the Board after the deadline set forth in Section 14(d) but before the date of the annual meeting of stockholders, and the Board resolves to reduce the size of the Board in connection therewith, the Maximum Number shall be calculated based on the number of directors as so reduced.

(ii) Any Nominating Stockholder submitting more than one Nominee for inclusion in the Corporation's proxy materials shall rank such Nominees based on the order that the Nominating Stockholder desires such Nominees to be selected for inclusion in the Corporation's proxy materials in the event that the total number of Nominees submitted by Nominating Stockholders exceeds the Maximum Number. In the event that the number of Nominees submitted by Nominating Stockholders exceeds the Maximum Number, the highest ranking Nominee from each Nominating Stockholder will be included in the Corporation's proxy materials until the Maximum Number is reached, going in order from largest to smallest of the number of shares of the capital stock of the Corporation owned by each Nominating Stockholder as disclosed in each Nominating Stockholder's Proxy Access Notice. If the Maximum Number is not reached after the highest ranking Nominee of each Nominating Stockholder has been selected, this process will be repeated as many times as necessary until the Maximum Number is reached. If, after the deadline for submitting a Proxy Access Notice as set forth in Section 14(d), a Nominating Stockholder ceases to satisfy the requirements of this Section 14 or withdraws its nomination or a Nominee ceases to satisfy the requirements of this Section 14 or becomes unwilling or unable to serve on the Board, whether before or after the mailing of definitive proxy materials, then the nomination shall be disregarded, and the Corporation: (A) shall not be required to include in its proxy materials the disregarded Nominee and (B) may otherwise communicate to its stockholders, including without limitation by amending or supplementing its proxy materials, that the Nominee will not be included as a Nominee in the proxy materials and the election of such Nominee will not be voted on at the annual meeting of stockholders.

(c) Eligibility of Nominating Stockholder.

(i) As used herein, an "Eligible Stockholder" is a person who has either (A) been a record holder of the shares of capital stock of the Corporation used to satisfy the eligibility requirements in this Section 14(c) continuously for the three-year period specified in Subsection (ii) below or (B) provides to the Secretary of the Corporation, within the time period referred to in Section 14(d), evidence of continuous ownership of such shares for such three-year period from one or more securities intermediaries in a form that satisfies the requirements as established by the Commission for a stockholder proposal under Rule 14a-8, or any successor rule or regulation, under the Exchange Act.

(ii) An Eligible Stockholder or group of up to 20 Eligible Stockholders may submit a nomination in accordance with this Section 14 only if the person or each member of the group, as applicable, has continuously owned at least the Minimum Number (as defined below) of shares of capital stock of the Corporation throughout the three-year period preceding and including the date of submission of the Proxy Access Notice, and continues to own at least the Minimum Number through the date of the annual meeting of stockholders. Two or more funds that are (A) under common management and investment control, (B) under common management and funded primarily by a single employer or (C) a "group of investment companies," as such term is defined in Section 12(d)(1)(G)(ii) of the Investment Company Act of 1940, as amended, (two or more funds referred to under any of clause (A), (B) or (C), collectively a "Qualifying Fund") shall be treated as one Eligible Stockholder. For the avoidance of doubt, in the event of a nomination by a group of Eligible Stockholders, any and all requirements and obligations for an individual Eligible Stockholder that are set forth in this Section 14, including the minimum holding period, shall apply to each member of such group; provided, however, that the Minimum Number shall apply to the ownership of the group in the aggregate. Should any stockholder withdraw from a group of Eligible Stockholders at any time prior to the annual meeting of stockholders, the group of Eligible Stockholders shall only be deemed to own the shares held by the remaining members of the group.

(iii) The "Minimum Number" of shares of capital stock of the Corporation means three percent (3%) of the number of shares of capital stock of the Corporation outstanding as of the most recent date for

which such amount is given in any filing by the Corporation with the Commission prior to the submission of the Proxy Access Notice.

(iv) For purposes of this Section 14, an Eligible Stockholder “owns” only those shares of capital stock of the Corporation as to which the Eligible Stockholder possesses both: (A) the full voting and investment rights pertaining to the shares; and (B) the full economic interest in (including the opportunity for profit and risk of loss on) such shares; provided, that the number of shares calculated in accordance with clauses (A) and (B) shall not include any shares: (1) sold by such Eligible Stockholder or any of its affiliates in any transaction that has not been settled or closed, (2) borrowed by such Eligible Stockholder or any of its affiliates for any purpose or purchased by such Eligible Stockholder or any of its affiliates pursuant to an agreement to resell, or (3) subject to any option, warrant, forward contract, swap, contract of sale, other derivative or similar agreement entered into by such Eligible Stockholder or any of its affiliates, whether any such instrument or agreement is to be settled with shares, cash or other property based on the notional amount or value of outstanding shares of the Corporation, in any such case which instrument or agreement has, or is intended to have, the purpose or effect of: (w) reducing in any manner, to any extent or at any time in the future, such Eligible Stockholder’s or any of its affiliates’ full right to vote or direct the voting of any such shares, and/or (x) hedging, offsetting, or altering to any degree, gain or loss arising from the full economic ownership of such shares by such Eligible Stockholder or any of its affiliates. An Eligible Stockholder “owns” shares held in the name of a nominee or other intermediary so long as the Eligible Stockholder retains the right to instruct how the shares are voted with respect to the election of directors and possesses the full economic interest in the shares. An Eligible Stockholder’s ownership of shares shall be deemed to continue during any period in which the Eligible Stockholder has delegated any voting power by means of a proxy, power of attorney, or other similar instrument or arrangement that is revocable at any time by the Eligible Stockholder. An Eligible Stockholder’s ownership of shares shall be deemed to continue during any period in which the Eligible Stockholder has loaned such shares; provided that the Eligible Stockholder has the power to recall such loaned shares on no more than three business days’ notice and includes in the Proxy Access Notice an agreement that it will (y) promptly recall such loaned shares upon being notified that any of its Nominees will be included in the Corporation’s proxy materials pursuant to this Section 14 and (z) continue to hold such recalled shares (including the right to vote such shares) through the date of the annual meeting of stockholders. The terms “owned,” “owning” and other variations of the word “own” shall have correlative meanings. Each Nominating Stockholder shall furnish any other information that may reasonably be required by the Board to verify such stockholder’s continuous ownership of at least the Minimum Number during the three-year period referred to above.

(v) No person may be in more than one group constituting a Nominating Stockholder, and if any person appears as a member of more than one group, it shall be deemed to be a member of the group that owns the greatest aggregate number of shares of capital stock of the Corporation as reflected in the Proxy Access Notice, and no shares may be attributed as owned by more than one person constituting a Nominating Stockholder under this Section 14.

(d) To nominate a Nominee, the Nominating Stockholder must, not later than the close of business on the one hundred twentieth (120th) day nor earlier than the close of business on the one hundred fiftieth (150th) day prior to the first anniversary of the date of the Corporation’s proxy materials released to stockholders in connection with the preceding year’s annual meeting of stockholders, submit to the Secretary of the Corporation at the principal executive offices of the Corporation all of the following information and documents (collectively, the “Proxy Access Notice”):

(i) A Schedule 14N (or any successor form) relating to the Nominee, completed and filed with the Commission by the Nominating Stockholder as applicable, in accordance with the Commission’s rules;

(ii) A written notice of the nomination of such Nominee that includes the following additional information, agreements, representations and warranties by the Nominating Stockholder (including each group member):

(A) the information, representations and agreements required with respect to the nomination of directors pursuant to Sections 2(c) and 3(b) of Article II of these Bylaws;

