UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, DC 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 October 29, 2023

OR

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

For the transition period from to

Broadcom Inc.

Delaware	**3421 Hillview Ave** **Palo Alto, CA 94304** **(650) 427-6000**	**001-38449**	**35-2617337**
(State or Other Jurisdiction of Incorporation or Organization)	**(Exact Name of Registrant as Specified in Its Charter** **Address of Principal Executive Offices, Including Zip Code** **Registrant's Telephone Number, Including Area Code)**	**(Commission File Number)**	**(I.R.S. Employer Identification No.)**

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

Title of Each Class	**Trading Symbol(s)**	**Name of Each Exchange on Which Registered**
Common Stock, $0.001 par value	AVGO	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 Act. Yes ☐ No ☑

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

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

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

Large accelerated filer	☑	Accelerated filer	☐	Non-accelerated filer	☐	Smaller reporting company	☐	Emerging growth company	☐

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

Indicate by check mark whether the registrant 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. ☑

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

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

The aggregate market value of voting and non-voting common equity held by non-affiliates as of April 28, 2023, based upon the closing sale price of such shares on The Nasdaq Global Select Market on such date was approximately

$253.7 billion.

As of November 24, 2023, there were 468,140,569 shares of our common stock outstanding.

Documents Incorporated by Reference

Portions of the registrant’s definitive Proxy Statement for its 2024 Annual Meeting of Stockholders are incorporated by reference into Part III of this Annual Report on Form 10-K.

BROADCOM INC.
2023 ANNUAL REPORT ON FORM 10-K

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PART I

The following discussion should be read in conjunction with the consolidated financial statements and notes thereto included elsewhere in this Annual Report on Form 10-K. This Annual Report on Form 10-K contains forward-looking statements within the meaning of the federal securities laws and particularly in Item 1: “Business,” Item 1A: “Risk Factors,” Item 3: “Legal Proceedings” and Item 7: “Management’s Discussion and Analysis of Financial Condition and Results of Operations” of this Annual Report on Form 10-K. These statements are indicated by words or phrases such as “anticipate,” “expect,” “estimate,” “seek,” “plan,” “believe,” “could,” “intend,” “will,” and similar words or phrases. These forward-looking statements may include projections of financial information; statements about historical results that may suggest trends for our business; statements of the plans, strategies, and objectives of management for future operations; statements of expectation or belief regarding future events (including any acquisitions we may make), technology developments, our products, product sales, expenses, liquidity, cash flow and growth rates, or enforceability of our intellectual property rights; any backlog; and the effects of seasonality on our business. Such statements are based on current expectations, estimates, forecasts and projections of our industry performance and macroeconomic conditions, based on management’s judgment, beliefs, current trends and market conditions, and involve risks and uncertainties that may cause actual results to differ materially from those contained in the forward-looking statements. We derive most of our forward-looking statements from our operating budgets and forecasts, which are based upon many detailed assumptions. While we believe that our assumptions are reasonable, we caution that it is very difficult to predict the impact of known factors, and it is impossible for us to anticipate all factors that could affect our actual results. Accordingly, we caution you not to place undue reliance on these statements. Material factors that could cause actual results to differ materially from our expectations are summarized and disclosed under “Risk Factors” in Part I, Item 1A of this Annual Report on Form 10-K.

Unless stated otherwise or the context otherwise requires, references to “Broadcom,” “we,” “our,” and “us” mean Broadcom Inc. and its consolidated subsidiaries. Our fiscal year ends on the Sunday closest to October 31 in a 52-week year and the first Sunday in November in a 53-week year. We refer to our fiscal years by the calendar year in which they end. For example, the fiscal year ended October 29, 2023 was a 52-week year.

ITEM 1. BUSINESS

Overview

We are a global technology leader that designs, develops and supplies a broad range of semiconductor and infrastructure software solutions. Our over 50-year history of innovation dates back to our diverse origins from Hewlett-Packard Company, AT&T, LSI Corporation, Broadcom Corporation, Brocade Communications Systems LLC, CA, Inc., Symantec Enterprise Security, and VMware, Inc. ("VMware"). Over the years, we have assembled a large team of semiconductor and software design engineers around the world. We maintain design, product and software development engineering resources at locations in the U.S., Asia, Europe and Israel, providing us with engineering expertise worldwide. We strategically focus our research and development resources to address niche opportunities in our target markets and leverage our extensive portfolio of U.S. and other patents, and other intellectual property ("IP") to integrate multiple technologies and create system-on-chip ("SoC") component and software solutions that target growth opportunities. We design products and software that deliver high-performance and provide mission critical functionality.

We develop semiconductor devices with a focus on complex digital and mixed signal complementary metal oxide semiconductor ("CMOS") based devices and analog III-V based products. We have a history of innovation in the semiconductor industry and offer thousands of products that are used in end products such as enterprise and data center networking, home connectivity, set-top boxes ("STB"), broadband access, telecommunication equipment, smartphones and base stations, data center servers and storage systems, factory automation, power generation and alternative energy systems, and electronic displays. We differentiate ourselves through our high performance design and integration capabilities and focus on developing products for target markets where we believe we can earn attractive margins.

Our infrastructure software solutions enable customers to plan, develop, automate, manage, and secure applications across mainframe, distributed, mobile, and cloud platforms. Many of the largest companies in the world, including most of the Fortune 500, and many government agencies rely on our software solutions to help manage and secure their on-premise and hybrid cloud environments. Our portfolio of industry-leading infrastructure and security software is designed to modernize, optimize, and secure the most complex hybrid environments, enabling scalability, agility, automation, insights, resiliency and security. We also offer mission critical fibre channel storage area networking ("FC SAN") products and related software in the form of modules, switches and subsystems incorporating multiple semiconductor products.

In addition, the hybrid-cloud portfolio we acquired with VMware helps enterprises simplify their information technology ("IT") environments so they can increase business velocity and flexibility. The VMware portfolio spans hybrid cloud, app-delivery acceleration, zero-trust security, and software-defined edge, making it easy for customers to run their mission-critical workloads across private, public and edge environments with security and resiliency.

Business Strategy

Our strategy is to combine best-of-breed technology leadership in semiconductor and infrastructure software solutions, with unmatched scale, on a common sales and administrative platform to deliver a comprehensive suite of infrastructure technology products to the world's leading business and government customers. We seek to achieve this through responsibly financed acquisitions of category-leading businesses and technologies, as well as investing extensively in research and development, to ensure our products retain their technology leadership. This strategy results in a robust business model designed to drive diversified and sustainable operating and financial results.

Recent Development

Acquisition of VMware, Inc.

On November 22, 2023, we acquired VMware in a cash-and-stock transaction (the "VMware Merger"), in which VMware stockholders received, in aggregate, approximately $30.8 billion in cash and 54.4 million shares of Broadcom common stock in exchange for all shares of VMware common stock issued and outstanding immediately prior to the closing. The preliminary total purchase consideration for the VMware Merger was approximately $86.3 billion. We funded the cash portion of the VMware Merger consideration with net proceeds from the issuance of $30.4 billion in term loans under a credit agreement that we entered into on August 15, 2023, as well as cash on hand.

We assumed all outstanding VMware restricted stock unit ("RSU") awards and performance stock unit awards held by continuing employees. The assumed awards were converted into approximately 5 million Broadcom RSU awards. All outstanding in-the-money VMware stock options and RSU awards held by non-employee directors were accelerated and converted into the right to receive cash and shares of Broadcom common stock, in equal parts.

All discussions and information in this Annual Report on Form 10-K regarding our business and financial results relate solely to our operations prior to the VMware Merger, unless otherwise indicated.

Products and Markets

Semiconductor Solutions

Semiconductors are made by imprinting a network of electronic components onto a semiconductor wafer. These devices are designed to perform various functions such as processing, amplifying and selectively filtering electronic signals, controlling electronic system functions and processing, and transmitting and storing data. Our digital and mixed signal products are based on silicon wafers with CMOS transistors offering fast switching speeds and low power consumption, which are both critical design factors for the markets we serve. We also offer analog products, which are based on III-V semiconductor materials that have higher electrical conductivity than silicon, and thus tend to have better performance characteristics in radio frequency ("RF"), and optoelectronic applications. III-V refers to elements from the 3rd and 5th groups in the periodic table of chemical elements. Examples of these materials used in our products are gallium arsenide ("GaAs") and indium phosphide ("InP").

We provide semiconductor solutions for managing the movement of data in data center, service provider, and enterprise networking applications. We provide a broad variety of RF semiconductor devices, wireless connectivity solutions, custom touch controllers and inductive charging solutions for the wireless market. We also provide semiconductor solutions for enabling the STB and broadband access applications and for enabling secure movement of digital data to and from host machines, such as servers, personal computers and storage systems, to the underlying storage devices, such as hard disk drives ("HDD") and solid-state drives ("SSD").

Our product portfolio ranges from discrete devices to complex sub-systems that include multiple device types and may also incorporate firmware for interfacing between analog and digital systems. In some cases, our products include mechanical hardware that interfaces with optoelectronic or capacitive sensors. We focus on markets that require high quality and the technology leadership and integrated performance characteristic of our products. The table below presents our material semiconductor product families and their major end markets and applications during fiscal year 2023.

Major End Markets	Major Applications	Material Product Families
Broadband	• STB and Broadband Access	• STB SoCs • DSL/PON gateways • DOCSIS cable modem and networking infrastructure • DSLAM/PON optical line termination • Wi-Fi access point SoCs
Networking	• Data Center, Service Provider, and Enterprise Networking	• Ethernet switching and routing silicon • Custom silicon solutions • Optical and copper PHYs • Fiber optic transmitter and receiver components
Wireless	• Mobile Device Connectivity	• RF front end modules and filters • Wi-Fi, Bluetooth, GPS/GNSS SoCs • Custom touch controllers • Inductive charging ASICs
Storage	• Servers and Storage Systems	• SAS and RAID controllers and adapters • PCIe switches • Fibre channel host bus adapters • Ethernet NIC
	• HDD and SSD	• Read channel based SoCs; Custom flash controllers • Preamplifiers
Industrial	• Factory Automation, Renewable Energy and Automotive Electronics	• Optocouplers • Industrial fiber optics • Industrial and medical sensors • Motion control encoders and subsystems • Light emitting diode • Ethernet PHYs, switch ICs and camera microcontrollers

Set-Top Box Solutions: We offer complete SoC platform solutions for cable, satellite, Internet Protocol television, over-the-top and terrestrial STBs. Our products enable global service providers to introduce new and enhanced technologies and services in STBs, including transcoding, digital video recording functionality, higher definition video processing, increased networking capabilities, and more tuners to enable faster channel change and more simultaneous recordings. We are also enabling service providers in deploying High Efficiency Video Coding ("HEVC"), a video compression format that is a successor to the H.264/MPEG-4 format. HEVC enables ultra-high definition ("Ultra HD"), services by effectively doubling the capacity of

existing networks to deploy new or existing content. Our families of STB solutions support the complete range of resolutions, from standard definition, to high definition, and Ultra HD.

Broadband Access Solutions: We offer complete SoC platform solutions for digital subscriber line ("DSL"), cable, passive optical networking ("PON") and wireless local area network for both consumer premise equipment ("CPE") and central office ("CO") deployments. Our CPE devices are used in broadband modems, residential gateways and Wi-Fi access points and routers. Our CO devices, including DSL Access Multiplexer ("DSLAM"), cable modem termination systems and PON optical line termination medium access controller, are empowering modern operator broadband infrastructure. Our products enable global service providers to continue to deploy next generation broadband access technologies across multiple standards, including G.fast, Data Over Cable Service Interface Specifications ("DOCSIS"), PON and Wi-Fi to provide more bandwidth and faster speeds to consumers.

Ethernet Switching & Routing: Ethernet is a ubiquitous interconnection technology that enables high performance and cost effective networking infrastructure. We offer a broad set of Ethernet switching and routing products that are optimized for data center, service provider and enterprise networks. In the data center market, our high capacity, low latency, switching silicon supports advanced protocols around virtualization and multi-pathing. Our Ethernet switching fabric technologies provide the ability to build highly scalable flat networks supporting tens of thousands of servers. Our service provider switch portfolio enables carrier networks to support prioritized delivery of data traffic in the wireless backhaul, access, aggregation and core of their networks. For enterprise networks, we offer product families with secure, encrypted switching capabilities and support lower power modes that comply with industry standards around energy efficient Ethernet.

Custom Silicon Solutions: We provide advanced technology and IP platforms for customers to design and develop application specific integrated circuits ("ASICs"), targeting data center compute offload, legacy and new 5G radio infrastructure, and wired communication networks. Our custom silicon provides the platform to integrate embedded logic, memory, serializer/deserializer ("SerDes") technology, IP cores and processor cores. The ASICs are custom products built to individual customers specifications.

Physical Layer Devices: These devices, also referred to as PHYs, are transceivers that enable the reception and transmission of Ethernet data packets over a physical medium such as copper wire or optical fibers. Our high performance Ethernet transceivers are built upon a proprietary digital signal processing communication architecture optimized for high-speed network connections and support the latest standards and advanced features, such as energy efficient Ethernet, data encryption and time synchronization. We also offer a range of automotive Ethernet products, including PHYs, switches and camera microcontrollers, to meet growing consumer demand for in-vehicle connectivity and smart vision.

Fiber Optic Components: We supply a wide array of optical components to the Ethernet networking, storage, and access, metro- and long-haul telecommunication markets. Our optical components enable the high speed reception and transmission of data through optical fibers.

RF Semiconductor Devices: Our RF semiconductor devices selectively filter, as well as amplify and route, RF signals. Filters enable modern wireless communication systems to support a large number of subscribers simultaneously by ensuring that the multiple transmissions and receptions of voice and data streams do not interfere with each other. We were among the first to deliver commercial film bulk acoustic resonator ("FBAR") filters that offer technological advantages over competing filter technologies, to allow mobile handsets to function more efficiently in today's congested RF spectrum. FBAR technology has a significant market share within the cellular handset market. Our RF products include multi-chip module front-end modules that integrate transmit/receive switching and filtering functions for multiple frequency bands, filter modules and discrete filters, all using our proprietary FBAR technology.

Our expertise in FBAR technology, amplifier design, and module integration enables us to offer industry-leading performance in cellular RF transceiver applications.

Connectivity Solutions: Our connectivity solutions include discrete and integrated Wi-Fi and Bluetooth solutions, and global positioning system/global navigation satellite system ("GPS/GNSS") receivers, designed for use in mobile devices including smartphones, tablets and wearable products.

Wi-Fi allows devices on a local area network to communicate wirelessly, adding the convenience of mobility to the utility of high-speed data networks. We offer a family of high performance, low power Wi-Fi chipsets. Bluetooth is a low power technology that enables direct connectivity between devices. We offer a complete family of Bluetooth silicon and software solutions that enable manufacturers to easily and cost-effectively add Bluetooth functionality to virtually any device. These solutions include combination chips that offer integrated Wi-Fi and Bluetooth functionality, which provides significant performance advantages over discrete solutions.