- (B) the details of any relationship that existed within the past three years and that would have been described pursuant to Item 6(e) of Schedule 14N (or any successor item) if it existed on the date of submission of the Schedule 14N;
 - (C) a representation and warranty that the Nominating Stockholder did not acquire, and is not holding, securities of the Corporation for the purpose or with the effect of influencing or changing control of the Corporation;
 - (D) a representation and warranty that the Nominee's candidacy or, if elected, Board membership, would not violate the Certificate of Incorporation, these Bylaws, or any applicable state or federal law or the rules of any stock exchange on which the capital stock of the Corporation is traded;
 - (E) a representation and warranty that the Nominee:
 - (1) does not have any direct or indirect material relationship with the Corporation and otherwise would qualify as an "independent director" under the rules of the primary stock exchange on which the capital stock of the Corporation is traded and any applicable rules of the Commission;
 - (2) would meet the audit committee independence requirements under the rules of the Commission and of the principal stock exchange on which the capital stock of the Corporation is traded;
 - (3) would qualify as a "non-employee director" for the purposes of Rule 16b-3 under the Exchange Act (or any successor rule);
 - (4) would qualify as an "outside director" for the purposes of Section 162(m) of the Internal Revenue Code of 1986, as amended (or any successor provision);
 - (5) is not and has not been, within the past three years, an officer, director, affiliate or representative of a competitor, as defined under Section 8 of the Clayton Antitrust Act of 1914, as amended, and if the Nominee has held any such position during this period, details thereof; and
 - (6) is not and has not been subject to any event specified in Rule 506(d)(1) of Regulation D (or any successor rule) under the Securities Act of 1933, as amended, or Item 401(f) of Regulation S-K (or any successor rule) under the Exchange Act, without reference to whether the event is material to an evaluation of the ability or integrity of the Nominee;
 - (F) a representation and warranty that the Nominating Stockholder satisfies the eligibility requirements set forth in Section 14(c), has provided evidence of ownership to the extent required by Section 14(c)(i), and such evidence of ownership is true, complete and correct in all respects;
 - (G) a representation and warranty that the Nominating Stockholder intends to continue to satisfy the eligibility requirements described in Section 14(c) through the date of the annual meeting of stockholders;
 - (H) a statement as to whether or not the Nominating Stockholder intends to continue to hold the Minimum Number of shares for at least one year following the annual meeting of stockholders;
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- (I) a representation and warranty that the Nominating Stockholder will not engage in or support, directly or indirectly, a “solicitation” within the meaning of Rule 14a-1(l) (without reference to the exception in Section 14a-1(l)(2)(iv)) (or any successor rules) with respect to the annual meeting of stockholders, other than a solicitation in support of the Nominee or any nominee of the Board;
- (J) a representation and warranty that the Nominating Stockholder will not use any proxy card other than the Corporation’s proxy card in soliciting stockholders in connection with the election of a Nominee at the annual meeting of stockholders;
- (K) if desired by the Nominating Stockholder, a Supporting Statement;
- (L) in the case of a nomination by a group, the designation by all group members of one group member that is authorized to act on behalf of all group members with respect to matters relating to the nomination, including withdrawal of the nomination;
- (M) in the case of any Eligible Stockholder that is a Qualifying Fund consisting of two or more funds, documentation demonstrating that the funds are eligible to be treated as a Qualifying Fund and that each such fund comprising the Qualifying Fund otherwise meets the requirements set forth in this Section 14; and
- (N) a representation and warranty that the Nominating Stockholder has not nominated and will not nominate for election any individual as director at the annual meeting of stockholders other than its Nominee(s).
- (iii) An executed agreement pursuant to which the Nominating Stockholder (including each group member) agrees:
 - (A) to comply with all applicable laws, rules and regulations in connection with the nomination, solicitation and election;
 - (B) to file with the Commission any solicitation or other communication with the Corporation’s stockholders relating to any Nominee or one or more of the Corporation’s directors or director nominees, regardless of whether any such filing is required under any law, rule or regulation or whether any exemption from filing is available for such materials under any law, rule or regulation;
 - (C) to assume all liability stemming from an action, suit or proceeding concerning any actual or alleged legal or regulatory violation arising out of any communication by the Nominating Stockholder with the Corporation, its stockholders or any other person in connection with the nomination or election of directors, including, without limitation, the Proxy Access Notice;
 - (D) to indemnify and hold harmless (jointly and severally with all other group members, in the case of a group member) the Corporation and each of its directors, officers and employees individually against any liability, loss, damages, expenses, demands, claims or other costs (including reasonable attorneys’ fees and disbursements of counsel) incurred in connection with any threatened or pending action, suit or proceeding, whether legal, administrative or investigative, against the Corporation or any of its directors, officers or employees arising out of any nomination submitted by the Nominating Stockholder (including, without limitation, relating to any breach or alleged breach of its obligations, agreements, representations or warranties) pursuant to this Section 14;
 - (E) in the event that (i) any information included in the Proxy Access Notice, or any other communication by the Nominating Stockholder (including with respect to any group

member) with the Corporation, its stockholders or any other person in connection with the nomination or election of directors ceases to be true and accurate in all material respects (or omits a material fact necessary to make the statements made not misleading), or (ii) the Nominating Stockholder (including any group member) fails to continue to satisfy the eligibility requirements described in Section 14(c), the Nominating Stockholder shall promptly (and in any event within forty-eight (48) hours of discovering such misstatement, omission or failure) (x) in the case of clause (i) above, notify the Corporation and any other recipient of such communication of the misstatement or omission in such previously provided information and of the information that is required to correct the misstatement or omission, and (y) in the case of clause (ii) above, notify the Corporation why, and in what regard, the Nominating Stockholder fails to comply with the eligibility requirements described in Section 14(c) (it being understood that providing any such notification referenced in clauses (x) and (y) above shall not be deemed to cure any defect or limit the Corporation's rights to omit a Nominee from its proxy materials as provided in this Section 14); and

(iv) An executed agreement by the Nominee:

- (A) to provide to the Corporation a completed copy of the Corporation's director questionnaire and such other information as the Corporation may reasonably request;
- (B) that the Nominee (i) consents to be named in the proxy materials as a nominee and, if elected, to serve on the Board and (ii) has read and agrees to adhere to the Principles of Corporate Governance and any other Corporation policies and guidelines applicable to directors generally; and
- (C) that the Nominee is not and will not become a party to (1) any agreement, arrangement or understanding with any person or entity other than the Corporation with respect to any direct or indirect compensation, reimbursement or indemnification in connection with service or action as a director of the Corporation that has not been disclosed to the Corporation in writing, (2) any Voting Commitment that has not been disclosed to the Corporation in writing, or (3) any Voting Commitment that could limit or interfere with the Nominee's ability to comply, if elected as a director of the Corporation, with its fiduciary duties under applicable law or with the Corporation's Principles of Corporate Governance and any other Corporation policies and guidelines applicable to directors generally.

The information and documents required by this Section 14(d) shall be: (x) provided with respect to and executed by each group member, in the case of information applicable to group members; and (y) provided with respect to the persons specified in Instruction 1 to Items 6(c) and (d) of Schedule 14N (or any successor item) if and to the extent applicable to a Nominating Stockholder or group member. The Proxy Access Notice shall be deemed submitted on the date on which all the information and documents referred to in this Section 14(d) (other than such information and documents contemplated to be provided after the date the Proxy Access Notice is provided) have been delivered to or, if sent by mail, received by the Secretary of the Corporation. For the avoidance of doubt, in no event shall any adjournment or postponement of an annual meeting of stockholders or the public announcement thereof commence a new time period for the giving of a Proxy Access Notice pursuant to this Section 14.

(e) Exceptions and Clarifications.