We also offer a family of GPS, assisted-GPS and GNSS semiconductor products, software and data services. These products are part of a broader location platform that leverages a broad range of communications technologies, including Wi-Fi, Bluetooth and GPS, to provide more accurate location and navigation capabilities.

Custom Touch Controllers: Our touch controllers process signals from touch screens in mobile handsets and tablets.

Inductive Charging ASICs: Our custom inductive charging ASIC devices offer high efficiency and are highly integrated solutions for mobile and wearable devices.

SAS, RAID & PCIe Products: We provide serial attached small computer system interface ("SAS") and redundant array of independent disks ("RAID") controller and adapter solutions to server and storage system original equipment manufacturers ("OEMs"). These solutions enable secure and high speed data transmission between a host computer, such as a server, and storage peripheral devices, such as HDD, SSD and optical disk drives and disk and tape-based storage systems. Some of these solutions are delivered as stand-alone semiconductors, typically as a controller. Other solutions are delivered as circuit boards, known as adapter products, which incorporate our semiconductors onto a circuit board with other features. RAID technology is a critical part of our server storage connectivity solutions as it provides protection against the loss of critical data resulting from HDD failures.

We also provide interconnect semiconductors that support the peripheral component interconnect express ("PCIe") communication standards. PCIe is the primary interconnection mechanism inside computing systems today.

Fibre Channel Products: We provide fibre channel host bus adapters, which connect host computers such as servers to FC SANs.

Ethernet NIC Controllers: Our Ethernet network interface card ("NIC") controllers are designed for high-performance virtualization, intelligent flow processing, secure data center connectivity, and machine learning.

HDD & SSD Products: We provide read channel-based SoCs and preamplifiers to HDD OEMs. These are the critical chips required to read, write and protect data. An HDD SoC is an integrated circuit ("IC") that combines the functionality of a read channel, serial interface, memory and a hard disk controller in a small, high-performance, low-power and cost-effective package. Read channels convert analog signals that are generated by reading the stored data on the physical media into digital signals.

In addition, we sell preamplifiers, which are complex, high speed, mixed signal devices that enable writing and reading data to and from the HDD heads. The preamplifier interfaces with the SoC to provide the electronics data path in a HDD.

We also provide custom flash controllers to SSD OEMs. An SSD stores data in flash memory instead of on a hard disk, providing high speed access to the data. Flash controllers manage the underlying flash memory in SSDs, performing critical functions such as reading and writing data to and from the flash memory and performing error correction, wear leveling and bad block management.

Industrial End Markets: We also provide a broad variety of products for the general industrial and automotive markets, including optocouplers, industrial fiber optics, industrial and medical sensors, motion encoders, light emitting diode devices, and Ethernet ICs. Our industrial products are used in a diverse set of applications, spanning industrial automation, power generation and distribution systems, medical systems and equipment, defense and aerospace, and vehicle subsystems including those used in electric vehicle powertrain, infotainment and advanced driver assistance system.

Infrastructure Software

Our infrastructure software solutions offer customers greater choice and flexibility to build, run, manage, connect and protect applications and data at scale across hybrid IT environments.

Our mainframe software provides market-leading DevOps, AIOps, Security, Workload Automation, Data Management, and Foundational Software solutions, that enable customers to embrace open tools and technologies, innovate with their mainframe as part of their hybrid cloud, and amplify the value of their mainframe investments. Our commitment to partnering with our customers extends beyond products and technology and includes unique Beyond Code programs that address challenges such as skills development, staffing, change management, and cost-saving initiatives that drive overall business success with the platform.

Our distributed software solutions enable global enterprises to optimize the planning, development and delivery of software, powering their business critical digital services. Our solutions are designed to enable customers to innovate, improve customer experience, and drive profitability by aligning business, development, and operational teams. Our products, organized in the domains of ValueOps, DevOps, and AIOps, deliver end-to-end visibility across all stages of the digital lifecycle and help our customers realize better business outcomes and better experiences for their customers.

Our Symantec cyber security software solutions help organizations and governments secure against threats and compliance risks by protecting their users and data on any app, device, or network. Our integrated cyber defense approach simplifies cyber security with comprehensive solutions designed to secure critical business assets across on-premises and cloud infrastructures. Our Symantec solutions utilize rich threat intelligence from a global network of security engineers, threat analyst and researchers, as well as advanced artificial intelligence ("AI") and machine-learning engines, enabling customers to protect data, connect authorized users with trusted applications, and detect and respond to the most advanced targeted attacks.

We also offer mission critical FC SAN products designed to help customers reduce the cost and complexity of managing business information within a shared data storage environment, enabling high levels of availability of mission critical applications in the form of modules, switches and subsystems incorporating multiple semiconductor products. We deliver reliable and simplified management of these FC SAN products through our software-based management tools designed to maximize uptime, dramatically simplify storage area networking deployment and management, and provide high levels of visibility and insight into the storage network.

The table below presents our software portfolios and their material offerings during fiscal year 2023.

Software Portfolio	Portfolio Description	Major Portfolio Offerings
Mainframe Software	• DevOps, AIOps, Security, Workload Automation, Data Management, and Foundational Software Solutions	• Operational Analytics & Management • Workload Automation • Database & Data Management • Application Development & Testing • Identity & Access Management • Compliance & Data Protection • Security Insights
	• Beyond Code programs	• Skills Development and Staffing • Software Rationalization and Migration • Software Efficiency and Cost Optimization Tools • Change Management Support • Technology Proof of Concepts
Distributed Software	• Solutions that optimize the planning, development and delivery of business critical services	• ValueOps • DevOps • AIOps
Symantec Cyber Security	• Comprehensive threat protection and compliance solutions that secure against threats and compliance risks by protecting users and data on any app, device, or network	• Endpoint Security • Network Security • Information Security • Identity Security
FC SAN Management	• Solutions that transforms current storage networks with autonomous SAN capabilities	• Fibre Channel Switch
Payment Security	• Arcot payment authentication network powered by 3-D Secure	• Payment Security Suite

Operational Analytics & Management*:* These solutions combine big data, machine learning and AI with mainframe expertise to deliver meaningful and actionable insights to augment and automate day-to-day operations and deliver exceptional customer experiences.

Workload Automation: These solutions reduce manual effort by enabling customers to proactively optimize resources and orchestrate automation across enterprise applications and systems.

Databases & Data Management*:* These high-performance databases and management tools store, organize, and manage mainframe data to ensure optimal performance, efficient administration, and reliability of critical systems. Customers can also manage their mainframe data storage using modern mainframe solutions that securely store data on any device that customers choose, including the cloud. These software-only solutions are designed to save on costs and maintain confidence in data security.

Application Development & Testing*:* These solutions enable customers to accelerate software delivery while increasing code quality through the use of our agile processes and tools, and DevOps solutions. Our open-first strategy helps customers modernize their mainframe environment through the use of open source and open application programming technologies across people, process, tooling and applications, resulting in greater synergy and alignment with their corporate IT.

Identity & Access Management*:* These solutions manage mainframe access and elevate it with modern practices such as multi-factor authentication and privileged user management, and support all external security managers.

***Compliance & Data Protection**: These solutions protect crucial mainframe data to ensure compliance, identify risk, proactively respond to potential threats, and reduce those risks to lighten the load on security management with automated identification and authorization cleanup.

***Security Insights Platform**: This solution helps ensure a trusted environment for customers and their employees by quickly interpreting and assessing mainframe security posture, identifying risks and developing remediation steps on an ongoing and ad hoc basis. This data is available for use with in-house tools for security information and event management.

***Beyond Code Programs**: These value-added offerings go above and beyond the leading software we provide to help ensure our customers get the most out of their mainframe investments. These offerings unlock additional value for organizations in areas like educating and upskilling the workforce, providing expert guidance and support for change events, uncovering opportunities to improve efficiency and save costs.

***ValueOps**: This solution delivers value stream management capabilities that enable customers to schedule, track, and manage work throughout its lifecycle from investment planning to execution. It aligns business and development teams across the enterprise, increasing transparency, reducing inefficiencies, and improving time to value.

DevOps: This solution offers capabilities that empower users of our agile processes and tools to track development progress and deploy releases confidently with assurance of feature completeness, high-quality and reduced risk. Key stakeholders have a single view of key insights into release progress, health, quality, defect trends, and metrics that drive focus, gauge readiness, and help to ensure successful, quality releases.

AIOps: This solution combines application, infrastructure and network monitoring and correlation with intelligent remediation capabilities to help customers create more resilient production environments and improve customer experience.

Endpoint Security: Endpoints are the critical last line of defense against cyber attackers. Our Symantec endpoint security solutions prevent, detect and respond to emerging threats across all devices and operating systems including laptops, desktops, tablets, mobile phones, servers and cloud workloads through an intelligent AI driven security console and single agent.

Network Security: Email and web access are the lifeblood and essential communication means for every modern organization. We have a full array of network security solutions, as well as a shared set of advanced threat protection technologies to stop inbound and outbound threats targeting end users, information and key infrastructure.

Information Security: Information protection and compliance is critical to managing risk. We offer integrated information security solutions, based on an efficient, single-policy that can be applied across the entire environment, to help organizations identify and protect risky users, applications and their most sensitive data everywhere across endpoints, on-premises networks, cloud services and private applications.

Identity Security: User identities are under attack by cyber criminals hoping to exploit their access and privileges and do harm. We mitigate these attacks by positively identifying legitimate users, enforcing granular access control policies, and streamlining access governance to prevent unauthorized access to sensitive resources and data.

Fibre Channel Switch Products: Our Brocade Fibre Channel switch products provide interconnection, bandwidth and high-speed switching between servers and storage devices which are in a FC SAN. FC SANs are networks dedicated to mission critical storage traffic, and enable simultaneous high speed and secure connections among multiple host computers and multiple storage arrays.

Payment Security Suite: This is a software as a service (“SaaS”)-based payment authentication service to help banks and merchants protect against fraud and ensure a hassle-free online shopping experience for their customers.

Research and Development

We are committed to continuous investment in product development and enhancement, with a focus on rapidly introducing new, proprietary products and releases. Many of our products have grown out of our own research and development efforts, and have given us competitive advantages in certain target markets due to performance differentiation. However, we opportunistically seek to enhance our capabilities through the acquisition of engineers with complementary research and development skills and complementary technologies and businesses. We focus our research and development efforts on the development of mission critical, innovative, sustainable and higher value product platforms and those that improve the quality and stability in our broadly deployed products. We leverage our design capabilities in markets where we believe our innovation and reputation will allow us to earn attractive margins by developing high value-add products.

We plan to continue investing in product development, both organically and through acquisitions, to drive growth in our business. We also invest in process development and improvements to product features and functions, as well as fabrication capabilities to optimize processes for devices that are manufactured internally. Our field application engineers, design engineers, and product and software development engineers are located in many places around the world, and in many cases near our top customers. This enhances our customer reach and our visibility into new product opportunities and, in the case of our semiconductor customers, enables us to support our customers in each stage of their product development cycle, from the early stages of production design to volume manufacturing and future growth. By collaborating with our customers, we have opportunities to develop high value-added, customized products for them that leverage our existing technologies. We anticipate that we will continue to make significant research and development expenditures in order to maintain our competitive position, and to ensure a continuous flow of innovative and sustainable product platforms.

Customers, Sales and Distribution

We sell our products through our direct sales force and a select network of distributors and channel partners globally. Distributors and OEMs, or their contract manufacturers, typically account for the substantial majority of our semiconductor sales. A relatively small number of customers account for a significant portion of our net revenue. Sales to distributors accounted for 57% and 56% of our net revenue for fiscal years 2023 and 2022, respectively. We believe aggregate sales to our top five end customers, through all channels, accounted for approximately 35% of our net revenue for each of our fiscal years 2023 and 2022. We believe aggregate sales to Apple Inc., through all channels, accounted for approximately 20% of our net revenue for each of fiscal years 2023 and 2022. We expect to continue to experience significant customer concentration in future periods. The loss of, or significant decrease in demand from, any of our top five end customers could have a material adverse effect on our business, results of operations and financial condition.

Many of our semiconductor customers design products in North America or Europe that are then manufactured in Asia. To serve customers around the world, we have strategically developed relationships with large global electronic component distributors, complemented by a number of regional distributors with customer relationships based on their respective product ranges. We also sell our products to a wide variety of OEMs or their contract manufacturers. We have established strong relationships with leading OEM customers across multiple target markets. Our direct sales force focuses on supporting our large OEM customers, and has specialized product and service knowledge that enables us to sell specific offerings at key levels throughout a customer’s organization. Certain customers require us to contract with them directly and with specified intermediaries, such as contract manufacturers. Many of our major customer relationships have been in place for many years and are often the result of years of collaborative product development. This has enabled us to build our extensive IP portfolio and develop critical expertise regarding our customers’ requirements, including substantial system-level knowledge. This collaboration has provided us with key insights into our customers' businesses and has enabled us to be more efficient and productive and to better serve our target markets and customers. Many of our customers and their contract manufacturers often require time critical delivery of our products to multiple locations around the world. With sales offices located in various countries, our primary warehouse in Malaysia, and dedicated regional customer support call centers, where we address customer issues and handle logistics and other order fulfillment requirements, we believe we are well-positioned to support our customers throughout the design, technology transfer and manufacturing stages across all geographies.

Our software customers are in most major industries worldwide, including banks, insurance companies, other financial services providers, government agencies, global IT service providers, telecommunication providers, transportation companies, manufacturers, technology companies, retailers, educational organizations and health care institutions. Our customers generally consist of large enterprises that have computing environments from multiple vendors and are highly complex. We remain focused on strengthening relationships and increasing penetration within our existing core, mainframe-centric, and Symantec endpoint customers and expanding the adoption of our enterprise software offerings with these customers. We believe our enterprise-wide license model will continue to offer our customers reduced complexity, more flexibility and an easier renewal process that will help drive revenue growth.

Manufacturing Operations

We focus on maintaining an efficient global supply chain and a variable, low-cost operating model. Accordingly, we outsource a majority of our manufacturing operations, utilizing third-party foundry and assembly and test capabilities, as well as some of our corporate infrastructure functions. The majority of our front-end wafer manufacturing operations is outsourced to external foundries, including Taiwan Semiconductor Manufacturing Company Limited (“TSMC”). We use third-party contract manufacturers for a significant majority of our assembly and test operations, including TSMC, Advanced Semiconductor Engineering, Inc., Foxconn Technology Group, Amkor Technology, Inc. and Siliconware Precision Industries Co., Ltd. We use our internal fabrication facilities for products utilizing our innovative and proprietary processes, such as our FBAR filters for wireless communications and our vertical-cavity surface emitting laser and side emitting lasers-based on GaAs and InP lasers for fiber optic communications, while outsourcing commodity processes such as standard CMOS. By doing so, we can protect our IP and accelerate time to market for our products. The majority of our internal III-V semiconductor wafer fabrication is done in the U.S. and Singapore.

We also have a long history of operating in Asia where we manufacture and source the majority of our products and materials. We store the majority of our product inventory in our warehouse in Malaysia and our presence in Asia places us in close proximity to many of our customers’ manufacturing facilities.