(i) Notwithstanding anything to the contrary contained in this Section 14, (x) the Corporation may omit from its proxy materials any Nominee and any information concerning such Nominee (including a Nominating Stockholder's Supporting Statement), (y) any nomination shall be disregarded, and (z) no vote on such Nominee will occur (notwithstanding that proxies in respect of such vote may have been received by the Corporation), and the

Nominating Stockholder may not, after the last day on which a Proxy Access Notice would be timely, cure in any way any defect preventing the nomination of the Nominee, if:

- (A) the Corporation receives a notice pursuant to Article II, Section 3 of these Bylaws that a stockholder intends to nominate a candidate for director at the annual meeting of stockholders;
- (B) the Nominating Stockholder or the designated lead group member, as applicable, or any qualified representative thereof, does not appear at the annual meeting of stockholders to present the nomination submitted pursuant to this Section 14 or the Nominating Stockholder withdraws its nomination prior to the annual meeting of stockholders;
- (C) the Board determines that such Nominee's nomination or election to the Board would result in the Corporation violating or failing to be in compliance with the Certificate of Incorporation, these Bylaws or any applicable law, rule or regulation to which the Corporation is subject, including any rules or regulations of any stock exchange on which the capital stock of the Corporation is traded;
- (D) the Nominee was nominated for election to the Board pursuant to this Section 14 at one of the Corporation's two preceding annual meetings of stockholders and (i) its nomination was withdrawn, (ii) such Nominee became ineligible to serve as a Nominee or as a director or (iii) such Nominee received a vote of less than 25% of the shares entitled to vote for such Nominee; or
- (E) (i) the Nominating Stockholder fails to continue to satisfy the eligibility requirements described in Section 14(c), (ii) any of the representations and warranties made in the Proxy Access Notice cease to be true, complete and correct in all material respects (or omits to state a material fact necessary to make the statements made therein not misleading), (iii) the Nominee becomes unwilling or unable to serve on the Board or (iv) the Nominating Stockholder or the Nominee materially violates or breaches any of its agreements, representations or warranties in this Section 14;

(ii) Notwithstanding anything to the contrary contained in this Section 14, the Corporation may omit from its proxy materials, or may supplement or correct, any information, including all or any portion of the Supporting Statement included in the Proxy Access Notice, if: (A) such information is not true and correct in all material respects or omits a material statement necessary to make the statements therein not misleading; (B) such information directly or indirectly impugns the character, integrity or personal reputation of, or, without factual foundation, directly or indirectly makes charges concerning improper, illegal or immoral conduct or associations with respect to, any person; or (C) the inclusion of such information in the proxy materials would otherwise violate the Commission's proxy rules or any other applicable law, rule or regulation. Once submitted with a Proxy Access Notice, a Supporting Statement may not be amended, supplemented or modified by the Nominee or Nominating Stockholder.

(iii) For the avoidance of doubt, the Corporation may solicit against, and include in the proxy materials its own statement relating to, any Nominee.

(iv) This Section 14 provides the exclusive method for a stockholder to include nominees for election to the Board in the Corporation's proxy materials (including, without limitation, any proxy card or written ballot).

(v) The interpretation of, and compliance with, any provision of this Section 14, including the representations, warranties and covenants contained herein, shall be determined by the Board or, in the discretion of the Board, one or more of its designees, in each case acting in good faith.

ARTICLE III
DIRECTORS

Section 1. The number of directors which shall constitute the whole board shall be not less than three (3) nor more than twelve (12). Within the limits above specified, the number of directors shall be determined by resolution of the Board or by the stockholders at the annual meeting. Except as provided in Section 2 of this Article III, the directors shall be elected at the annual meeting of the stockholders in the manner provided in paragraphs (a) through (c) of this Section 1. Directors need not be stockholders.

(a) Each director to be elected by the stockholders of the Corporation shall be elected by the affirmative vote of a majority of the votes cast with respect to such director by the shares represented and entitled to vote therefor at a meeting of the stockholders for the election of directors at which a quorum is present (an "Election Meeting"); *provided, however*, that if the Board determines that the number of nominees exceeds the number of directors to be elected at such meeting (a "Contested Election"), and the Board has not rescinded such determination by the date that is twenty (20) days prior to the date of the Election Meeting as initially announced, each of the directors to be elected at the Election Meeting shall be elected by the affirmative vote of a plurality of the votes cast by the shares represented and entitled to vote at such meeting with respect to the election of such director. For purposes of this Section 1, a "majority of the votes cast" means that the number of votes cast "for" a candidate for director exceeds the number of votes cast "against" that director. In an election other than a Contested Election, stockholders will be given the choice to cast votes "for" or "against" the election of directors or to "abstain" from such vote and shall not have the ability to cast any other vote with respect to such election of directors. In a Contested Election, stockholders will be given the choice to cast "for" or "withhold" votes for the election of directors and shall not have the ability to cast any other vote with respect to such election of directors.

(b) In the event one or more incumbent directors fails to receive the affirmative vote of a majority of the votes cast at an Election Meeting at which there was no Contested Election (each, a "Subject Director"), either (i) the Nominating and Corporate Governance Committee or (ii) if one or more of the members of the Nominating and Corporate Governance Committee is a Subject Director or the Board determines that any decision to be made with respect to a Subject Director should be made by a committee other than the Nominating and Corporate Governance Committee, a committee consisting solely of independent directors (as determined in accordance with applicable stock exchange rules and listing requirements and any additional criteria set forth in the Corporation's Nominating and Corporate Governance Committee Charter) who are not Subject Directors or (iii) if all independent directors are Subject Directors, the entire board (the committee or board described in clause (i), (ii) or (iii) of this sentence, the "Committee") will make a determination as to whether to accept or reject any previously tendered Resignations (as defined below), or whether other action should be taken (including whether to request that a Subject Director resign from the Board if no Resignation had been tendered prior to the relevant Election Meeting). The Committee will act with respect to any Subject Directors within ninety (90) days from the date of the certification of the election results and shall notify the Subject Directors of its decision. The Committee may consider all factors it considers relevant, including any stated reasons for "against" votes, whether the underlying cause or causes of the "against" votes are curable, the factors, if any, set forth in the Corporation's Nominating and Corporate Governance Committee Charter or other policies that are to be considered by the Nominating and Corporate Governance Committee in evaluating potential candidates for the Board as such criteria relate to each Subject Director, the length of service of each Subject Director and each Subject Director's contributions to the Corporation. Subject Directors shall not participate in the deliberation or decision(s) of the Committee. The Corporation shall publicly disclose the decision(s) of the Committee in a filing with the Securities and Exchange Commission of a Current Report on Form 8-K. Notwithstanding the foregoing, if the result of accepting all tendered Resignations then pending and requesting resignations from incumbent directors who did not submit a Resignation prior to the relevant Election Meeting, would be that the corporation would have fewer than three directors who were in office before the election of directors, the Committee may determine to extend such ninety (90-) day period by an additional ninety (90) days if it determines that such an extension is in the best interests of the Corporation and its stockholders. For purposes of this Section 1, a "Resignation"

is an irrevocable resignation submitted by an incumbent director nominated for re-election prior to the relevant Election Meeting that will become effective upon the occurrence of both (i) the failure to receive the affirmative vote of a majority of the votes cast at an Election Meeting at which there was no Contested Election and (ii) acceptance of such resignation by the Committee.

(c) If a Subject Director's tendered Resignation is not accepted by the Committee or such Subject Director does not otherwise submit his or her resignation to the Board, such director shall continue to serve until his or her successor is duly elected, or his or her earlier resignation or removal. If a Subject Director's resignation is accepted by the Committee pursuant to this Section 1, or if a nominee for director is not elected and the nominee is not an incumbent director, then the Board, in its sole discretion, may fill any resulting vacancy or decrease the size of the Board pursuant to the provisions of Article III, Section 2 of these Bylaws.

Section 2. Vacancies and newly created directorships resulting from any increase in the authorized number of directors may be filled by a majority of the directors then in office, though less than a quorum, or by a sole remaining director, and the directors so chosen shall hold office until the next annual election and until their successors are duly elected and shall qualify, unless sooner displaced. If there are no directors in office, then an election of directors may be held in the manner provided by statute. If, at the time of filling any vacancy or any newly created directorship, the directors then in office shall constitute less than a majority of the whole board (as constituted immediately prior to any such increase), the Court of Chancery may, upon application of any stockholder or stockholders holding at least ten percent (10%) of the total number of the shares at the time outstanding having the right to vote for such directors, summarily order an election to be held to fill any such vacancies or newly created directorships, or to replace the directors chosen by the directors then in office.

Section 3. The business of the Corporation shall be managed by or under the direction of its Board which may exercise all such powers of the Corporation and do all such lawful acts and things as are not by statute or by the Certificate of Incorporation or by these Bylaws directed or required to be exercised or done by the stockholders.

Section 4. The provisions of Sections 1 and 2 of this Article III are subject to the rights, if any, of the holders of shares of any series of the Preferred Stock of the Corporation with respect to the election of directors in the event the Corporation defaults in the payment of dividends, the term of office of any director so elected and the filling of a vacancy in the office of any director so elected.