Manufacturing Materials and Suppliers

Our manufacturing operations employ a wide variety of semiconductors, electromechanical components and assemblies and raw materials. We purchase materials from hundreds of suppliers on a global basis. These purchases are generally on a purchase order basis and some parts are not readily available from alternate suppliers due to their unique design or the length of time and cost necessary for re-design or qualification. To address the potential disruption in our supply chain, we may use a number of techniques, including redesigning products for alternative components, making incremental or “lifetime” purchases, or qualifying more than one source of supply. Our long-term relationships with our suppliers allow us to proactively manage our technology development and product discontinuance plans, and to monitor our suppliers' financial health. Some suppliers may, nonetheless, extend their lead times, limit supplies, increase prices or cease to produce necessary parts for our products. If these are unique or highly specialized components, we may not be able to find a substitute quickly, or at all.

Competition

The markets in which we participate are highly competitive. Our competitors range from large, international companies offering a wide range of products to smaller companies specializing in narrow markets. The competitive landscape is changing as a result of a trend toward consolidation within many industries, as some of our competitors have merged with or been acquired by other competitors, while others have begun collaborating with each other. We expect this consolidation trend to continue. We expect competition in the markets in which we participate to continue to increase as existing competitors improve or expand their product offerings and as new companies enter the market. Additionally, our ability to compete effectively depends on a number of factors, including: quality, technical performance, price, product features, product system compatibility, system-level design capability, engineering expertise, responsiveness to customers, new product innovation, product availability, delivery timing and reliability, and customer sales and technical support.

In the semiconductor market, we compete with integrated device manufacturers, fabless semiconductor companies, as well as the internal resources of large, integrated OEMs. Our primary competitors are Advanced Micro Devices, Inc., Amlogic Inc., Analog Devices, Inc., Cisco Systems, Inc., GlobalFoundries Inc., Hamamatsu Photonics K.K., Heidenhain Corporation, iC-Haus GmbH, Intel Corporation, Lumentum Holdings Inc., MACOM Technology Solutions Holdings, Inc., Marvell Technology, Inc., MaxLinear, Inc., MediaTek Inc., Microchip Technology Incorporated, Mitsubishi Electric Corporation, Murata Manufacturing Co., Ltd., NVIDIA Corporation, NXP Semiconductors N.V., ON Semiconductor Corporation, OSRAM Licht AG, Qorvo, Inc., Qualcomm Inc., Realtek Semiconductor Corp., Renesas Electronics Corporation, Skyworks Solutions, Inc., STMicroelectronics N.V., Sumitomo Corporation, Synaptics Incorporated, Texas Instruments, Inc., TDK-EPC Corporation, Toshiba Corporation, Wolfspeed, Inc. (f/k/a Cree, Inc.), and II-VI Incorporated. We compete based on the strength and expertise of our high speed proprietary design expertise, FBAR technology, amplifier design, module integration, proprietary materials processes, multiple storage protocols and mixed-signal design, our broad product portfolio, support of key industry standards, reputation for quality products, and our customer relationships.

In the infrastructure software market, we compete with large enterprise software vendors who continue to expand their product and service offerings and consolidate offerings into broad product lines, and smaller, niche players focused on specific markets. Our primary competitors are Atlassian Corporation, Plc, BeyondTrust Corporation, BMC Software Inc., Cisco Systems, Inc., CrowdStrike Holdings, Inc., CyberArk Software, Ltd., Dino-Software Corporation, International Business Machines Corporation, Microsoft Corporation, New Relic, Inc., OpenText Corporation, Oracle Corporation, Proofpoint, Inc., Rocket Software, Inc., SailPoint Technologies Holdings, Inc., Salesforce.com, Inc., ServiceNow, Inc., SolarWinds Corporation, Splunk, Inc. and Zscaler, Inc. We compete based on the breadth of our enterprise management tools portfolio, breadth and synergy of offerings, our platform and hardware independence, our global reach, and our deep customer relationships and industry experience.

Intellectual Property

Our success depends in part upon our ability to protect our IP. To accomplish this, we rely on a combination of IP rights, including patents, copyrights, trademarks, service marks, trade secrets and similar IP, as well as customary contractual protections with our customers, suppliers, employees and consultants, and through security measures to protect our trade secrets. We believe our current product expertise, key engineering talent and IP portfolio provide us with a strong platform from which to develop application specific products in key target markets.

As of October 29, 2023, we had 15,400 U.S. and other patents and 910 U.S. and other pending patent applications. The expiration dates of our patents range from 2023 to 2042, with a small number of patents expiring in the near future, none of

which are expected to be material to our IP portfolio. We are not substantially dependent on any single patent or group of related patents.

We focus our patent application program to a greater extent on those inventions and improvements that we believe are likely to be incorporated into our products, as contrasted with more basic research. However, we do not know how many of our pending patent applications will result in the issuance of patents or the extent to which the examination process could require us to narrow our claims.

We and our predecessors have also entered into a variety of IP licensing and cross-licensing arrangements that have both benefited our business and enabled some of our competitors. A portion of our revenue comes from IP licensing royalty payments and from litigation settlements relating to such IP. We also license third-party technologies that are incorporated into some elements of our design activities, products and manufacturing processes. Historically, licenses of the third-party technologies used by us have generally been available to us on acceptable terms.

The industries in which we compete are characterized by the existence of a large number of patents, copyrights, trademarks and trade secrets and by the vigorous pursuit, protection and enforcement of IP rights, including by patent holding companies that do not make or sell products. Some of our customer agreements require us to indemnify our customers for third-party IP infringement claims arising from our products. Claims of this sort could harm our relationships with our customers and might deter future customers from doing business with us. With respect to any IP rights claims against us or our customers or distributors, we may be required to defend ourselves or our customers or distributors in litigation, cease manufacturing the infringing products, pay damages, expend resources to develop non-infringing technology, seek a license which may not be available on commercially reasonable terms or at all, or relinquish patents or other IP rights.

With respect to our infrastructure software, the proprietary portions of our source code for our products are protected both as a trade secret and as copyrighted works. Except with respect to software components that are subject to open source licenses, our customers do not generally have access to the source code for our products. Rather, on-premise customers typically access only the executable code for our products, and SaaS customers access only the functionality of our SaaS offerings. Under certain contingent circumstances, some of our customers are beneficiaries of a source code escrow arrangement that would enable them to obtain a limited right to access and use our source code if specific conditions are met.

Employees

Our continued success depends on our ability to attract, motivate and retain our workforce in a highly competitive labor market. Specifically, as the source of our technological and product innovations, our engineering and technical personnel are a critical asset.

We measure our employees’ engagement by our voluntary attrition rate and employee feedback. Our global voluntary attrition rate in fiscal year 2023 was approximately 3.3%, well below the technology industry benchmark (AON, 2023 Salary Increase and Turnover Study — Second Edition, September 2023).

We also track the portion of our workforce in research and development roles. As of October 29, 2023, we had approximately 20,000 employees worldwide, with approximately 63% in research and development roles. By geography, approximately 54% of our employees are located in North America, 34% in Asia, and 12% in Europe, the Middle East and Africa.

Governmental Regulation

Our semiconductor manufacturing operations and research and development involve the use of hazardous substances and are regulated under international, federal, state and local laws governing health, safety and the environment. These regulations include limitations on discharge of pollutants to air, water, and soil; remediation requirements; product chemical content limitations; manufacturing chemical use and handling restrictions; pollution control requirements; waste minimization considerations; and treatment, transport, storage and disposal of solid and hazardous wastes. We are also subject to regulation by the U.S. Occupational Safety and Health Administration and similar health and safety laws in other jurisdictions.

We believe that our properties and operations at our facilities comply in all material respects with applicable environmental laws and worker health and safety laws. However, the risk of environmental liabilities cannot be completely eliminated and there can be no assurance that the application of environmental, health and safety laws to our business will not require us to incur significant expenditures.

We are also regulated under a number of international, federal, state and local laws regarding recycling, product packaging and product content requirements, including legislation enacted in the U.S., European Union and China, among a growing number of jurisdictions, which have placed greater restrictions on the use of lead, among other restricted substances, in electronic products, which affects materials composition and semiconductor packaging. In addition, our business is subject

to various import/export regulations, such as the U.S. Export Administration Regulations, and applicable executive orders, and rules of industrial standards bodies, like the International Organization for Standardization, as well as regulation by other agencies, such as the U.S. Federal Trade Commission (“FTC”). These laws, regulations and orders are complex, may change frequently and with limited notice, have generally and may continue to become more stringent over time. We may incur significant expenditures in future periods as a result.

Seasonality

Historically, our net revenue has typically been higher in the second half of the fiscal year than in the first half, primarily due to seasonality in our wireless communications products. These products have historically experienced seasonality due to launches of new mobile devices manufactured by our OEM customers. However, from time to time, typical seasonality and industry cyclicality are overshadowed by other factors such as wider macroeconomic effects, the timing of significant product transitions and launches by large OEMs, particularly with our wireless communications products. We have a diversified business portfolio and we believe that our overall revenue is less susceptible to seasonal variations as a result of this diversification.

Other Information

Our website is www.broadcom.com. You may access our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and other reports (and amendments thereto) filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (the “Exchange Act”) with the Securities and Exchange Commission (the “SEC”), as well as proxy statements filed by Broadcom, free of charge at the “Investor Center - SEC Filings” section of our website at www.broadcom.com, as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. Such periodic reports, proxy statements and other information are also available at the SEC’s website at www.sec.gov. The reference to our website address does not constitute incorporation by reference of the information contained on or accessible through our website.

Information About Our Executive Officers

The following table provides information regarding our executive officers as of December 14, 2023:

Name and Title	Age	Position and Offices
Hock E. Tan	72	President, Chief Executive Officer and Director
Kirsten M. Spears	59	Chief Financial Officer and Chief Accounting Officer
Mark D. Brazeal	55	Chief Legal and Corporate Affairs Officer
Charlie B. Kawwas, Ph.D.	53	President, Semiconductor Solutions Group

Hock E. Tan has served as our President and Chief Executive Officer since March 2006. He was President and Chief Executive Officer at Integrated Circuit Systems, Inc. (“ICS”), a publicly traded timing solutions IC company, from 1999 until its acquisition by Integrated Device Technology, Inc. in 2005. He also held several executive leadership positions at ICS, including Chief Operating Officer from 1996 to 1999 and Senior Vice President and Chief Financial Officer from 1995 to 1999. He was Vice President of Finance at Commodore International, Ltd. from 1992 to 1994, and held senior management positions at PepsiCo, Inc. and General Motors Corporation. He was also managing director of Pacven Investment, Ltd., a venture capital fund in Singapore, from 1988 to 1992, and was managing director of Hume Industries Ltd. in Malaysia from 1983 to 1988.

Kirsten M. Spears has served as our Chief Financial Officer and Chief Accounting Officer since December 2020. She served as our Principal Accounting Officer from March 2016 to December 2020 and Vice President and Corporate Controller from May 2014 to December 2020. She was Vice President and Corporate Controller at LSI Corporation from 2007 until its acquisition by us in 2014. She held several management positions in accounting and reporting at LSI from 1997 to 2007. She also worked for PriceWaterhouseCoopers prior to joining LSI.

Mark D. Brazeal has served as our Chief Legal and Corporate Affairs Officer since December 2021. He served as our Chief Legal Officer from March 2017 to December 2021. He was Chief Legal Officer and Senior Vice President, IP Licensing for SanDisk Corporation from 2014 until its acquisition by Western Digital Corporation in 2016. He held several senior legal positions at Broadcom Corporation from 2000 to 2014, including Senior Vice President and Senior Deputy General Counsel in charge of all commercial, operational, IP licensing and litigation matters. He was also an attorney in the transactional and IP groups at the law firms of Wilson Sonsini Goodrich & Rosati, Yuasa & Hara and Howrey & Simon prior to joining Broadcom Corporation.

Charlie B. Kawwas has served as our President, Semiconductor Solutions Group since July 2022. He served as our Chief Operating Officer from December 2020 to July 2022, Senior Vice President and Chief

Sales Officer from June 2015 to December 2020 and Senior Vice President, Worldwide Sales from May 2014 to June 2015. He was head of worldwide sales at

LSI Corporation from 2010 until its acquisition by us in 2014. He held several executive leadership positions at LSI from 2007 to 2010, including Vice President of Sales and Marketing for the networking division and Vice President of Marketing for the networking and storage products group. He was also the leader of Product Line Management for the Optical Ethernet and Multi-service Edge portfolio at Nortel Networks Corporation prior to joining LSI.

ITEM 1A. RISK FACTORS

Our business, operations and financial results are subject to various risks and uncertainties, including those described below, that could adversely affect our business, financial condition, results of operations, cash flows, and the trading price of our common stock. The following material factors, among others, could cause our actual results to differ materially from historical results and those expressed in forward-looking statements made by us or on our behalf in filings with the SEC, press releases, communications with investors and oral statements.

Risk Factors Summary

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

Risks Related to Our Business

- Adverse global economic conditions could have a negative effect on us.
- Our business is subject to various governmental regulations and trade restrictions. Compliance with these regulations may cause us to incur significant expense and, if we fail to maintain compliance, we may be forced to cease manufacture and distribution of certain products or subjected to administrative proceedings and civil or criminal penalties.
- Global political and economic conditions and other factors related to our international operations could adversely affect us.
- The failure to realize the expected benefits from the VMware Merger may adversely affect our business and the value of our common stock.
- We may pursue acquisitions, investments, joint ventures and dispositions, which could adversely affect our results of operations.
- We are subject to risks associated with our distributors and other channel partners, including product inventory levels and product sell-through.
- We are dependent on senior management and if we are unable to attract and retain qualified personnel, we may not be able to execute our business strategy effectively.
- An impairment of the confidentiality, integrity, or availability of our IT systems, or those of one or more of our corporate infrastructure vendors, could have a material adverse effect on our business.
- We operate in the highly cyclical semiconductor industry.
- The majority of our sales come from a small number of customers and a reduction in demand or loss of one or more of our significant customers may adversely affect our business.
- Dependence on contract manufacturing and suppliers of critical components within our supply chain may adversely affect our ability to bring products to market.
- We purchase a significant amount of the materials used in our products from a limited number of suppliers.
- Failure to adjust our manufacturing and supply chain to accurately meet customer demand could adversely affect our results of operations.
- Winning business in the semiconductor solutions industry is subject to a lengthy process that often requires us to incur significant expense, from which we may ultimately generate no revenue.
- A prolonged disruption of our manufacturing facilities, research and development facilities, warehouses or other significant operations, or those of our suppliers, could have a material adverse effect on us.
- We may be unable to maintain appropriate manufacturing capacity or product yields at our own manufacturing facilities.
- We may be involved in legal proceedings, including IP, securities litigation, and employee-related claims that could adversely affect our business.
- If demand for our data center virtualization products is less than anticipated, our business could be adversely affected.
- The growth of our software business depends on customer acceptance of our newer products and services.
- Incompatibility of our software products with operating environments, platforms, or third-party products, demand for our products and services could decrease.
- Failure to enter into software license agreements on a satisfactory basis could adversely affect us.
- Licensed third party software used in our products may not be available to us in the future, which may delay product development and production or cause us to incur additional expense.