MEETINGS OF THE BOARD OF DIRECTORS

Section 5. The Board may hold meetings, both regular and special, either within or without the State of Delaware.

Section 6. The first meeting of each newly elected Board shall be held at such time and place as the Board shall determine.

Section 7. Regular meetings of the Board may be held without notice at such time and at such place as shall from time to time be determined by the Board.

Section 8. Special meetings of the Board may be called by the Chairman, the President, or the Secretary. A special meeting of the Board shall be called by the President or the Secretary upon the written request of at least two directors. Notice of a special meeting of the Board shall be given in writing, by telephone, telegraph, facsimile or e-mail, or in person, as the person or persons calling such meeting may deem necessary or appropriate in the circumstances. Notice shall be deemed valid if deposited in the United States mail, postage prepaid, directed to the director at the director's address as it appears in the records of the Corporation, not less than forty-eight (48) hours before the date of the meeting, or if sent by telephone, telegram, facsimile or e-mail not less than twenty-four (24) hours before the date of the meeting to the director in accordance with the information for such communications as it appears in the records of the Corporation.

Section 9. At all meetings of the Board, the Directors entitled to cast a majority of the votes of the whole Board shall constitute a quorum for the transaction of business and the act of a majority of the votes entitled to be

cast by the Directors present at any meeting at which there is a quorum shall be the act of the Board, except as may be otherwise specifically provided by statute or by the Certificate of Incorporation. If a quorum shall not be present at any meeting of the Board, the Directors present thereat may adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum shall be present.

Section 10. Members of the Board, or any committee designated by the Board, may participate in a meeting thereof by means of a conference telephone or other communications equipment by means of which all persons participating in the meeting can hear each other, and participation in a meeting pursuant to this Section 10 shall constitute presence in person at such meeting.

Section 11. Unless otherwise restricted by the Certificate of Incorporation or these Bylaws, any action required or permitted to be taken at any meeting of the Board or of any committee thereof may be taken without a meeting, if all members of the board or committee, as the case may be, consent thereto in writing or by electronic transmission and the writing or writings or electronic transmissions are filed with the minutes of proceedings of the board or committee.

COMMITTEES OF DIRECTORS

Section 12. The Board may, in the manner provided by law, designate one or more committees of the Board. Any such committee, to the extent provided in the enabling resolution and permitted by applicable law, shall have and may exercise the powers of the Board in the management of the business and affairs of the Corporation, and may authorize the seal of the Corporation to be affixed to all papers which may require it; provided that in the absence or disqualification of any member of such committee or committees, the member or members thereof present at any meeting and not disqualified from voting, whether or not the member or members constitute a quorum, may unanimously appoint another member of the Board to act at the meeting in the place of any such absent or disqualified member. Such committee or committees shall have such name or names as they may be determined from time to time by resolution adopted by the Board.

Section 13. Meetings of a committee of the Board may be called by any member of the committee upon notice thereof given to each member either by mail not less than forty-eight (48) hours before the date of the meeting, by electronic transmission, telephone or telegram on twenty-four (24) hours' notice, or on such shorter notice as the person or persons calling such meeting may deem necessary or appropriate in the circumstances. Except as may be otherwise specifically provided by the Board, at all committee meetings a majority of the members of the committee shall constitute a quorum for the transaction of business and the act of a majority of the members voting at any meeting at which there is a quorum shall be the act of the committee; if a quorum shall not be present at any committee meeting the members present thereat may adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum shall be present. Each committee shall keep regular minutes of its meetings and report the same to the Board when required.

COMPENSATION OF DIRECTORS

Section 14. The directors may be paid their expenses, if any, of attendance at each meeting of the Board and may be paid a fixed sum for attendance at each meeting of the Board or a stated salary as director. No such payment shall preclude any director from serving the Corporation in any other capacity and receiving compensation thereof. Members of special or standing committees may be allowed like compensation for attending committee meetings.

ARTICLE IV NOTICES

Section 1. Whenever, under the provisions of the statutes or of the Certificate of Incorporation or of these Bylaws, notice is required to be given to any director or stockholder, it shall not be construed to mean personal notice, but such notice may be given in writing, by mail, addressed to such director or stockholder, at his or her address as it appears on the records of the Corporation, with postage thereon prepaid, and such notice shall be deemed to be given at the time when the same shall be deposited in the U.S. mail. Notice to directors may also be given by telephone, telegram or other means of electronic transmission.

Section 2. Whenever any notice is required to be given under the provisions of the statutes of the Certificate of Incorporation or of these Bylaws, a waiver thereof in writing, signed by the person or persons entitled to said notice, whether before or after the time stated therein, shall be deemed equivalent thereto.

ARTICLE V OFFICERS

Section 1. The officers of the Corporation shall be chosen by the Board and shall be a Chief Executive Officer, one or more Presidents, a Vice President, a Secretary and a Treasurer. The Board may also choose additional Vice Presidents, and one or more Assistant Secretaries and Assistant Treasurers. Any number of offices may be held by the same person, unless the Certificate of Incorporation or these bylaws otherwise provide.

Section 2. The Board at its first meeting after each annual meeting of stockholders shall choose a Chairman of the Board, one or more Presidents, one or more Vice Presidents, a Secretary and a Treasurer.

Section 3. The Board may appoint, or may empower the Chief Executive Officer to appoint, such other officers and agents as the Board or, if applicable, the Chief Executive Officer shall deem necessary who shall hold their offices for such terms and shall exercise such powers and perform such duties as shall be determined from time to time by the Board or the Chief Executive Officer. The Chief Executive Officer shall also have the authority to appoint, in his or her discretion, one or more Vice Presidents who are designated as Group Presidents, with such powers and duties as determined from time to time by the Chief Executive Officer.

Section 4. The salaries of all officers and agents of the Corporation shall be fixed by the Board, by the Chief Executive Officer (other than respect to his or her own salary), or by any other officer under authority granted by the Board.

Section 5. The officers of the Corporation shall hold office until their successors are chosen and qualify subject to their earlier resignation or removal. The Board may remove any officer or agent at any time, with or without cause, by the affirmative vote of a majority of the Board. An officer of the Corporation, if appointed by the Chief Executive Officer, may also be removed by Chief Executive Officer. Any vacancy occurring in any office of the Corporation shall be filled in the manner prescribed in these bylaws for regular appointments to that office.

THE CHAIRMAN OF THE BOARD

Section 6. The Chairman of the Board shall preside at meetings of the stockholders and directors, lead the board in fulfilling its responsibilities to oversee the performance of the Corporation and perform such other duties as the Board shall prescribe. The Chairman of the Board may be, upon the decision of the Board, an executive officer of the Corporation and receive such compensation as the Board shall determine.

THE CHIEF EXECUTIVE OFFICER

Section 7. The Chief Executive Officer of the Corporation shall have the executive responsibility for the general and active management of the business of the Corporation. If there is no Chairman of the Board or during the absence or disability of the Chairman of the Board, the Chief Executive Officer (if also a director) shall exercise all of the powers and discharge all of the duties of the Chairman of the Board. The Chief Executive Officer shall possess power to sign all certificates, contracts and other instruments of the Corporation. The Chief Executive Officer shall, in the absence of the Chairman of the Board, preside at all meetings of the stockholders and, if also a director, the Board. The Chief Executive Officer shall perform all other such duties as the Board shall prescribe.

THE PRESIDENTS

Section 8. Each President of the Corporation shall possess power to sign all certificates, contracts and other instruments of the Corporation, except as otherwise limited by the Board or the Chief Executive Officer of the Corporation. Unless otherwise provided by the Board, a President as designated by the Board may, in the absence of the Chief Executive Officer, perform duties and exercise the powers of the Chief Executive Officer. Each President shall perform all such other duties as are incident to the President's office or are properly required of the President and shall also perform such other duties and have such other powers as the Board or the Chief Executive Officer shall designate from time to time.

THE VICE PRESIDENTS

Section 9. Unless otherwise provided by the Board, a Vice President as designated by the Board may, in the absence of the Chairman of the Board, the Chief Executive Officer and President, perform the duties and exercise the powers of the President. Each Vice President shall at all times possess power to sign all certificates, contracts and other instruments of the Corporation, except as otherwise limited in writing by the Board, Chief Executive Officer or the President of the Corporation, and shall have such other authority and perform such other duties as these bylaws or the Board, executive committee, Chairman of the Board, Chief Executive Officer, or President shall prescribe.