- Our use of open source software in certain products and services could materially adversely affect our business, financial condition and results of operations.
- Failure of our software products to manage and secure IT infrastructures and environments could have a material adverse effect on our business.
- Our sales to government customers subject us to uncertainties and governmental regulations, which could have a material adverse effect on our business.
- Failure to effectively manage our products and services lifecycles could harm our business.
- Our operating results are subject to substantial quarterly and annual fluctuations.
- Competition in our industries could prevent us from growing our revenue.
- Our ability to maintain or improve gross margin.
- Our ability to protect the significant amount of IP in our business.
- We are subject to warranty claims, product recalls and product liability.
- The complexity of our products could result in unforeseen delays or expense or undetected defects or bugs.
- We make substantial investments in research and development and unsuccessful investments could materially adversely affect our business, financial condition and results of operations.
- We collect, use, store, or otherwise process personal information, which subjects us to privacy and data security laws and contractual commitments, and our actual or perceived failure to comply with such laws and commitments could harm our business.
- We are subject to environmental, health and safety laws, which could increase our costs, restrict our operations and require expenditures.
- Environmental, social and governance matters may adversely affect our relationships with customers and investors.
- The average selling prices of semiconductor products in our markets have often decreased rapidly and may do so in the future.
- Fluctuations in foreign exchange rates could result in losses.

Risks Relating to Taxes

- Changes in tax legislation or policies could materially impact our financial position and results of operations.
- Our corporate income taxes could significantly increase if we are unable to maintain our tax concessions or if our assumptions and interpretations regarding tax laws and concessions prove to be incorrect.
- Our income taxes and overall cash tax costs are affected by a number of factors that could materially, adversely affect financial results.
- We have potential tax liabilities as a result of VMware’s former controlling ownership by Dell, which could have an adverse effect on our financial condition and operating results.

Risks Relating to Our Indebtedness

- Our substantial indebtedness could adversely affect our financial health and our ability to execute our business strategy.
- The instruments governing our indebtedness impose certain restrictions on our business.
- Servicing our debt requires a significant amount of cash, and we may not have sufficient cash flows from our business to pay our substantial debt.

Risks Relating to Owning Our Common Stock

- Volatility of our stock price could result in substantial losses for our investors as well as class action litigation against us and our management.
- The amount and frequency of our stock repurchases may fluctuate.
- A substantial amount of our stock is held by a small number of large investors.
- There can be no assurance that we will continue to declare cash dividends.

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

Risks Related to Our Business

Adverse global economic conditions could have a negative effect on our business, results of operations and financial condition and liquidity.

A general slowdown in the global economy, including a recession, or in a particular region or industry, an increase in trade tensions with U.S. trading partners, inflation or a tightening of the credit markets could negatively impact our business, financial condition and liquidity. Adverse global economic conditions have from time to time caused or exacerbated significant slowdowns in the industries and markets in which we operate, which have adversely affected our business and results of operations. Macroeconomic weakness and uncertainty also make it more difficult for us to accurately forecast revenue, gross margin and expenses, and may make it more difficult to raise or refinance debt. An escalation of trade tensions between the U.S. and China has resulted in trade restrictions, increased protectionism and increased tariffs that harm our ability to participate in Chinese markets or compete effectively with Chinese companies. Sustained uncertainty about, or worsening of, current global economic conditions and further escalation of trade tensions between the U.S. and its trading partners, especially China, and possible decoupling of the U.S. and China economies, could result in a global economic slowdown and long-term changes to global trade. Such events may also (i) cause our customers and consumers to reduce, delay or forgo technology spending, (ii) result in customers sourcing products from other suppliers not subject to such restrictions or tariffs, (iii) lead to the insolvency or consolidation of key suppliers and customers, and (iv) intensify pricing pressures. Any or all of these factors could negatively affect demand for our products and our business, financial condition and results of operations.

Our business is subject to various governmental regulations, and compliance with these regulations may cause us to incur significant expense. If we fail to maintain compliance with applicable regulations, we may be forced to cease the manufacture and distribution of certain products, and we could be subject to administrative proceedings and civil or criminal penalties.

Our business is subject to various domestic and international laws and other legal requirements, including anti-competition and import/export regulations, such as the U.S. Export Administration Regulations, and applicable executive orders. These laws, regulations and orders are complex, may change frequently and with limited notice, and have generally and may continue to become more stringent over time. We may be required to incur significant expense to comply with, or to remedy violations of, these regulations. In addition, if our customers fail to comply with these regulations, we may be required to suspend sales to these customers, which could damage our reputation and negatively impact our results of operations. The U.S. government may also add companies to its restricted entity list and/or technologies to its list of prohibited exports to specific countries, which have had and may continue to have an adverse effect on our ability to sell our products and our revenue. For example, Huawei Technologies Co., Ltd., one of our customers, is subject to certain U.S. export restrictions, which has required us to suspend sales to Huawei until we obtain licenses from the U.S. Department of Commerce. We may be unable to obtain or maintain the necessary licenses to allow us to export products to them. These restrictive governmental actions and any similar measures that may be imposed on U.S. companies by other governments, especially in light of ongoing trade tensions with China, will likely limit or prevent us from doing business with certain of our customers or suppliers and harm our ability to compete effectively or otherwise negatively affect our ability to sell our products, and adversely affect our business and results of operations. Furthermore, government authorities may take retaliatory actions, impose conditions for the supply of products or require the license or other transfer of intellectual property, which could have a material adverse effect on our business.

Our products and operations are also subject to regulation by U.S. and non-U.S. regulatory agencies, such as the FTC. From time to time, we may also be involved or required to participate in regulatory investigations or inquiries, such as the ongoing investigation by the Korean Fair Trade Commission into certain of our contracting and business practices, which may evolve into legal or other administrative proceedings. Growing public concern over concentration of economic power in corporations is likely to result in increased anti-competition legislation, regulation, administrative rule making, and enforcement activity. Involvement in regulatory investigations or inquiries, can be costly, lengthy, complex and time consuming, diverting the attention and energies of our management and technical personnel.

If any pending or future governmental investigations result in an unfavorable resolution, we could be required to cease the manufacture and sale of the subject products or technology, pay fines or disgorge profits or other payments, and/or cease certain conduct and/or modify our contracting or business practices, which could have a material adverse effect on our business, financial condition and results of operations. We may be obligated to indemnify our current or former directors or employees, or former directors or employees of companies that we have acquired, in connection with regulatory investigations. These liabilities could be substantial and may include, among other things, the cost of government, law enforcement or regulatory investigations and civil or criminal fines and penalties.

In addition, the manufacture and distribution of our semiconductors must comply with various laws and adapt to changes in regulatory requirements as they occur. For example, if a country in which our products are manufactured or sold sets technical standards that are not widely shared, it may require us to stop distributing our products commercially until they comply with such new standards, lead certain of our customers to suspend imports of their products into that country, require manufacturers in that country to manufacture products with different technical standards and disrupt cross-border manufacturing relationships, any of which could have a material adverse effect on our business, financial condition and results of operations. If we fail to comply with these requirements, we could also be required to pay civil penalties or face criminal prosecution.

Global political and economic conditions and other factors related to our international operations could adversely affect our business, financial condition and results of operations.

A majority of our products are produced, sourced and sold internationally and our international revenue represents a significant percentage of our overall revenue. In addition, as of October 29, 2023, nearly 49% of our employees were located outside the U.S. Multiple factors relating to our international operations and to particular countries in which we operate could have a material adverse effect on our business, financial condition and results of operations. These factors include:

- changes in political, regulatory, legal or economic conditions or geopolitical turmoil (including China-Taiwan relations), including terrorism, war or political or military coups, state-sponsored or politically motivated cyber-attacks, or civil disturbances or political instability (foreign and domestic);
- restrictive governmental actions, such as restrictions on the transfer or repatriation of funds and foreign investments, data privacy regulations, imposition of climate change regulations, and trade protection measures, including increasing protectionism, import/export restrictions (including with regards to advanced technologies), import/export duties and quotas, trade sanctions and customs duties and tariffs, all of which have increased in recent years;
- difficulty in obtaining product distribution and support, and transportation delays;
- potential inability to localize software products;
- difficulty in enforcing contracts, collecting accounts receivables and maintaining appropriate financial control;
- difficulty in conducting due diligence with respect to business partners;
- public health or safety concerns, medical epidemics or pandemics, such as COVID-19, and other natural- or man-made disasters;
- nationalization of businesses and expropriation of assets; and
- changes in U.S. and foreign tax laws.

A significant legal risk associated with conducting business internationally is compliance with the various and differing laws and regulations of the many countries in which we do business. In addition, the laws in various countries are constantly evolving and may, in some cases, conflict with each other or with agreements we have made in one or more jurisdictions. Although our policies prohibit us, our employees and our agents from engaging in unethical business practices, there can be no assurance that all of our employees, distributors or other agents will refrain from acting in violation of our related anti-corruption or other policies and procedures. Any such violation could have a material adverse effect on our business.

Failure to realize the benefits expected from the VMware Merger could adversely affect our business and the value of our common stock.

As part of our integration of the VMware business, we plan to focus on VMware's core business of creating private and hybrid cloud environments among large enterprises globally and divesting non-core assets. If VMware customers do not accept this plan, the investments we have made or may make to implement this plan may be of no or limited value, we may lose customers, our financial results may be adversely affected and our stock price may suffer.

Although we expect significant benefits to result from the VMware Merger, there can be no assurance that we will actually realize these benefits. Achieving these benefits will depend, in part, on our ability to integrate VMware's business successfully and efficiently. The challenges involved in this integration, which are complex and time consuming, include the following:

- preserving customer and other important relationships of VMware and attracting new business and operational relationships;
- integrating financial forecasting and controls, procedures and reporting cycles;
- consolidating and integrating corporate, information technology, finance and administrative infrastructures;
- coordinating sales and marketing efforts to effectively position our capabilities;
- coordinating and integrating operations in countries in which we have not previously operated;

- reorienting the VMware sales and marketing force to align with the change in strategy and effectively position the business; and
- integrating the VMware workforce, including managing employee transitions and attrition, maintaining employee morale and retaining key employees.

If we do not successfully manage these issues and the other challenges inherent in integrating an acquired business, then we may not achieve the anticipated benefits of the VMware Merger within our anticipated timeframe or at all and our revenue, expenses, operating results, financial condition and stock price could be materially adversely affected. The successful integration of the VMware business will require significant management attention both before and after the completion of the VMware Merger, and may divert the attention of management from our business and operational issues.

We may pursue acquisitions, investments, joint ventures and dispositions, which could adversely affect our results of operations.

Our growth strategy includes acquiring or investing in businesses that offer complementary products, services and technologies, or enhance our market coverage or technological capabilities.

Any acquisitions we may undertake, including the VMware Merger, and their integration involve risks and uncertainties, such as:

- unexpected delays, challenges and related expenses, and disruption of our business;
- diversion of management's attention from daily operations and the pursuit of other opportunities;
- incurring significant restructuring charges and amortization expense, assuming liabilities (some of which may be unexpected) and ongoing or new lawsuits, potential impairment of acquired goodwill and other intangible assets, and increasing our expenses and working capital requirements;
- the potential for deficiencies in internal controls at the acquired business, as well as implementing our own management information systems, operating systems and internal controls for the acquired operations;
- our due diligence process may fail to identify significant issues with the acquired business' products, financial disclosures, accounting practices, legal, tax and other contingencies, compliance with local laws and regulations (and interpretations thereof) in the U.S. and multiple international jurisdictions;
- additional acquisition-related debt, which could increase our leverage and potentially negatively affect our credit ratings resulting in more restrictive borrowing terms or increased borrowing costs thereby limiting our ability to borrow;
- dilution of stock ownership of existing stockholders;
- difficulties integrating the acquired business or company and in managing and retaining acquired employees, vendors and customers; and
- inaccuracies in our original estimates and assumptions used to assess a transaction, which may result in us not realizing the expected financial or strategic benefits of any such transaction.

In addition, current and future changes to the U.S. and foreign regulatory approval process and requirements related to acquisitions may cause approvals to take longer than anticipated, not be forthcoming or contain burdensome conditions, which may prevent the transaction or jeopardize, delay or reduce the anticipated benefits of the transaction, and impede the execution of our business strategy.

From time to time, we may also seek to divest or wind down portions of our business, either acquired or otherwise, or we may exit minority investments, any of which could materially affect our cash flows and results of operations. Such dispositions involve risks and uncertainties, including our ability to sell such businesses on terms acceptable to us, or at all, disruption to other parts of our business, potential loss of employees or customers, or exposure to unanticipated liabilities or ongoing obligations to us following any such dispositions. In addition, dispositions may include the transfer of technology and/or the licensing of certain IP rights to third-party purchasers, which could limit our ability to utilize such IP rights or assert these rights against such third-party purchasers or other third parties.

We are subject to risks associated with our distributors and other channel partners, including product inventory levels and product sell-through.

We sell our products through a direct sales force and a select network of distributors and other channel partners globally. Sales to distributors accounted for 57% of our net revenue in the fiscal year ended October 29, 2023 and are subject to a number of risks, including:

- fluctuations in demand based on our distributors' product inventory levels and end customer demand;
- our distributors and other channel partners are generally not subject to minimum sales requirements or any obligation to market our products to their customers;
- our distributors and other channel partners agreements are generally nonexclusive and may be terminated at any time without cause;
- our lack of control over the timing of delivery of our products to end customers; and
- our distributors and other channel partners may market and distribute competing products and may place greater emphasis on the sale of these products.

We expect our dependence on channel partners will increase following the VMware Merger. Failure to maintain good relationships with our distributors and channel partners could adversely impact our business. In addition, we sell our semiconductor products through an increasingly limited number of distributors, which exposes us to additional customer concentration and related credit risks.

We do not always have a direct relationship with the end customers of our products. As a result, our semiconductor products may be used in applications for which they were not necessarily designed or tested, including, for example, medical devices, and they may not perform as anticipated in such applications. In such event, failure of even a small number of parts could result in significant liabilities to us, damage our reputation and harm our business and results of operations.

Our business would be adversely affected by the departure of existing members of our senior management team.

Our success depends, in large part, on the continued contributions of our senior management team, and in particular, the services of Hock E. Tan, our President and Chief Executive Officer. Effective succession planning is also important for our long-term success. Failure to ensure effective transfers of knowledge and smooth transitions involving senior management could hinder our strategic planning and execution. None of our senior management is bound by written employment contracts. In addition, we do not currently maintain key person life insurance covering our senior management. The loss of any of our senior management could harm our ability to implement our business strategy and respond to the rapidly changing market conditions in which we operate.

If we are unable to attract and retain qualified personnel, especially our engineering and technical personnel, we may not be able to execute our business strategy effectively.

Our future success depends on our ability to attract, retain and motivate qualified personnel. As the source of our technological and product innovations, our engineering and technical personnel (including cyber security experts) are a significant asset. Competition for these employees is significant in many areas of the world in which we operate, particularly in Silicon Valley and Southeast Asia where qualified engineers are in high demand. In addition, current or future immigration laws may make it more difficult to hire or retain qualified engineers, further limiting the pool of available talent. We believe equity awards provide a powerful long-term retention incentive and have historically granted these awards to the substantial majority of our employees. If we are unable to continue our current equity granting philosophy, this could impair our efforts to attract and retain necessary personnel. Any inability to retain, attract or motivate such personnel and provide competitive employment benefits could have a material adverse effect on our business, financial condition and results of operations.

An impairment of the confidentiality, integrity, or availability of our IT systems, or those of one or more of our corporate infrastructure vendors could have a material adverse effect on our business.

Our business depends on a wide variety of complex IT systems and services, including cloud-based and other critical corporate services relating to, among other things, product research and development, financial reporting, product orders and fulfillment, HR, benefit plan administration, IT network management, and electronic communication and collaboration services. These systems and services are both internally managed and outsourced, and in many cases we rely upon third-party data centers. Any failure of these internal or third-party systems and services to operate effectively could disrupt our operations and could have a material adverse effect on our business, financial condition and results of operations. Our operations are dependent upon our ability to protect our IT infrastructure against damage from business continuity events that could have a significant disruptive effect. Although these systems are designed to protect and secure our customers', suppliers' and employees' confidential information, as well as our own proprietary information, we are, out of necessity, dependent on our vendors to adequately address cyber security threats to their own systems. In addition, software products we use and technologies produced by us have occasionally had in the past and may have in the future, vulnerabilities that, if left unmitigated, could reduce the overall level of security of the systems on which the software is installed.

Cyber-attacks are increasing in number and sophistication, are well-financed, in some cases supported by state actors, and are designed to not only attack, but also to evade detection. Since the techniques used to obtain unauthorized access to systems, or to otherwise sabotage them, change frequently and are often not recognized until launched against a target, we may be unable to anticipate these techniques or to implement adequate preventative measures. As a critical vendor in the digital supply chain for both governmental entities and critical infrastructure operators, we and our products may be targeted by those seeking to threaten the confidentiality, integrity and availability of systems supporting essential public services. Geopolitical instability may increase the likelihood that we will experience direct or collateral consequences from cyber conflicts between nation-states or other politically motivated actors targeting critical technology infrastructure.

Accidental or willful security breaches or other unauthorized access to our information systems or the systems of our service providers and business partners, or the existence of computer viruses or malware (such as ransomware) in our or their data or software have in the past, and could in the future, expose us to a risk of information loss, business disruption, and misappropriation of proprietary and confidential information, including information relating to our products or customers and the personal information of our employees or third parties. Such an event could disrupt our business and result in, among other things, unfavorable publicity, damage to our reputation, loss of our trade secrets and other competitive information, litigation by affected parties and possible financial obligations for liabilities and damages related to the theft or misuse of such information, significant remediation costs, disruption of key business operations and significant diversion of our resources, as well as fines and other sanctions resulting from any related breaches of data privacy regulations (such as the General Data Protection Regulation), any of which could have a material adverse effect on our business, profitability and financial condition. While we may be entitled to damages if our vendors fail to perform under their agreements with us, any award may be insufficient to cover the actual costs incurred by us and, as a result of a vendor’s failure to perform, we may be unable to collect any damages.

Despite our internal controls and investment in security measures, we have, from time to time, been subject to disruptive cyber-attacks and unauthorized network intrusions and malware on our own IT networks or those of our service providers or business partners. Although no such cyber security incidents have been material to Broadcom, we continue to devote resources to protect our systems and data from unauthorized access or misuse, and we may be required to expend greater resources in the future. Businesses we acquire may increase the scope and complexity of our IT networks, and this may increase our risk exposure to cyber-attacks when there are difficulties integrating diverse legacy systems that support operations for the acquired businesses.

In addition, certain aspects of effective cybersecurity are dependent upon our employees, contractors and other trusted partners reliably safeguarding secrets (e.g., application credentials) and adhering to our security policies and access control mechanisms. We have in the past experienced, and expect in the future to experience, security incidents arising from a failure to properly handle such secrets or adhere to such policies and, although no such events have had a material adverse effect on our business, there can be no assurance that an insider threat will not result in an incident that is material to Broadcom. Our logging, alerting and cyber incident detection mechanisms may not cover every system potentially targeted by threat actors, may not have the capability to detect certain types of unauthorized activities, and may not capture and surface information sufficient to enable us to timely detect and take responsive action to insider or external threats.

U.S. and foreign regulators, as well as customers and service providers, have also increased their focus on cyber security vulnerabilities and risks. Compliance with laws, regulations, and contractual provisions concerning privacy, cyber security, secure technology development, data governance, data protection, confidentiality and IP could result in significant expense, and any failure to comply could result in proceedings against us by regulatory authorities or other third parties and may also increase our overall compliance burden.

We operate in the highly cyclical semiconductor industry.

The semiconductor industry is highly cyclical and is characterized by price erosion, wide fluctuations in product supply and demand, constant and rapid technological change, evolving technical standards, frequent new product introductions, and short product life cycles (for semiconductors and for many of the end products in which they are used). From time to time, these factors, together with changes in general economic conditions, cause significant upturns and downturns in the industry in general, and in our business in particular. The industry previously experienced a significant upturn due to a supply imbalance that resulted in record profitability and increases in average selling prices. The industry, however is currently experiencing a downturn, and historically, such down-cycles have been characterized by diminished demand for end-user products, high inventory levels and periods of inventory adjustment, under-utilization of manufacturing capacity, changes in revenue mix, accelerated erosion of average selling prices and elimination of expedite fees leading to reduced profitability and a decline in our stock price. The Creating Helpful Incentives to Produce Semiconductors for America Act could also result in an increase in supply leading to excess inventory and a decrease in average selling prices. We expect our business to continue to be subject to cyclical downturns even when overall economic conditions are relatively stable. If we cannot offset industry or market downturns, our net revenue may decline and our financial condition and results of operations may suffer.

The majority of our sales have historically come from a small number of customers and a reduction in demand or loss of one or more of our significant customers may adversely affect our business.

We have historically depended on a small number of end customers, OEMs, their respective contract manufacturers ("CMs") and certain distributors for a majority of our business and revenue. For fiscal year 2023, sales to distributors accounted for 57% of our net revenue. We believe aggregate sales, through all channels, to Apple and our top five end customers, accounted for approximately 20% and 35% of our net revenue for fiscal year 2023, respectively. This customer concentration increases the risk of quarterly fluctuations in our operating results and our sensitivity to any material adverse developments experienced by our significant customers.

Our semiconductor customers are not generally required to purchase specific quantities of products. Even when customers agree to source an agreed portion of their product needs from us, such arrangements often include pricing schedules or methodologies that apply regardless of the volume of products purchased, and those customers may not purchase the amount of product we expect. As a result, we may not generate the amount of revenue or achieve the level of profitability we expect under such arrangements. Moreover, our top customers' purchasing power has, in some cases, given them the ability to make greater demands on us with regard to pricing and contractual terms in general. We expect this trend to continue, which may adversely affect our gross margin on certain products and, should we fail to perform under these arrangements, we could also be liable for significant monetary damages.

The loss of, or any substantial reduction in sales to, any of our top customers could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Dependence on contract manufacturing and suppliers of critical components within our supply chain may adversely affect our ability to bring products to market, damage our reputation and adversely affect our results of operations.

We operate a primarily outsourced manufacturing business model that principally utilizes CMs, such as third-party wafer foundries and module assembly and test capabilities. Our semiconductor products require wafer manufacturers with state-of-the-art fabrication equipment and techniques, and most of our products are designed to be manufactured in a specific process, typically at one particular fab or foundry, either our own or with a particular CM.

We depend on our CMs to allocate sufficient manufacturing capacity to meet our needs, to produce products of acceptable quality at acceptable yields, and to deliver those products to us on a timely basis. We do not generally have long-term capacity commitments with our CMs and substantially all of our manufacturing services are on a purchase order basis with no minimum quantities. Further, our CMs may fail to timely develop new, advanced manufacturing processes, including transitions to smaller geometry process technologies or, from time to time, will cease to, or will become unable to, manufacture a component for us. As lead times to identify, qualify and establish reliable production at acceptable yields with a new CM is typically lengthy, there is often no readily available alternative source and there may be other constraints on our ability to change CMs. In addition, qualifying new CMs is often expensive, and they may not produce products as cost-effectively as our current suppliers.

TSMC, one of our CMs, manufactured approximately 90% of the wafers manufactured by our CMs during fiscal year 2023. We believe our wafer requirements represent a meaningful portion of TSMC's total production capacity. However, TSMC also fabricates wafers for other companies, including some of our competitors, and could choose or be required to prioritize capacity for other customers or reduce or eliminate deliveries to us on short notice. In addition, TSMC has, and may in the future, raise their prices to us.

If any of the foregoing circumstances occur, we may be unable to meet our customer demand, or to the same extent as our competitors, fail to meet our contractual obligations or forgo revenue opportunities. This could damage our relationships with our customers or result in litigation for alleged failure to meet our obligations, payment of significant damages, and our net revenue could decline, adversely affecting our business, financial condition, results of operations and gross margin.

Further, any substantial disruption in the contract manufacturing services that we utilize, including TSMC's supply of wafers to us, as a result of a natural disaster, climate change, water shortages, political unrest, military conflicts, geopolitical turmoil, trade tensions, government orders, labor shortages, medical epidemics, such as the COVID-19 pandemic, economic instability, equipment failure or other cause, could materially harm our business, customer relationships and results of operations.

We purchase a significant amount of the materials used in our products from a limited number of suppliers.

Our manufacturing processes and those of our CMs rely on many materials, including silicon, GaAs and InP wafers, copper lead frames, precious and rare earth metals, mold compound, ceramic packages and various chemicals and gases. During fiscal year 2023, we purchased approximately two-thirds of our manufacturing materials from five materials providers, some of which are single source suppliers. As certain materials are highly specialized, the lead time needed to identify and qualify a new supplier is typically lengthy and there is often no readily available alternative source. We do not generally have long-term contracts with our materials providers and substantially all of our purchases are on a purchase order basis. Suppliers may extend lead times, limit supplies, place products on allocation or increase prices due to commodity price increases, capacity constraints, inflation, or other factors, any of which could lead to interruption of supply or increased demand in the industry. For example, macroeconomic and geopolitical conditions, as well as the COVID-19 pandemic, caused some supply constraints and increases in prices, including with respect to wafers and substrates. Additionally, the supply of these materials may be negatively impacted by increased trade tensions between the U.S. and its trading partners, particularly China. Any such supply constraints could result in loss of revenue opportunities and adversely impact our business, financial condition and results of operations.

Failure to adjust our manufacturing and supply chain to accurately meet customer demand could adversely affect our results of operations.

We make significant decisions, including determining the levels of business that we will seek and accept, production schedules, levels of reliance on contract manufacturing and outsourcing, internal fabrication utilization and other resource requirements, based on customer requirements or estimates thereof, which may not be accurate.

We largely build to order and have extended customer lead times substantially, which has limited and may continue to limit our ability to fulfill orders and satisfy all of the demand for our products. Customers may require rapid increases in production on short notice. If we are unable to meet such increases in demand, this could damage our customer relationships, reduce revenue growth and margins, subject us to additional liabilities, harm our reputation, and prevent us from taking advantage of opportunities.

Conversely, if actual sales of our products is lower than expected, we may also experience higher inventory carrying and operating costs and product obsolescence. Because certain of our sales, research and development, and internal manufacturing overhead expenses are relatively fixed, a reduction in customer demand may also decrease our gross margin and operating income.

Winning business in the semiconductor solutions industry is subject to a lengthy process that often requires us to incur significant expense, from which we may ultimately generate no revenue.

Our semiconductor business is dependent on us winning competitive bid selection processes, known as “design wins”. These selection processes are typically lengthy and can require us to dedicate significant development expenditures and scarce engineering resources in pursuit of a single customer opportunity. Failure to obtain a particular design win may prevent us from obtaining design wins in subsequent generations of a particular product. This can result in lost revenue and can weaken our position in future selection processes.

Winning a product design does not guarantee sales to a customer. A delay or cancellation of a customer’s plans could materially and adversely affect our financial results, as we incur significant expense in the design process and may generate little or no revenue from it. In addition, the timing of design wins is unpredictable and implementing production for a major design win, or multiple design wins at the same time, may strain our resources and those of our CMs. In such event, we may be forced to dedicate significant additional resources and incur additional costs and expenses. Further, often customers will only purchase limited numbers of evaluation units until they qualify the products and/or the manufacturing line for those products. The qualification process can take significant time and resources. Delays in qualification or failure to qualify our products may cause a customer to discontinue use of our products and result in a significant loss of revenue. Finally, customers could choose at any time to stop using our products or could fail to successfully market and sell their products, which could reduce demand for our products and cause us to hold excess inventory, materially adversely affecting our business, financial condition and results of operations. These risks are exacerbated by the fact that many of our products, and the end products into which our products are incorporated, often have very short life cycles.

A prolonged disruption of our manufacturing facilities, research and development facilities, warehouses or other significant operations, or those of our suppliers, could have a material adverse effect on our business, financial condition and results of operations.

Although we operate a primarily outsourced manufacturing business model, we also rely on our own manufacturing facilities, in particular in Fort Collins, Colorado, Singapore, and Breinigsville, Pennsylvania. We use these internal fabrication facilities for products utilizing our innovative and proprietary processes. Our Fort Collins and Breinigsville facilities are the sole sources for the FBAR components used in many of our wireless devices and for the InP-based wafers used in our fibre optics products, respectively. Many of our facilities, and those of our CMs and suppliers, are located in California and the Pacific Rim region, which have above average seismic activity and severe weather activity. In addition, a significant majority of our research and development personnel are located in the Czech Republic, India, Israel, and the U.S., with the expertise of the personnel at each such location tending to be focused on one or two specific areas, and our primary warehouse is in Malaysia.

A prolonged disruption at or shut-down of one or more of our manufacturing facilities or warehouses, especially our Colorado, Singapore, Malaysia and Pennsylvania facilities, or those of our CMs or suppliers, due to natural- or man-made disasters or other events outside of our control, such as equipment malfunction or widespread outbreaks of acute illness, including COVID-19, or for any other reason, would limit our capacity to meet customer demands and delay new product development until a replacement facility and equipment, if necessary, were found. To date, we have not experienced a material event, however such an event could disrupt our operations, delay production, shipments and revenue, result in us being unable to timely satisfy customer demand, expose us to claims by our customers, result in significant expense to repair or replace our affected facilities, and, in some instances, could significantly curtail our research and development efforts in a particular product area or target market. As a result, we could forgo revenue opportunities, potentially lose market share, damage our customer relationships and be subject to litigation and additional liabilities, all of which could materially and adversely affect our business. Although we purchase insurance to mitigate certain losses, such insurance often carries a high deductible amount and any uninsured losses could negatively affect our operating results. In addition, even if we were able to promptly resume production of our affected products, if our customers cannot timely resume their own manufacturing following such an event, they may cancel or scale back their orders from us and this may in turn adversely affect our results of operations. Such events could also result in increased fixed costs relative to the revenue we generate and adversely affect our results of operations.