THE SECRETARY AND ASSISTANT SECRETARIES

Section 10. The Secretary shall attend all meetings of the Board and all meetings of the stockholders and record all the proceedings of the meetings of the Corporation and of the Board in a book to be kept for that purpose and shall perform like duties for the standing committees when required. The Secretary shall give, or cause to be given, notice of all meetings of the stockholders and special meetings of the Board, and shall perform such other duties as may be prescribed by the Board or the officer of the Corporation under whose supervision the Secretary shall be. The Secretary shall have custody of the corporate seal of the Corporation and shall, or an Assistant Secretary shall, have authority to affix the same to any instrument requiring it and when so affixed, it may be attested by the signature of the Secretary or by the signature of such Assistant Secretary. The Board may give general authority to any other officer to affix the seal of the Corporation and to attest the affixing by his or her signature.

Section 11. The Assistant Secretary, or if there be more than one, the Assistant Secretaries in the order determined by the Board (or if there be no such determination, then in the order of their election), shall, in the absence of the Secretary or in the event of the Secretary's inability or refusal to act, perform the duties and exercise the powers of the Secretary and shall perform such other duties and have such other powers as the Board may from time to time prescribe.

THE TREASURER AND ASSISTANT TREASURER

Section 12. The Treasurer shall have the custody of the corporate funds and securities and shall keep full and accurate accounts of receipts and disbursements in books belonging to the Corporation and shall deposit all moneys and other valuable effects in the name and to the credit of the Corporation to such depositories as may be designated by the Board.

Section 13. The Treasurer shall disburse the funds of the Corporation as may be ordered by the Board, taking proper vouchers for such disbursements, and shall render to the President and the Board, at its regular meetings, or when the Board so requires, an account of all the Treasurer's transactions as Treasurer and of the financial condition of the Corporation.

Section 14. If required by the Board, the Treasurer shall give the Corporation a bond (which shall be renewed every six (6) years) in such sum and with such surety or sureties as shall be satisfactory to the Board for the faithful performance of the duties of the Treasurer's office and for the restoration to the Corporation, in case of the Treasurer's death, resignation, retirement or removal from office, of all books, papers, vouchers, money and other

property of whatever kind in the Treasurer's possession or under the Treasurer's control belonging to the Corporation.

Section 15. The Assistant Treasurer, or if there shall be more than one, the Assistant Treasurers in the order determined by the Board (or if there be no such determination, then in the order of their election), shall, in the absence of the Treasurer or in the event of the Treasurer's inability or refusal to act, perform the duties and exercise the powers of the Treasurer and shall perform such other duties and have such powers as the Board may from time to time prescribe.

ARTICLE VI CERTIFICATES OF STOCK

Section 1. The shares of the Corporation shall be represented by certificates, provided that the shares of stock of the Corporation may also be represented by uncertificated shares evidenced by a book-entry system maintained by the registrar of such stock. Every holder of stock in the Corporation represented by certificates shall be entitled to have a certificate, signed by, or in the name of the Corporation by, the Chairman or Vice Chairman of the Board or the President or a Vice President and the Treasurer or an Assistant Treasurer, or the Secretary or an Assistant Secretary of the Corporation, certifying the number of shares owned by such holder of stock in the Corporation.

Section 2. Any or all of the signatures on the certificate may be a facsimile. In case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate shall have ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the Corporation with the same effect as if that person were such officer, transfer agent or registrar at the date of issue.

LOST CERTIFICATES

Section 3. The Board may direct a new certificate or certificates to be issued in place of any certificate or certificates theretofore issued by the Corporation alleged to have been lost, stolen or destroyed, upon the making of an affidavit of that fact by the person claiming the certificate of stock to be lost, stolen, or destroyed. When authorizing such issue of a new certificate or certificates, the Board may, in its discretion and as a condition precedent to the issuance thereof, require the owner of such lost, stolen or destroyed certificate or certificates, or his or her legal representative, to advertise the same in such manner as it shall require and/or to give the Corporation a bond in such sum as it may direct as indemnity against any claim that may be made against the Corporation with respect to the certificate alleged to have been lost, stolen or destroyed.

TRANSFERS OF STOCK

Section 4. Upon surrender to the Corporation or the transfer agent of the Corporation of a certificate for shares duly endorsed or accompanied by proper evidence of succession, assignment or authority to transfer, it shall be the duty of the Corporation to issue a new certificate to the person entitled thereto, cancel the old certificate and record the transaction upon its books.

RECORD DATE

Section 5. In order that the Corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof or entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action other than stockholder action by written consent, the Board may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board, and which record date: (i) in the case of determination of stockholders entitled to vote at any meeting of stockholders or adjournment thereof, shall, unless otherwise required by law, not be more than sixty (60) nor less than ten (10) days before the date of such meeting, and (ii) in the case of any other lawful action other than stockholder action by written consent, shall not be more than sixty (60) days prior to such other action. If no record date is fixed by the Board: (i) the record date for determining stockholders entitled to notice of or

to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the next day preceding the day on which the meeting is held, and (ii) the record date for determining stockholders for any other purpose (other than stockholder action by written consent) shall be at the close of business on the day on which the Board adopts the resolution relating thereto. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; *provided, however*, that the Board may fix a new record date for the adjourned meeting.

REGISTERED STOCKHOLDERS

Section 6. The Corporation shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares to receive dividends, and to vote as such owner, and to hold liable for calls and assessments a person registered on its books as the owner of shares, and shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of any other person, whether or not it shall have express or other notice thereof, except as otherwise provided by the laws of Delaware.

EXCLUSIVE FORUMS

Section 7. Unless the Corporation consents in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall, to the fullest extent permitted by law, be the sole and exclusive forum for (1) any derivative action or proceeding brought on behalf of the Corporation, (2) any action asserting a claim of breach of a fiduciary duty owed by any current or former director, officer, other employee or stockholder of the Corporation to the Corporation or the Corporation's stockholders, (3) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law, the Certificate of Incorporation or these Bylaws or as to which the Delaware General Corporation Law confers jurisdiction on the Court of Chancery of the State of Delaware, or (4) any action asserting a claim governed by the internal affairs doctrine. Subject to the foregoing provisions of this Section 7, unless the Corporation consents in writing to the selection of an alternative forum, the federal district courts of the United States of America shall be the exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder. Any person or entity purchasing or otherwise acquiring or holding any interest in shares of capital stock of the Corporation shall be deemed to have notice of and consented to the provisions of this Section 7.

ARTICLE VII GENERAL PROVISIONS DIVIDENDS

Section 1. Dividends upon the capital stock of the Corporation, subject to the provisions of the Certificate of Incorporation, if any, may be declared by the Board at any regular or special meeting, pursuant to law. Dividends may be paid in cash, in property, or in shares of the capital stock, subject to the provisions of the Certificate of Incorporation.

Section 2. Before payment of any dividend, there may be set aside out of any funds of the Corporation available for dividends such sum or sums as the directors from time to time, in their absolute discretion, think proper as a reserve or reserves to meet contingencies, or for equalizing dividends, or for repairing or maintaining any property of the Corporation, or for such other purpose as the directors shall think conducive to the interest of the Corporation, and the directors may modify or abolish any such reserve in the manner in which it was created.

ANNUAL STATEMENT

Section 3. The Board shall present at each annual meeting, and at any special meeting of the stockholders when called for by vote of the stockholders, a full and clear statement of the business and condition of the Corporation.

CHECKS

Section 4. All checks or demands for money and notes of the Corporation shall be signed by such officer or officers or such other person or persons as the Board may from time to time designate.

FISCAL YEAR

Section 5. The fiscal year of the Corporation shall be fixed by resolution of the Board.

SEAL

Section 6. The corporate seal shall have inscribed thereon the name of the Corporation, the year of its organization and the words "Corporate Seal, Delaware". The seal may be used by causing it or a facsimile thereof to be impressed or affixed or reproduced or otherwise.