We may be unable to maintain appropriate manufacturing capacity or product yields at our own manufacturing facilities, which could adversely affect our relationships with our customers, and our business, financial condition and results of operations.

We must maintain appropriate capacity and product yields at our own manufacturing facilities to meet anticipated customer demand. From time to time, this requires us to invest in expansion or improvements of those facilities, which often involves substantial cost and other risks. Such expanded manufacturing capacity may still be insufficient, or may not come online soon enough, to meet customer demand and we may have to put customers on product allocation, forgo sales or lose customers as a result. Conversely, if we overestimate customer demand, we would experience excess capacity and fixed costs at these facilities will not be fully absorbed, all of which could adversely affect our results of operations. Similarly, reduced product yields, due to design or manufacturing issues or otherwise, may involve significant time and cost to remedy and cause delays in our ability to supply product to our customers, all of which could cause us to forgo sales, incur liabilities or lose customers, and harm our results of operations.

We may be involved in legal proceedings, including IP, securities litigation, and employee-related claims, which could, among other things, divert efforts of management and result in significant expense and loss of our IP rights.

We are often involved in legal proceedings, including cases involving our IP rights and those of others, commercial matters, acquisition-related suits, securities class action suits, employee-related claims and other actions. Litigation or settlement of such actions, regardless of their merit, can be costly, lengthy, complex and time consuming, diverting the attention and energies of our management and technical personnel.

The industries in which we operate are characterized by companies holding large numbers of patents, copyrights, trademarks and trade secrets and by the vigorous pursuit, protection and enforcement of IP rights, including actions by patent-holding companies that do not make or sell products. From time to time, third parties assert against us and our customers and distributors their IP rights to technologies that are important to our business. For example, in September 2023 we settled a patent infringement claim filed by California Institute of Technology against Broadcom and Apple.

Many of our customer agreements, and in some cases our asset sale agreements, and/or the laws of certain jurisdictions may require us to indemnify our customers or purchasers for third-party IP infringement claims, including costs to defend those claims, and payment of damages in the case of adverse rulings. However, our CMs and suppliers may or may not be required to indemnify us should we or our customers be subject to such third-party claims. Claims of this sort could also harm our relationships with our customers and might deter future customers from doing business with us. If any pending or future proceedings result in an adverse outcome, we could be required to:

- cease the manufacture, use or sale of the infringing products, processes or technology and/or make changes to our processes or products;
- pay substantial damages for past, present and future use of the infringing technology, including up to treble damages if willful infringement is found;
- expend significant resources to develop non-infringing technology;
- license technology from the third-party claiming infringement, which license may not be available on commercially reasonable terms, or at all;
- enter into cross-licenses with our competitors, which could weaken our overall IP portfolio and our ability to compete in particular product categories;

- pay substantial damages to our direct or end customers to discontinue use or replace infringing technology with non-infringing technology; or
- relinquish IP rights associated with one or more of our patent claims.

Any of the foregoing results could have a material adverse effect on our business, financial condition and results of operations.

In addition, we may be obligated to indemnify our current or former directors or employees, or former directors or employees of companies that we have acquired, in connection with such litigation. These liabilities could be substantial and may include, among other things, the cost of defending lawsuits against these individuals, as well as stockholder derivative suits; civil or criminal fines and penalties; legal and other expenses; and expenses associated with the remedial measure, if any, which may be imposed.

If demand for our data center virtualization products is less than anticipated, our business could be adversely affected.

We expect to generate a significant portion of our software revenue from our data center virtualization products. However, if businesses build new or shift existing compute workloads off-premises to public cloud providers, this could limit the market for on-premises deployments of our data center virtualization products. Although we have developed, and will continue to develop, products to extend our product offerings to the public cloud, if demand for our server virtualization products is significantly less than anticipated, our business, financial condition, results of operations and cash flows may be adversely affected.

The growth of our software business depends on customer acceptance of our newer products and services.

Many of our software products and services are based on data center virtualization, application modernization and related hybrid-cloud technologies used to manage distributed computing architectures, which form the foundation for hybrid-cloud computing. We expect to increase product development and marketing and sales efforts toward products and services that enable businesses to modernize applications and efficiently implement their hybrid-cloud services. These cloud and SaaS initiatives present new and difficult technological, operational and compliance challenges. We expect significant investments will be required to develop or acquire solutions to address those challenges. Current and future customers may not perceive benefits and cost savings associated with adopting our hybrid-cloud and application platform solutions or we may fail to realize returns on our investments in new initiatives, which could harm our results of operations.

If our software products do not remain compatible with ever-changing operating environments, platforms, or third-party products, demand for our products and services could decrease, which could materially adversely affect our business.

We may be required to make substantial modification of our products to maintain compatibility with operating systems, systems software and computer hardware used by our customers or to provide our customers with desired features or capabilities. We must also continually address the challenges of dynamic and accelerating market trends and competitive developments, such as the emergence of advanced persistent threats in the security space to compete effectively. There can be no assurance that we will be able to adapt our products in response to these developments.

Further, our software solutions interact with a variety of software and hardware developed by third parties, as well as cloud providers. If we lose access to third-party code and specifications for the development of code or cloud providers fail to support our products or otherwise limit the functionality, compatibility or certification of our products, this could negatively impact our ability to develop compatible software. In addition, if software providers and hardware manufacturers, including some of our largest vendors, adopt new policies restricting the use or availability of their code or technical documentation for their operating systems, applications, or hardware, or otherwise impose unfavorable terms and conditions for such access, this could result in higher research and development costs for the enhancement and modification of our existing products or development of new products. Any additional restrictions could materially adversely affect our business, financial condition and operating results and cash flow.

Failure to enter into software license agreements on a satisfactory basis could materially adversely affect our business.

Many of our existing customers have multi-year enterprise software license agreements, some of which involve substantial aggregate fee amounts. These customers often do not have a contractual obligation to purchase additional solutions. Customer renewal rates may decline or fluctuate as a result of a number of factors, including the level of customer satisfaction with our solutions or customer support, customer budgets and the pricing of our solutions as compared with the solutions offered by our competitors, any of which may cause our revenue to grow more slowly than expected, if at all. The failure to renew customer agreements of similar scope, on terms that are commercially attractive to us, could materially adversely affect our business, financial condition and operating results and cash flow.

Certain software that we use in our products is licensed from third parties and may not be available to us in the future, which may delay product development and production or cause us to incur additional expense.

Some of our solutions contain software licensed from third parties, some of which may not be available to us in the future on terms that are acceptable to us or allow our products to remain competitive. The loss of these licenses or the inability to maintain any of them on commercially acceptable terms could delay development of future products or the enhancement of existing products.

Our use of open source software in certain products and services could materially adversely affect our business, financial condition, operating results and cash flow.

Many of our products and services incorporate open source software, the use of which may subject us to certain conditions, including the obligation to offer such products for no cost or to make the proprietary source code of those products publicly available. Open source licenses are generally “as-is” and do not provide warranties, support or assurance of title or controls on origin of the software, which exposes us to potential liability if the software fails to work or infringes the intellectual property of a third-party.

Although we monitor our use of open source software to avoid subjecting our products to unintended conditions and exposing us to unacceptable financial risk, such use, under certain circumstances, could materially adversely affect our business, financial condition and operating results and cash flow, including if we are required to take remedial action that may divert resources away from our development efforts. In addition, we may receive inquiries or claims from authors, distributors or recipients of open source software included in our products regarding our compliance with the conditions of such open source licenses and we may be required to take steps to avoid or remedy an alleged infringement or noncompliance, including modifying our product code, stopping the distribution of some of our products, paying damages or releasing the source code of our propriety software. Further, although we believe that we have complied with our obligations under the licenses for such open source software, there is little legal precedent governing the interpretation of some terms in some of these licenses, which increases the risk that a court could interpret the licenses differently than we do.

Failure of our software products to manage and secure IT infrastructures and environments could have a material adverse effect on our business.

Certain aspects of our software products are intended to manage and secure IT infrastructures and environments, and as a result, we expect these products to be ongoing targets of cyber-attacks. Open source code or other third-party software used in these products could also be targeted and may make our products vulnerable to additional security risks not posed by purely proprietary products. Our products are complex and, when deployed, may contain errors, defects or security vulnerabilities, some of which may not be discovered before the product has been released, installed and used by customers. The complexity and breadth of our technical and production environments, which involve globally dispersed development and engineering teams, increases the risk that errors, defects or vulnerabilities will be introduced and may delay our ability to detect, mitigate or remediate such incidents.

In the past, elements of our proprietary source code have been exposed in an unauthorized manner. It is possible that such exposure of source code could reveal unknown security vulnerabilities in our products that could be exploited by malicious actors. Our products are also subject to known and unknown security vulnerabilities resulting from integration with third-party products or services.

Although we continually seek to improve our countermeasures to prevent such incidents, we may be unable to anticipate every scenario and it is possible that certain cyber threats or vulnerabilities will be undetected or unmitigated in time to prevent an attack or an accidental incident on us and our customers. Additionally, efforts by malicious cyber actors or others could cause interruptions, delays or cessation of our product licensing, or modification of our software, which could cause us to lose existing or potential customers.

A successful cyber-attack involving our products could cause customers and potential customers to believe our services are ineffective or unreliable and result in, among other things, the loss of customers, unfavorable publicity, damage to our reputation, difficulty in marketing our products, allegations by our customers that we have not performed our contractual obligations and give rise to significant costs, including costs related to developing solutions or indemnification obligations under our agreements. Any such event could adversely impact our revenue and results of operations. See also “*An impairment of the confidentiality, integrity, or availability of our IT systems, or those of one or more of our corporate infrastructure vendors, could have a material adverse effect on our business*”.

Our sales to government customers subject us to uncertainties and governmental regulations, which could have a material adverse effect on our business.

Our contracts signed with the U.S. federal, state and local government and non-U.S. government agencies are generally subject to annual fiscal funding approval and may be renegotiated or terminated at the discretion of the government.

Termination, renegotiation or the lack of funding approval for a contract could adversely affect our sales, revenue and reputation. Additionally, our government contracts and our arrangements with channel partners who may sell directly to government customers are generally subject to certain requirements, some of which are generally not present in commercial contracts and/or may be complex, as well as to audits and investigations. Failure to meet contractual requirements could result in various civil and criminal actions and penalties, and administrative sanctions, including termination of contracts, refund of a portion of fees received, forfeiture of profits, suspension of payments, fines and suspensions or debarment from doing business with the government, which could materially adversely affect our business, financial condition, operating results and cash flow.

Failure to effectively manage our products and services lifecycles could harm our business.

As part of the natural lifecycle of our products and services, customers are informed when products or services will be reaching their end of life or end of availability and will no longer be supported or receive updates and security patches. If these products or services remain subject to a service contract, the customer may transition to alternative products or services. Failure to effectively manage our products and services lifecycles could lead to customer dissatisfaction and contractual liabilities, which could adversely affect our business and operating results.

Our operating results are subject to substantial quarterly and annual fluctuations.

Our operating results have fluctuated in the past and are likely to fluctuate in the future. These fluctuations may occur on a quarterly and annual basis and are due to a number of factors, many of which are beyond our control. In addition to many of the risks described elsewhere in this “Risk Factors” section, these factors include, among others:

- the timing of launches by our customers of new product in which our products are included and changes in end-user demand for our customers’ products;
- fluctuations in the levels of component or product inventories held by our customers, which may lead to increased requests to delay shipment of our products;
- the shift to cloud-based IT solutions and services, such as hyperscale computing, which may adversely affect the timing and volume of sales of our products for use in traditional enterprise data centers;
- the timing of new software contracts and renewals, as well as the timing of any terminations of software contracts that require us to refund to customers any pre-paid amounts under the contract;
- our ability to timely develop, introduce and market new products and technologies;
- the timing and extent of our software license and subscription revenue, and other non-product revenue;
- new product announcements and introductions by us or our competitors;
- seasonality or other fluctuations in demand in our markets;
- timing and amount of research and development and related new product expenditures, and the timing of receipt of any research and development grant monies; and
- timing of any regulatory changes, particularly with respect to trade sanctions and customs duties and tariffs, and tax reform.

The foregoing factors are often difficult to predict, and these, as well as other factors, could materially adversely affect our quarterly or annual operating results. In addition, a significant amount of our operating expenses are relatively fixed in nature. Any failure to adjust spending quickly enough to compensate for a revenue shortfall could magnify the adverse impact of such revenue shortfall on our results of operations. As a result, we believe that quarter-to-quarter comparisons of our revenue and operating results may not be meaningful or reliable indicators of our future performance. If our operating results in one or more future quarters fail to meet the expectations of securities analysts or investors, a significant decline in the trading price of our common stock may occur, which may happen immediately or over time.

Competition in our industries could prevent us from growing our revenue.

The industries in which we operate are highly competitive and characterized by rapid technological changes, evolving industry standards, changes in customer requirements, often aggressive pricing practices and, in some cases, new delivery methods. We expect competition in these industries to continue to increase as existing competitors improve or expand their product offerings or as new competitors enter our markets.

Some of our competitors have longer operating histories, greater name recognition, a larger installed customer base, larger technical staffs, more established relationships with vendors or suppliers, or greater manufacturing, distribution, financial, research and development, technical and marketing resources than us. We also face competition from public cloud providers, numerous smaller companies that specialize in specific aspects of the highly fragmented software industry, open source authors who provide software and IP for free, competitors who offer their products through try-and-buy or freemium models, and customers who develop competing products.

In addition, the trend toward consolidation is changing the competitive landscape. We expect this trend to continue, which may result in combined competitors having greater resources than us. Some of our competitors may also receive financial and other support from their home country government or may have a greater presence in key markets, a larger customer base, a more comprehensive IP portfolio or better patent protection than us.

The actions of our competitors, in the areas of pricing and product bundling in particular, could have a substantial adverse impact on us. Further, competitors may leverage their superior market position, as well as IP or other proprietary information, including interface, interoperability or technical information, in new and emerging technologies and platforms that may inhibit our ability to compete effectively. If we are unable to compete successfully, we may lose market share for our products or incur significant reduction in our gross margins, either of which could have a material adverse effect on our business and results of operations.

Our gross margin is dependent on a number of factors, including our product mix, price erosion, acquisitions we may make, level of capacity utilization and commodity prices.

Our gross margin is highly dependent on product mix, which is susceptible to seasonal and other fluctuations in our markets. A shift in sales mix away from our higher margin products, as well as the timing and amount of our software licensing and non-product revenue, could adversely affect our future gross margin percentages. In addition, increased competition and the existence of product alternatives, more complex engineering requirements, lower demand, industry oversupply or reductions in our technological lead compared to our competitors, and other factors have in the past and may in the future lead to further price erosion, lower revenue and lower margin. Conversely, periods of robust demand that create a supply imbalance can lead to higher gross margins that may not be sustainable over the longer term.