ARTICLE VIII INDEMNIFICATION

Section 1. Subject to Section 3 of this Article VIII, the Corporation shall indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the Corporation) (a "third party proceeding") by reason of the fact that such person is or was a director or officer of the Corporation, or is or was serving at the request of the Corporation as a director or officer of another corporation, partnership, joint venture, trust or other enterprise, including service with respect to employee benefit plans (an "indemnitee"), against all expenses, liability and loss (including attorneys' fees, judgments, fines, ERISA excise taxes or penalties and amounts paid in settlement) actually and reasonably incurred by such person in connection with such action, suit or proceeding if such person acted in good faith and in a manner that such person reasonably believed to be in or not opposed to the best interests of the Corporation, and, with respect to any criminal action or proceeding had no reasonable cause to believe his or her conduct was unlawful. The termination of any action, suit or proceeding by judgment, order, settlement, conviction, or upon a plea of nolo contendere or its equivalent, shall not, of itself, create a presumption that such person did not act in good faith and in a manner which such person reasonably believed to be in or not opposed to the best interests of the Corporation, and with respect to any criminal action or proceeding, had reasonable cause to believe that his or her conduct was unlawful.

Section 2. Subject to Section 3 of this Article VIII, the Corporation shall indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the Corporation to procure a judgment in its favor (together with third party proceedings, "proceedings") by reason of the fact that such person is or was a director or officer of the Corporation, or is or was serving at the request of the Corporation as a director or officer of another Corporation, partnership, joint venture, trust or other enterprise, including service with respect to employee benefit plans (an "indemnitee"), against expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit if such person acted in good faith in a manner that such person reasonably believed to be in or not opposed to the best interests of the Corporation; except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the Corporation unless and only to the extent that the Court of Chancery or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

AUTHORIZATION OF INDEMNIFICATION

Section 3. Any indemnification under this Article VIII (unless ordered by a court) shall be made by the Corporation only as authorized in the specific case upon a determination that indemnification of the director or officer is proper in the circumstances because such director or officer has met the applicable standard of conduct set forth in Section 1 or Section 2 of this Article VIII, as the case may be. Such determination shall be made (i) by a majority vote of the directors who were not parties to such actions, suit or proceeding, even though less than a quorum, (ii) by a committee of such directors designated by majority vote of such directors, even though less than a quorum, (iii) if there are no such directors or if such directors so direct, by independent legal counsel in a written opinion, or (iv) by the stockholders. To the extent, however, that a director or officer of the Corporation has been successful on the merits or otherwise in defense of any action, suit or proceeding, described above, or in defense of any claim, issue or matter therein, such officer or director shall be indemnified against expenses (including attorney's fees) actually and reasonably incurred by him or her in connection therewith, without the necessity of authorization in the specific case.

Section 4. If a claim for indemnification or advancement of expenses under this Article VIII is not paid in full within thirty (30) days after a written claim therefor by the Indemnitee has been received by the Corporation, the Indemnitee may file suit to recover the unpaid amount of such claim and, if successful in whole or in part, shall be entitled to be paid the expenses of prosecuting such claim, including attorneys' fees and costs, to the fullest extent permitted by law. In any such action the Corporation shall have the burden of proving that the Indemnitee is not entitled to the requested indemnification or advancement of expenses under applicable law. The Court of Chancery of the State of Delaware shall be the exclusive forum for any litigation by the Indemnitee and the Corporation over any aspect of the Indemnitee's rights to indemnification or advancements.

EXPENSES PAYABLE IN ADVANCE

Section 5. Expenses incurred in defending a threatened or pending action, suit or proceeding shall, to the fullest extent not prohibited by applicable law, be paid by the Corporation in advance of the final disposition of such action, suit or proceeding upon receipt of an undertaking by or on behalf of the director or officer to repay such amount if it shall ultimately be determined that such director or officer is not entitled to be indemnified by the Corporation as authorized in this Article VIII.

NON-EXCLUSIVITY AND SURVIVAL OF INDEMNIFICATION

Section 6. The indemnification and advancement of expenses provided by or granted pursuant to the other Sections of this Article VIII shall not be deemed exclusive of any rights to which any person seeking indemnification or advancement of expenses may be entitled under any bylaw, agreement, contract, vote of stockholders or disinterested directors or otherwise, both as to action in his or her official capacity and as to action in another capacity while holding such office, it being the policy of the Corporation that indemnification of the persons specified in Sections 1 and 2 of this Article VIII shall be made to the fullest extent permitted by Delaware law. The provisions of this Article VIII shall not be deemed to preclude the indemnification of any person who is not specified in Sections 1 or 2 of this Article VIII but whom the Corporation has the power or obligation to indemnify under the provisions of Delaware law or otherwise. The indemnification and advancement of expenses provided by or granted pursuant to this Article VIII shall, unless otherwise provided or ratified, continue as to a person who has ceased to be a director, officer or employee and shall inure to the benefit of the heirs, executors and administrators of such person.

INSURANCE

Section 7. The Corporation may purchase and maintain insurance on behalf of any person who is or was a director or employee of the Corporation, or is or was serving at the request of the Corporation as a director, officer or employee of another Corporation, partnership, joint venture, trust, employee benefit plan or other enterprise against any liability asserted against such person and incurred by him or her in any such capacity, or arising out of his or her status as such, whether or not the Corporation would have the power or the obligation to indemnify such person against such liability under the provisions of this Article VIII, or otherwise under Delaware law.

MEANING OF "CORPORATION" FOR PURPOSES OF ARTICLE VIII

Section 8. For purposes of this Article VIII, references to "the Corporation" shall include, in addition to the resulting corporation, any constituent corporation (including any constituent of a constituent) absorbed in a consolidation or merger which, if its separate existence had continued, would have had power and authority to indemnify its directors, officers or employees, so that any person who is or was a director, officer or employee, of such constituent corporation, or is or was serving at the request of such constituent corporation as a director, officer or employee of another corporation, partnership, joint venture, trust, employee benefit plan or other enterprise, shall stand in the same position under the provisions of this Article VIII with respect to the resulting or surviving corporation as such person would have with respect to such constituent corporation if its separate existence had continued.

Section 9. Subject to Section 3 of this Article VIII, the Corporation shall be required to indemnify an indemnitee in connection with a proceeding (or part thereof) initiated by such indemnitee only if the initiation of such proceeding (or part thereof) by the indemnitee was authorized in writing by the Board.

Section 10. Any repeal or modification of the foregoing provisions of this Article VIII shall not adversely affect any right or protection hereunder of any indemnitee in respect of any proceeding (regardless of when such proceeding is first threatened, commenced or completed) arising out of, or related to, any act or omission occurring prior to the time of such repeal or modification.

ARTICLE IX AMENDMENTS

Section 1. These Bylaws may be altered, amended or repealed or new bylaws may be adopted by the stockholders or by the Board, when such power is conferred upon the Board, by the Certificate of Incorporation, at any regular meeting of the stockholders or of the Board or at any special meeting of the stockholders or of the Board if notice of such alteration, amendment, repeal or adoption of new bylaws be contained in the notice of such meeting.

ADVANCED MICRO DEVICES, INC.**COMPANY-PROVIDED BUSINESS AIRCRAFT USAGE AND COMMERCIAL TRAVEL BY PERSONAL GUESTS POLICY**

Objectives of these Guidelines. Advanced Micro Devices, Inc. (the “Company”) desires to provide the Chief Executive Officer (“CEO”) and the Company’s Executive Vice Presidents and Senior Vice Presidents (collectively, “Executive Vice Presidents” and “Senior Vice Presidents” shall be referred to as the “Senior Officers;” and each, a “Senior Officer”) and members of the Company’s Board of Directors use of aircraft chartered, leased or owned by the Company (“Company-Provided Aircraft”). These Guidelines set forth the framework for the use of Company-Provided Aircraft and for commercial travel by personal guests of the CEO, Senior Officers and members of the Company’s Board of Directors.

These Guidelines are intended to supplement the Company’s Global Business Travel and General Expense Claim Policy (#1610).

Business Use. Except as otherwise specifically set forth herein, flights on Company-Provided Aircraft are restricted to Company business. Use of Company-Provided Aircraft should be considered only when significant advantages or savings over commercial air travel may be realized in terms of time, money or productivity. For example, there are times when traveling on commercial flights is not feasible or practical such as when a Senior Officer must reach multiple destinations quickly and efficiently and commercial flights are not available or when there is a specific security threat related to the Senior Officer or member of the Board of Directors. Prior to making use of Company-Provided Aircraft, the Senior Officer or member of the Board of Directors should evaluate the trip with respect to cost, business agenda, time constraints, specific security threat issues and commercial aircraft options. If an available commercial aircraft flight is more feasible or practical, the commercial aircraft flight should be used by the Senior Officer.

Prior Approval. Other than the CEO, any use of the Company-Provided Aircraft by a Senior Officer or member of the Board of Directors must be approved in advance by the CEO, or the Company’s Chief Financial Officer (“CFO”) or CEO’s delegate, if the CEO is unavailable.

Records and Reports. All travel on Company-Provided Aircraft must be coordinated through the Company’s travel coordinator. The Company’s travel coordinator will maintain a trip log (a “Trip Log”) that maintains the name of each passenger, each passenger’s affiliation with the Company, business purpose of the trip, destination points, flight miles, a breakdown of the costs of the trip and a brief explanation for why a commercial aircraft flight was not utilized. The travel coordinator shall forward the Trip Log to the head of the Company’s Tax Department on a monthly basis. The Company’s Tax Department shall provide a summary of the Trip Log as well as any imputed income with respect to each trip to the CFO on a quarterly basis.

Passenger Guidelines. Generally, the limitations on the number and type of employees that may travel on the same flight under the Company’s Global Business Travel and General Expense Claim Policy (#1610) apply to the Company-Provided Aircraft. It shall be the responsibility of the CEO, Senior Officer or member of the Board of Directors arranging the flight to ensure the restrictions set forth in the Company’s Global Business Travel and General Expense Claim Policy (#1610) are not violated.

Invitees – Company-Provided Aircraft.

- (a) If the Company requests that an invitee, such as a spouse, significant other or family member, travel on behalf of the Company to a Company function or business meeting, the invitee may accompany the CEO, a Senior Officer or member of the Board of Directors on the Company-Provided Aircraft; provided that, unused seats are available, advance approval has been obtained from the CFO or his/her delegate prior to the travel commencing and such travel does not result in significant incremental cost to the Company (e.g., more than just the cost of catering). Unless otherwise specified by the CFO, upon approval, neither the CEO, Senior Officer, member of the Board of Directors nor the invitee is required to pay the Company for any costs of such flight. To the extent income is required to be imputed with respect to an invitee, the Company's Tax Department will impute the value of the invitee's flight as taxable income to the CEO, Senior Officer or member of the Board of Directors as required by applicable law. The imputed income, to the extent applicable, is subject to income tax withholding and employment taxes and will be included in the CEO or Senior Officer's W-2, as applicable. Any applicable imputed income for foreign members of the Company's Board of Directors is subject to income tax withholding and will be included on Form 1042S. Imputed income for the members of the Board of Directors who are US-based will be reported on Form 1099-MISC. In addition, for purposes of SEC reporting, the aggregate incremental costs to the Company resulting from an invitee traveling to a Company function or business meeting on Company-Provided Aircraft may be disclosed as a "perquisite", to the extent applicable, in the CEO's, Senior Officer's or member of the Board of Directors' "All Other Compensation" in the Company's proxy statement.
- (b) Invitees may accompany the CEO, a Senior Officer or member of the Board of Directors on the Company-Provided Aircraft in circumstances where their travel on behalf of the Company is not required (e.g. for personal reasons); provided that, unused seats are available, advance approval has been obtained from the CFO or his/her delegate prior to the travel commencing, and such travel does not result in significant incremental cost to the Company (e.g., more than just the cost of catering) resulting from such non-business invitee's travel on the Company-Provided Aircraft. To the extent income is required to be imputed with respect to the CEO or a Senior Officer's invitee, the Company's Tax Department will impute the value of the invitee's flight as taxable income to the CEO, Senior Officer or members of the Board of Directors as required by applicable law. The imputed income, to the extent applicable, is subject to income tax withholding and employment taxes and will be included in the CEO or Senior Officer's W-2, as applicable. Any applicable imputed income for foreign members of the Company's Board of Directors is subject to income tax withholding and will be included on Form 1042S. Imputed income for the members of the Company's Board of Directors who are US-based will be reported on Form 1099-MISC. In addition, for purposes of SEC reporting, the aggregate incremental costs to the Company resulting from an invitee's non-business travel on Company-Provided Aircraft that are not fully reimbursed to the Company may be disclosed as a "perquisite", to the extent applicable, in the CEO's, Senior Officer's or member of the Board of Directors' "All Other Compensation" in the Company's proxy statement.

Invitees - Commercial Air Travel. If an invitee, such as a spouse, significant other or other family member, is required to travel on behalf of the Company to a Company function or business meeting, advance approval must be obtained from the CFO or his/her delegate prior to the travel commencing on commercial aircraft. In the event an invitee's travel is required, neither the CEO, Senior Officer, member of the Board of Directors nor the invitee is required to pay the Company for any costs of such commercial aircraft flight. The invitee shall utilize the same air travel class as the CEO, Senior Officer or member of the Board of Directors. To the extent income is required to be imputed with respect to an invitee, the Company's Tax Department will impute the value of the invitee's flight as taxable income to the CEO or Senior Officer as required by applicable law. The imputed income, to the extent applicable, is subject to income tax withholding and employment taxes and will be included in the CEO or Senior Officer's W-2, as applicable. Any applicable imputed income for foreign members of the Company's Board of Directors is subject to income tax withholding and will be included on Form 1042S. Imputed income for the members of the Company's Board of Directors who are US-based will be reported on Form 1099-MISC. In addition, for purposes of SEC reporting, the aggregate incremental costs to the Company resulting from an invitee traveling to a Company function or business and any direct costs relating to a non-business invitee's travel on commercial aircraft that are not fully reimbursed to the Company may be disclosed as a "perquisite", to the extent applicable, in the CEO's, Senior Officer's or member of the Board of Directors "All Other Compensation" in the Company's proxy statement.

CEO. Notwithstanding the foregoing, the CEO shall be permitted to use the Company-Provided Aircraft for Company business and shall not require prior approval to use the Company-Provided Aircraft. The CEO may invite other members of the Board of Directors, Senior Officers or Company employees to travel on the Company-Provided Aircraft on behalf of the Company to a Company function or business meeting without prior approval.

Tax Protection. No tax protection will be provided to the CEO or any Senior Officer or member of the Board of Directors related to either his/her or an invitee's use of Company-Provided Aircraft or an invitee's commercial aircraft travel.

Certificate of Insurance (COI). Upon establishing a relationship with a Company-Provided Aircraft vendor, the Company Certificate of Insurance (COI) Request Form (in the form provided by the Company's Treasury Department) will be sent to the Company-Provided Aircraft vendor and a copy of the COI certifying all of the required coverage will be provided to the Company prior to any trip taking place. Any exceptions to the required insurance limits, coverages or additional provisions contained within the COI Request Form must be approved by the Treasury Department. The COI will be on file with the Treasury Department.

If a long-term agreement is entered into with a Company-Provided Aircraft vendor, the COI, containing the mutually agreed upon insurance requirements that the Company-Provided Aircraft vendor will be required to maintain for the duration of such long-term agreement-must be on file with the Treasury Department. The Treasury Department will update the Company's travel coordinator if changes to the insurance requirements are required.

Expense Claims. Expense claims submitted by the CEO, Senior Officers and members of the Board of Directors require the approval of the CFO.

Elected Officials. Notwithstanding any other provision in these Guidelines, Company-Provided Aircraft is not to be used for the purpose of supporting a political candidate or public office holder.

Exceptions. Any exception to these Guidelines or any specific situation that is not clearly covered within these Guidelines must be documented and approved in advance, in writing by the CEO and CFO.