In addition, semiconductor manufacturing requires significant capital investment, leading to high fixed costs, including depreciation expense. If we are unable to utilize our owned manufacturing facilities at a high level, the fixed costs associated with these facilities will not be fully absorbed, resulting in higher average unit costs and a lower gross margin. Furthermore, we do not hedge our exposure to commodity prices, some of which are very volatile, and sudden or prolonged increases in commodity prices may adversely affect our gross margin.

Our gross margin may also be adversely affected if businesses or companies that we acquire have different gross margin profiles and by expenses related to such acquisitions.

We utilize a significant amount of IP in our business. If we are unable or fail to protect our IP, our business could be adversely affected.

Our success depends in part upon protecting our IP. To accomplish this, we rely on a combination of IP rights, including patents, copyrights, trademarks and trade secrets, as well as customary contractual protections with our customers, suppliers, employees and consultants. We spend significant resources to monitor and protect our IP rights, including the unauthorized use of our products, usage rates of the software seat licenses and subscriptions that we sell, and even with significant expenditures, we may not be able to protect the IP rights that are valuable to our business. We are unable to predict or assure that:

- our IP rights will not lapse or be invalidated, circumvented, challenged, or, in the case of third-party IP rights licensed to us, be licensed to others;
- our IP rights will provide competitive advantages to us;
- rights previously granted by third parties to IP licensed or assigned to us, including portfolio cross-licenses, will not hamper our ability to assert our IP rights or hinder the settlement of currently pending or future disputes;
- any of our pending or future patent, trademark or copyright applications will be issued or have the coverage originally sought;
- our IP rights will be enforced in certain jurisdictions where competition is intense or where legal protection may be weak; or
- we have sufficient IP rights to protect our products or our business.

Effective IP protection may be unavailable or more limited in other jurisdictions, relative to those protections available in the U.S., and may not be applied for or may be abandoned in one or more relevant jurisdictions. In addition, when patents expire, we lose the protection and competitive advantages they provided to us.

We also generate revenue from licensing royalty payments and from technology claim settlements relating to certain of our IP. Licensing of our IP rights, particularly exclusive licenses, may limit our ability to assert those IP rights against third parties, including the licensee of those rights. In addition, we may acquire companies with IP that is subject to licensing obligations to other third parties. These licensing obligations may extend to our own IP following any such acquisition and may limit our ability to assert our IP rights. From time to time, we pursue litigation to assert our IP rights, including, in some cases, against our customers and suppliers. Claims of this sort could also harm our relationships with our customers and might deter future customers from doing business with us. Conversely, third parties have and may in the future pursue IP litigation against us, including as a result of our IP licensing business. An adverse decision in such types of legal action could limit our ability to assert our IP rights and limit the value of our technology, including the loss of opportunities to sell or license our technology to others or to collect royalty payments, which could otherwise negatively impact our business, financial condition and results of operations.

From time to time, we may need to obtain additional IP licenses or renew existing license agreements. We are unable to predict whether these license agreements can be obtained or renewed on acceptable terms or at all.

We are subject to warranty claims, product recalls and product liability.

From time to time, we may be subject to warranty or product liability claims that may lead to significant expense. Our customer contracts typically contain warranty and indemnification provisions, and in certain cases may also contain liquidated damages provisions, relating to product quality issues. The potential liabilities associated with such provisions are significant, and in some cases, including in agreements with some of our largest customers, are potentially unlimited. Any such liabilities may greatly exceed any revenue we receive from the relevant products. Costs, payments or damages incurred or paid by us in connection with warranty and product liability claims and product recalls could materially adversely affect our financial condition and results of operations. We may also be exposed to such claims as a result of any acquisition we may undertake in the future.

Product liability insurance is subject to significant deductibles and there is no guarantee that such insurance will be available or adequate to protect against all such claims, or we may elect to self-insure with respect to certain matters. For example, it is possible for one of our customers to recall a product containing one of our semiconductor devices. In such an event, we may incur significant costs and expenses, including among others, replacement costs, contract damage claims from our customers and reputational harm. Although we maintain reserves for reasonably estimable liabilities and purchase product liability insurance, our reserves may be inadequate to cover the uninsured portion of such claims. Conversely, in some cases, amounts we reserve may ultimately exceed our actual liability for particular claims and may need to be reversed.

The complexity of our products could result in unforeseen delays or expense or undetected defects or bugs, which could adversely affect the market acceptance of new products, damage our reputation with current or prospective customers, and materially and adversely affect our operating costs.

Highly complex products, such as those we offer, may contain defects and bugs when they are first introduced or as new versions, software documentation or enhancements are released, or their release may be delayed due to unforeseen difficulties during product development. If any of our products or third-party components used in our products, contain defects or bugs, or have reliability, quality or compatibility problems, we may not be able to successfully design workarounds. Furthermore, if any of these problems are not discovered until after we have commenced commercial production or deployment of a new product, we may be required to incur additional development costs and product recall, repair or replacement costs. Significant technical challenges also arise with our software products because our customers license and deploy our products across a variety of computer platforms and integrate them with a number of third-party software applications and databases. As a result, if there is system-wide failure or an actual or perceived breach of information integrity, security or availability occurs in one of our end-user customer’s system, it can be difficult to determine which product is at fault and we could ultimately be harmed by the failure of another supplier’s product. Consequently, our reputation may be damaged and customers may be reluctant to buy our products, which could materially and adversely affect our ability to retain existing customers and attract new customers. To resolve these problems, we may have to invest significant capital and other resources and we would likely lose, or experience a delay in, market acceptance of the affected product or products. These problems may also result in claims against us by our customers or others. For example, if a delay in the manufacture and delivery of our products causes the delay of a customer’s end-product delivery, we may be required, under the terms of our agreement with that customer, to compensate the customer for the adverse effects of such delays. As a result, our financial results could be materially adversely affected.

We make substantial investments in research and development and unsuccessful investments could materially adversely affect our business, financial condition and results of operations.

The industries in which we compete are characterized by rapid technological change, changes in customer requirements, frequent new product introductions and enhancements, short product cycles and evolving industry standards, and new delivery methods. In addition, semiconductor products transition over time to increasingly smaller line width geometries and failure to successfully transition to smaller geometry process technologies could impair our competitive position. In order to remain competitive, we have made, and expect to continue to make, significant investments in research and development. If we fail to timely develop new and enhanced products and technologies, if we focus on technologies that do not become widely adopted, or if new competitive technologies that we do not support become widely accepted, demand for our products may be reduced. Increased investments in research and development or unsuccessful research and development efforts could cause our cost structure to fall out of alignment with demand for our products, which would have a negative impact on our financial results.

We collect, use, store, or otherwise process personal information, which subjects us to privacy and data security laws and contractual commitments, and our actual or perceived failure to comply with such laws and commitments could harm our business.

We collect, use and store (collectively, "process") a high volume, variety and velocity of certain personal information in connection with the operation of our business. This creates various levels of privacy risks across different parts of our business, depending on the type of personal information, the jurisdiction in question and the purpose of their processing. The personal information we process is subject to an increasing number of federal, state, local, and foreign laws and regulations regarding privacy and data security, as well as contractual commitments. Privacy legislation and other data protection regulations, enforcement and policy activity in this area are expanding rapidly in many jurisdictions and creating a complex regulatory compliance environment. Sectoral legislation, certification requirements and technical standards applying to certain categories of our customers, such as those is the financial services or public sector, have exacerbated this trend. The cost of complying with and implementing these privacy-related and data governance measures could be significant as they may create additional burdensome security, business process, business record or data localization requirements. Concerns about government interference, sovereignty, expanding privacy, cyber security and data governance legislation could adversely affect our customers and our products and services, particularly in cloud computing, artificial intelligence and our own data management practices. The theft, loss or misuse of personal data collected, used, stored or transferred by us to run our business could result in significantly increased business and security costs or costs related to defending legal claims. Any inadvertent failure or perceived failure by us to comply with privacy, data governance or cyber security obligations may result in governmental enforcement actions, litigation, substantial fines and damages, and could cause our customers to lose trust in us, which could have an adverse effect on our reputation and business.

We are subject to environmental, health and safety laws, which could increase our costs, restrict our operations and require expenditures that could have a material adverse effect on our results of operations and financial condition.

We are subject to a variety of domestic and international laws and regulations relating to the use, disposal, clean-up of and human exposure to hazardous materials. Compliance with environmental, health and safety requirements could, among other things, require us to modify our manufacturing processes, restrict our ability to expand our facilities, or require us to acquire pollution control equipment, all of which can be very costly. Any failure by us to comply with such requirements could result in the limitation or suspension of the manufacture of our products and could result in litigation against us and the payment of significant fines and damages by us in the event of a significant adverse judgment. In addition, complying with any cleanup or remediation obligations for which we are or become responsible could be costly and have a material adverse effect on our business, financial condition and results of operations.

Changing requirements relating to the materials composition of our semiconductor products, including the restrictions on lead and certain other substances in electronic products sold in various countries, including the U.S., China and Japan, and in the European Union, increase the complexity and costs of our product design and procurement operations and may require us to re-engineer our products. Such re-engineering may result in excess inventory or other additional costs and could have a material adverse effect on our results of operations. We may also experience claims from employees from time to time with regard to exposure to hazardous materials or other workplace related environmental claims.

Environmental, social and governance ("ESG") matters may adversely affect our relationships with customers and investors.

There is an increasing focus from lawmakers, regulators, investors, customers, employees and other stakeholders concerning ESG matters, including environment, climate, diversity and inclusion, human rights and governance transparency. A number of our customers have adopted, or may adopt, procurement policies that include ESG provisions or requirements that their suppliers should comply with, or they may seek to include such provisions or requirements in their procurement terms and conditions. An increasing number of investors are also requiring companies to disclose ESG-related policies, practices and metrics. In addition, various jurisdictions are developing climate-related laws or regulations that could cause us to incur additional direct costs for compliance, as well as indirect costs resulting from our customers, suppliers, or additional compliance costs that are passed on to us. These legal and regulatory requirements, as well as investor expectations on ESG practices and disclosures, are subject to change, can be unpredictable, and may be difficult and expensive for us to comply with, given the complexity of our supply chain and our outsourced manufacturing. Further, there is an increasing number of state-level anti-ESG initiatives in the United States that may conflict with other regulatory requirements or our various stakeholders' expectations. If we fail to comply with or meet the evolving legal and regulatory requirements or expectations of our various stakeholders, we may be subject to enforcement actions, required to pay fines, customers may stop purchasing products from us or investors may sell their shares, which could harm our reputation, revenue and results of operations. Our actual or perceived failure to achieve our ESG-related initiatives could negatively impact our reputation or harm our business.

In addition, as part of their ESG programs, an increasing number of OEMs are seeking to source products that do not contain minerals sourced from areas where proceeds from the sale of such minerals are likely to be used to fund armed conflicts, such as in the Democratic Republic of Congo. This could adversely affect the sourcing, availability and pricing of minerals used in the manufacture of semiconductor devices, including our products. As a result, we may face difficulties in satisfying these customers' demands, which may harm our sales and operating results.

The average selling prices of semiconductor products in our markets have often decreased rapidly and may do so in the future, which could harm our revenue and gross profit.

The semiconductor products we develop and sell are used for high volume applications. As a result, the prices of those products have often decreased rapidly. Gross profit on our products may be negatively affected by, among other things, pricing pressures from our customers. In the past, we have reduced the average selling prices of our products in anticipation of future competitive pricing pressures, new product introductions by us or our competitors and other factors. In addition, some of our customer agreements provide for volume-based pricing and product pricing roadmaps, which can also reduce the average selling prices of our products over time. Our margins and financial results will suffer if we are unable to offset any reductions in our average selling prices by increasing our sales volumes, reducing manufacturing costs, or developing new and higher value-added products on a timely basis.

Fluctuations in foreign exchange rates could result in losses.

We operate global businesses and our consolidated financial results are reported in U.S. dollars. However, some of the revenue and expenses of our foreign subsidiaries are denominated in local currencies. Fluctuations in foreign exchange rates against the U.S. dollar could result in substantial changes in reported revenues and operating results due to the foreign exchange impact of remeasuring these transactions into U.S. dollars.

In the normal course of business, we employ various hedging strategies to partially mitigate these risks, including the use of derivative instruments. These strategies may not be effective in protecting us against the effects of fluctuations in foreign exchange rates. As a result, fluctuations in foreign exchange rates could result in financial losses.

Risks Related to Our Taxes

Changes in tax legislation or policies could materially impact our financial position and results of operations.

Corporate tax reform, anti-base-erosion rules and tax transparency continue to be high priorities in many jurisdictions. As a result, policies regarding corporate income and other taxes in numerous jurisdictions are under heightened scrutiny and tax reform legislation has been, and will likely continue to be, proposed or enacted in a number of jurisdictions in which we operate.

After the enactment of the U.S. Tax Cuts and Jobs Act (the "2017 Tax Reform Act"), most of our income is taxable in the U.S. with a significant portion taxable under the Global Intangible Low-Taxed Income ("GILTI") regime. Beginning in fiscal year 2027, the deduction allowable under the GILTI regime will decrease from 50% to 37.5%, which will increase the effective tax rate imposed on our income. The 2017 Tax Reform Act also limits our ability to deduct research and development expenses beginning in fiscal year 2023. These expenses are now capitalized and amortized over 5 years (15 years for foreign expenses), which have and may continue to materially increase our cash tax costs. The U.S. also enacted the Inflation Reduction Act of 2022 ("IRA") in August 2022, which created a new book minimum tax of at least 15% of consolidated GAAP pre-tax income for corporations with average book income in excess of $1 billion. This book minimum tax will first apply to our fiscal year 2024 and any increase in our effective tax rate or cash tax will depend on a number of factors, including any offsets for foreign tax credits or general business credits, or changes in book income following business combinations. The IRA also created an excise tax of 1% of the value of our stock repurchased after December 31, 2022. While the impact of this excise tax has not been material, it could increase materially depending on various factors, including the amount and frequency of our stock repurchases, applicability to business combination transactions, and any permitted reductions or exceptions to the amount subject to the tax. If (i) the U.S. tax rate increases, (ii) the deduction allowable under the GILTI regime is further reduced or eliminated, or (iii) additional limitations are put on our ability to deduct interest expense, our provision for income taxes, net income, and cash flows would be adversely impacted.

In addition, many countries are implementing legislation and other guidance to align their international tax rules with the Organisation for Economic Co-operation and Development’s (“OECD”) Base Erosion and Profit Shifting recommendations and action plan that aim to standardize and modernize global corporate tax policy, including changes to cross-border tax, transfer pricing documentation rules, and nexus-based tax incentive practices. The OECD is also continuing discussions surrounding fundamental changes in allocation of profits among tax jurisdictions in which companies do business, as well as the implementation of a global minimum tax (namely the "Pillar One" and "Pillar Two" proposals). Many countries have enacted or begun the process of enacting laws based on Pillar Two proposals, which may adversely impact our provision for income taxes, net income and cash flows. As a result of this heightened scrutiny, prior decisions by tax authorities regarding treatments and positions of corporate income taxes could be subject to enforcement activities, and legislative investigation and inquiry, which could also result in changes in tax policies or prior tax rulings.