ADVANCED MICRO DEVICES, INC.
LIST OF SUBSIDIARIES
As of December 26, 2020

Domestic Subsidiaries

	<u>State or Jurisdiction Which Incorporated or Organized</u>
Advanced Micro Ltd. ^(*)	California
AMD Corporation	California
HiAlgo Inc.	California
AMD Advanced Research LLC	Delaware
AMD (EMEA) LTD.	Delaware
AMD Far East Ltd.	Delaware
AMD International Sales & Service, Ltd.	Delaware
AMD Latin America Ltd.	Delaware
SeaMicro, Inc.	Delaware
Thrones Merger Sub, Inc.	Delaware

Foreign Subsidiaries

ATI International SRL ^{(*) (1)}	Barbados
ATI Technologies (Bermuda) Limited ⁽¹⁾	Bermuda
Advanced Micro Devices Belgium N.V. ⁽²⁾	Belgium
AMD South America LTDA ⁽³⁾	Brazil
1252986 Alberta ULC	Canada
ATI Technologies ULC ⁽⁴⁾	Canada
Advanced Micro Devices (China) Co. Ltd.	China
Advanced Micro Devices (Shanghai) Co. Ltd. ⁽⁵⁾	China
Advanced Micro Devices Products (China) Co., Ltd ⁽⁵⁾	China
Chengdu Haiguang Microelectronics Technology Co., Ltd. ⁽⁶⁾	China
AMD Haihe Investment Management Co., Ltd. ^{(**)(7)}	China
Advanced Micro Devices S.A.S.	France
Advanced Micro Devices GmbH	Germany
AMD India Private Limited ⁽⁸⁾	India
AMD Advanced Micro Devices Israel Ltd. ^(**)	Israel
Advanced Micro Devices S.p.A.	Italy
AMD Japan Ltd.	Japan
Advanced Micro Devices Sdn. Bhd.	Malaysia
Advanced Micro Devices Global Services (M) Sdn. Bhd.	Malaysia
ATI Technologies (L) Inc. ^{(*)(9)}	Malaysia
Advanced Micro Devices Malaysia Ltd. ⁽¹⁰⁾	Malaysia
AMD-NOVF Capital Limited ^{(**)(11)}	Mauritius
Advanced Micro Devices (Poland) sp. z o.o.	Poland
Advanced Micro Devices (Singapore) Pte. Ltd.	Singapore
Advanced Micro Devices, AB	Sweden
Advanced Micro Devices (U.K.) Limited	United Kingdom
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- (*) Inactive
- (**) In the process of being dissolved.
- (1) 100% owned by ATI Technologies ULC
- (2) 99.9952% owned by Advanced Micro Devices, Inc., .0048% owned by AMD International Sales & Service, Ltd.
- (3) 99.9% owned by AMD International Sales & Service, Ltd., 0.1% owned by AMD Far East Ltd.
- (4) Subsidiary of 1252986 Alberta ULC.
- (5) Subsidiary of Advanced Micro Devices (China) Co. Ltd.
- (6) 51% owned by Advanced Micro Devices, Inc.
- (7) 50% owned by Advanced Micro Devices, Inc.
- (8) 47.18% owned by ATI Technologies ULC, 52.82% owned by Advanced Micro Devices, Inc., less than 0.01% owned by 1252986 Alberta ULC and AMD Far East Ltd.
- (9) Subsidiary of ATI Technologies (Bermuda) Limited
- (10) Subsidiary of ATI Technologies (L) Inc.
- (11) 50% owned by Advanced Micro Devices, Inc.

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements of Advanced Micro Devices, Inc.:

- Registration Statement on Form S-8 (No. 333-115474) pertaining to the Advanced Micro Devices, Inc. 2004 Equity Incentive Plan;
- Registration Statement on Form S-8 (No. 333-159367) pertaining to the Advanced Micro Devices, Inc. 2004 Equity Incentive Plan;
- Registration Statement on Form S-8 (No. 333- 166616) pertaining to the Advanced Micro Devices, Inc. 2004 Equity Incentive Plan;
- Registration Statement on Form S-8 (No. 333-181451) pertaining to the Advanced Micro Devices, Inc. 2004 Equity Incentive Plan;
- Registration Statement on Form S-8 (No. 333- 190039) pertaining to the Advanced Micro Devices, Inc. 2004 Equity Incentive Plan;
- Registration Statement on Form S-8 (No. 333-195984) pertaining to the Advanced Micro Devices, Inc. 2004 Equity Incentive Plan;
- Registration Statement on Form S-8 (No. 333- 204166) pertaining to the Advanced Micro Devices, Inc. 2004 Equity Incentive Plan;
- Registration Statement on Form S-8 (No. 333-211438) pertaining to the Advanced Micro Devices, Inc. 2004 Equity Incentive Plan;
- Post-Effective Amendment No. 1 to Registration Statement on Form S-8 (No. 333-204166) pertaining to the Advanced Micro Devices, Inc. 2004 Equity Incentive Plan;
- Registration Statement on Form S-8 (No. 333-217784) pertaining to the Advanced Micro Devices, Inc. 2004 Equity Incentive Plan and 2017 Employee Stock Purchase Plan;
- Registration Statement on Form S-8 (No. 333-232922) pertaining to the Advanced Micro Devices, Inc. 2004 Equity Incentive Plan;
- Registration Statement on Form S-4/A (No. 333-251119) pertaining to the proposed merger between Advanced Micro Devices, Inc. and Xilinx, Inc.

of our reports dated January 29, 2021, with respect to the consolidated financial statements of Advanced Micro Devices, Inc. and the effectiveness of internal control over financial reporting of Advanced Micro Devices, Inc. included in this Annual Report (Form 10-K) for the year ended December 26, 2020.

/s/ Ernst & Young LLP

San Jose, California

January 29, 2021

POWER OF ATTORNEY

KNOW ALL BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Devinder Kumar and Harry A. Wolin, and each of them, his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign Advanced Micro Devices, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 26, 2020, and any and all amendments thereto, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Signature	Title	Date
<u>/s/Lisa T. Su</u> Lisa T. Su	President and Chief Executive Officer, Director	January 29, 2021
<u>/s/Devinder Kumar</u> Devinder Kumar	Executive Vice President, Chief Financial Officer and Treasurer	January 29, 2021
<u>/s/Darla Smith</u> Darla Smith	Corporate Vice President, Chief Accounting Officer	January 29, 2021
<u>/s/John E. Caldwell</u> John E. Caldwell	Director, Chairman of the Board	January 25, 2021
<u>/s/Nora M. Denzel</u> Nora M. Denzel	Director	January 26, 2021
<u>/s/Mark Durcan</u> Mark Durcan	Director	January 27, 2021
<u>/s/Mike P. Gregoire</u> Mike P. Gregoire	Director	January 25, 2021

/s/Joe Householder

Joe Householder

Director

January 26, 2021

/s/John W. Marren

John W. Marren

Director

January 26, 2021

/s/Abhi Y. Talwalkar

Abhi Y. Talwalkar

Director

January 25, 2021

Certification of Chief Executive Officer
Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Lisa T. Su, certify that:

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

Date: January 29, 2021

/s/Lisa T. Su

Lisa T. Su
President and Chief Executive Officer
(Principal Executive Officer)

**Certification of Chief Financial Officer
Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002**

I, Devinder Kumar, certify that:

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

Date: January 29, 2021

/s/Devinder Kumar

Devinder Kumar
Executive Vice President,
Chief Financial Officer and Treasurer
(Principal Financial Officer)

Certification of Principal Executive Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

Pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned officer of Advanced Micro Devices, Inc. (the "Company") hereby certifies, to such officer's knowledge, that:

- (i.) the Annual Report on Form 10-K of the Company for the period ended December 26, 2020 (the "Report") fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and
- (ii.) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: January 29, 2021

/s/Lisa T. Su

Lisa T. Su
President and Chief Executive Officer
(Principal Executive Officer)

Certification of Principal Financial Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

Pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned officer of Advanced Micro Devices, Inc. (the "Company") hereby certifies, to such officer's knowledge, that:

- (i.) the Annual Report on Form 10-K of the Company for the period ended December 26, 2020 (the "Report") fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and
- (ii.) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: January 29, 2021

/s/Devinder Kumar

Devinder Kumar
Executive Vice President,
Chief Financial Officer and Treasurer
(Principal Financial Officer)