Any substantial changes in domestic or international corporate tax policies, regulations or guidance, enforcement activities or legislative initiatives may materially adversely affect our business, the amount of taxes we are required to pay and our financial condition and results of operations generally.

If the tax incentives or tax holiday arrangements we have negotiated change or cease to be in effect or applicable for any reason, or if our assumptions and interpretations regarding tax laws and incentives or holiday arrangements prove to be incorrect, our corporate income taxes could significantly increase.

Our operations are currently structured to benefit from the various tax incentives extended to us in various jurisdictions to encourage investment or employment. For example, absent our principal tax incentives from the Singapore Economic Development Board, which is scheduled to expire in 2025, the corporate income tax rate that would apply to our Singapore taxable income would be 17%. We also have a tax holiday on our qualifying income in Malaysia, which is scheduled to expire in fiscal year 2028. Each tax incentive and tax holiday is subject to our compliance with various operating and other conditions and may, in some instances, be amended or terminated prior to their scheduled termination date by the relevant governmental authority. If we cannot, or elect not to, comply with the operating conditions included in any particular tax incentive or tax holiday, we could, in some instances, be required to refund previously realized material tax benefits, or if such tax incentive or tax holiday is terminated prior to its expiration absent a new incentive applying, we will lose the related tax benefits earlier than scheduled. In addition, we may be required, or elect, to modify our operational structure and tax strategy in order to keep an incentive, which could result in a decrease in the benefits of the incentive. Our tax incentives could also be adversely impacted if the global minimum tax provisions (Pillar Two) are adopted in a country in which we have an existing tax incentive. Our tax incentives and tax holiday, before taking into consideration U.S. foreign tax credits, decreased the provision for income taxes by approximately $2,104 million in the aggregate and increased diluted net income per share by $4.93 for fiscal year 2023.

Our interpretations and conclusions regarding the tax incentives are not binding on any taxing authority, and if our assumptions about tax and other laws are incorrect or if these tax incentives are substantially modified or rescinded, we could suffer material adverse tax and other financial consequences, which would increase our expenses, reduce our profitability and adversely affect our cash flows.

Our income taxes and overall cash tax costs are affected by a number of factors that could materially, adversely affect financial results.

Significant judgment is required in determining our worldwide income taxes. In the ordinary course of our business, there are many transactions where the ultimate tax determination is uncertain. Additionally, our calculations of income taxes payable currently and on a deferred basis are based on our interpretations of applicable tax laws in the jurisdictions in which we are required to file tax returns. Although we believe our tax estimates are reasonable, there is no assurance that the final determination of our income tax liability will not be materially different than what is reflected in our income tax provisions and accruals.

Our income taxes are subject to volatility and could be adversely affected by numerous factors including:

- reorganization or restructuring of our businesses, tangible and intangible assets, outstanding indebtedness and corporate structure, including business combinations;
- jurisdictional mix of our income and assets;
- changes in the allocation of income and expenses, including adjustments related to changes in our corporate structure, acquisitions or tax law;
- changes in U.S and foreign tax laws and regulations, changes to the taxation of earnings of foreign subsidiaries, taxation of U.S. income generated from foreign sources, the deductibility of expenses attributable to income and foreign tax credit rules;
- tax effects of increases in non-deductible employee compensation; and
- changes in tax accounting rules or principles and in the valuation of deferred tax assets and liabilities.

We have adopted transfer pricing policies that call for the provision of services, the sale of products, the arrangement of financing and the grant of licenses from one affiliate to another at prices that we believe are negotiated on an arm's length basis. Our taxable income is dependent upon acceptance by local authorities that our operational practices and intercompany transfer pricing are on an arm's length basis. Due to inconsistencies in application of the arm's length standard among taxing authorities, as well as lack of comprehensive treaty-based protection, transfer pricing challenges by tax authorities could, if successful, result in adjustments for prior or future years. The effects of any such changes could subject us to higher taxes and our earnings, results of operations and cash flow would be adversely affected.

Further, we are subject to, and are under, tax audit in various jurisdictions, and such jurisdictions may assess additional income tax against us. Although we believe our tax positions are reasonable, the final determination of tax audits could be materially different from our income tax provisions and accruals. The ultimate result of an audit could have a material adverse effect on our results of operations and cash flows in the period or periods for which that determination is made.

As a result of the VMware Merger, we are subject to tax audits in various jurisdictions for the Dell consolidated group, of which VMware was a member beginning in Dell's fiscal year 2017 until November 2021. While VMware is no longer a member of the Dell consolidated group, it is still subject to audit for the periods in which it was member of the Dell consolidated group. While we believe VMware's positions are reasonable, the final determination of tax audits could be materially different from our income tax provisions and accruals. Further, pursuant to a tax agreement VMware and Dell, in the event VMware becomes subject to audits as a member of Dell's consolidated group, Dell has authority to control the audit and represent Dell and our interests, could limit our ability to affect the outcome of such audits.

We have potential tax liabilities as a result of VMware's former controlling ownership by Dell, which could have an adverse effect on our financial condition and operating results.

If the VMware spin-off from Dell in November 2021 is determined to not be tax-free for any reason, we could be liable for all or a portion of the tax liability, which could have a material adverse effect on our financial condition and operating results. Further, if the VMware Merger results in the spin-off failing to qualify as a tax-free transaction under Section 355 of the Internal Revenue Code, Dell, its affiliates and, potentially, its stockholders would incur significant tax liabilities and we may be required to indemnify Dell and its affiliates for any such tax liabilities, which could be material.

Risks Related to Our Indebtedness

Our substantial indebtedness could adversely affect our financial health and our ability to execute our business strategy.

As of October 29, 2023, the aggregate indebtedness under our senior notes was $40,815 million. Subsequent to the end of fiscal year 2023, we borrowed $30,390 million in term loans to finance the VMware Merger (the "2023 Term Loans"), and we assumed $8,250 million of VMware's outstanding senior unsecured notes.

Our substantial indebtedness could have important consequences including:

- increasing our vulnerability to adverse general economic and industry conditions;
- exposing us to interest rate risk as our 2023 Term Loans bear floating interest rates, which we do not typically hedge against;
- limiting our flexibility in planning for, or reacting to, changes in the economy and the semiconductor industry;
- placing us at a competitive disadvantage compared to our competitors with less indebtedness;
- making it more difficult to borrow additional funds in the future to fund growth, acquisitions, working capital, capital expenditures and other purposes; and
- potentially requiring us to dedicate a substantial portion of our cash flow from operations to payments on our indebtedness, thereby reducing the availability of our cash flow to fund our other business needs.

We receive debt ratings from the major credit rating agencies in the U.S. Factors that may impact our credit ratings include debt levels, planned asset purchases or sales and near-term and long-term production growth opportunities. Liquidity, asset quality, cost structure, reserve mix and commodity pricing levels could also be considered by the rating agencies. While we are focused on maintaining investment grade ratings from these agencies, we may be unable to do so. Any downgrade in our credit rating or the ratings of our indebtedness, or adverse conditions in the debt capital markets, could:

- adversely affect the trading price of, or market for, our debt securities;
- increase interest expense under our term facilities;
- increase the cost of, and adversely affect our ability to refinance, our existing debt; and

- adversely affect our ability to raise additional debt.

The instruments governing our indebtedness impose certain restrictions on our business.

The instruments governing our indebtedness contain certain covenants imposing restrictions on our business. These restrictions may affect our ability to operate our business, to plan for, or react to, changes in the market conditions or our capital needs and may limit our ability to take advantage of potential business opportunities as they arise. The restrictions placed on us include maintenance of an interest coverage ratio and limitations on our ability to incur certain secured debt, enter into certain sale and lease-back transactions and consolidate, merge, sell or otherwise dispose of all or substantially all of our assets. In addition, the instruments contain customary events of default upon the occurrence of which, after any applicable grace period, the indebtedness could be declared immediately due and payable. In such event, we may not have sufficient available cash to repay such debt at the time it becomes due, or be able to refinance such debt on acceptable terms or at all. Any of the foregoing could materially adversely affect our business, financial condition and results of operations.

Servicing our debt requires a significant amount of cash, and we may not have sufficient cash flow from our business to pay our substantial debt.

Our ability to make scheduled payments of the principal of, to pay interest on, and to refinance our debt, depends on our future performance, which is subject to economic, financial, competitive and other factors. Our business may not continue to generate cash flow from operations in the future sufficient to satisfy our obligations under our current indebtedness and any future indebtedness we may incur and to make necessary capital expenditures. If we are unable to generate such cash flow, we may be required to adopt one or more alternatives, such as reducing or delaying investments or capital expenditures, selling assets, refinancing or obtaining additional equity capital on terms that may be onerous or highly dilutive. Our ability to refinance our outstanding indebtedness or future indebtedness will depend on the capital markets and our financial condition at such time. We may not be able to engage in any of these activities or engage in these activities on desirable terms when needed, which could result in a default on our indebtedness.

Risks Related to Owning Our Common Stock

At times, our stock price has been volatile and it may fluctuate substantially in the future, which could result in substantial losses for our investors as well as class action litigation against us and our management which could cause us to incur substantial costs and divert our management's attention and resources.

The trading price of our common stock has, at times, fluctuated significantly and could be subject to wide fluctuations in response to any of the risk factors listed in this "Risk Factors" section, and others, including:

- issuance of new or updated research or other reports by securities analysts;
- fluctuations in the valuation and results of operations of our significant customers as well as companies perceived by investors to be comparable to us;
- announcements of proposed acquisitions by us or our competitors;
- announcements of, or expectations of, additional debt or equity financing transactions;
- stock price and volume fluctuations attributable to inconsistent trading volume levels of our common stock;
- hedging or arbitrage trading activity involving our common stock; and
- unsubstantiated news reports or other inaccurate publicity regarding us or our business.

These fluctuations are often unrelated or disproportionate to our operating performance. Broad market and industry fluctuations, as well as general economic, political and market conditions such as recessions, interest rate changes or currency fluctuations, may negatively impact the market price of our common stock. You may not realize any return on your investment in us and may lose some or all of your investment. In the past, companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation. We may be the target of this type of litigation in the future. In addition, we have been, and in the future we may be, subject to lawsuits stemming from our acquisitions, including the VMware Merger. Securities litigation against us, including the lawsuits related to such acquisitions, could result in substantial costs and divert our management's attention from other business concerns, which could seriously harm our business.

The amount and frequency of our stock repurchases may fluctuate.

The amount, timing and execution of our stock repurchase program may fluctuate based on our priorities for the use of cash for other purposes. These purposes include operational spending, capital spending, acquisitions, repayment of debt and returning cash to our stockholders as dividend payments.

Changes in cash flows, tax laws and our stock price could also impact our stock repurchase program. We are not obligated to repurchase any specific amount of shares of common stock, and the stock repurchase program may be suspended or terminated at any time.

A substantial amount of our stock is held by a small number of large investors and significant sales of our common stock by one or more of these holders could cause our stock price to fall.

As of September 29, 2023, we believe 10 of our 20 largest holders of common stock were active institutional investors who held 23% of our outstanding shares of common stock in the aggregate. These investors may sell their shares at any time for a variety of reasons and such sales could depress the market price of our common stock. In addition, any such sales of our common stock by these entities could also impair our ability to raise capital through the sale of additional equity securities.

There can be no assurance that we will continue to declare cash dividends.

Our Board of Directors has adopted a dividend policy pursuant to which we currently pay a cash dividend on our common stock on a quarterly basis. The declaration and payment of any dividend is subject to the approval of our Board of Directors and our dividend may be discontinued or reduced at any time. Because we are a holding company, our ability to pay cash dividends is also limited by restrictions or limitations on our ability to obtain sufficient funds through dividends from subsidiaries. There can be no assurance that we will declare cash dividends in the future in any particular amounts, or at all.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 1C. CYBERSECURITY

Not applicable.

ITEM 2. PROPERTIES

We are headquartered in Palo Alto, California and our primary warehouse is located in Malaysia. We conduct our administration, manufacturing, research and development, sales and marketing in both owned and leased facilities. We believe that our owned and leased facilities are adequate for our present operations. We do not identify or allocate assets by operating segment.

As of October 29, 2023, our owned and leased facilities in excess of 100,000 square feet consisted of:

(In square feet)	**United States**	**Other Countries**	**Total**
Owned facilities [a]	2,586,368	928,888	3,515,256
Leased facilities [b]	796,508	1,309,667	2,106,175
Total facilities	3,382,876	2,238,555	5,621,431

(a) Includes 318,000 square feet and 153,000 square feet of property owned in Malaysia subject to a 60-year land lease with the state authority expiring in May 2051 and March 2077, respectively, subject to renewal at our option.

(b) Building leases expire on varying dates through February 2046 and generally include renewals at our option.

ITEM 3. LEGAL PROCEEDINGS

The information set forth under Note 13. “Commitments and Contingencies” included in Part II, Item 8. of this Annual Report on Form 10-K, is incorporated herein by reference. For an additional discussion of certain risks associated with legal proceedings, see “Risk Factors” above.

ITEM 4. MINE SAFETY DISCLOSURES

None.

PART II

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

Market Information

Broadcom common stock is listed on The Nasdaq Global Select Market under the symbol "AVGO".

Holders

As of November 24, 2023, there were 1,389 holders of record of our common stock. A substantially greater number of stockholders are "street name" or beneficial holders, whose shares are held of record by banks, brokers and other financial institutions.

Issuer Purchases of Equity Securities

In December 2021, our Board of Directors authorized a stock repurchase program to repurchase up to $10 billion of our common stock from time to time through December 31, 2022, which was subsequently extended to December 31, 2023. In May 2022, our Board of Directors authorized another stock repurchase program to repurchase up to an additional $10 billion of our common stock from time to time through December 31, 2023 ("May 2022 Authorization"). We repurchased and retired approximately 9 million and 12 million shares of our common stock for $5,824 million and $7,000 million under these stock repurchase programs during fiscal years 2023 and 2022, respectively.

Repurchases under our stock repurchase programs may be effected through a variety of methods, including open market or privately negotiated purchases. The timing and amount of shares repurchased will depend on the stock price, business and market conditions, corporate and regulatory requirements, alternative investment opportunities, acquisition opportunities, and other factors. We are not obligated to repurchase any specific amount of shares of common stock, and the stock repurchase programs may be suspended or terminated at any time.

The following table presents details of our various repurchases during the fiscal quarter ended October 29, 2023, pursuant to the May 2022 Authorization.

Period	Total Number of Shares Purchased (a)	Average Price per Share	Total Number of Shares Purchased as Part of Publicly Announced Plan (a)	Approximate Dollar Value of Shares That May Yet Be Purchased Under the Plan
	(In millions, except per share data)			
July 31, 2023 - August 27, 2023	0.1	$ 894.78	0.1	$ 7,209
August 28, 2023 - September 24, 2023	—	$ —	—	$ 7,209
September 25, 2023 - October 29, 2023	— (b)	$ 861.23	— (b)	$ 7,176
Total	0.1	$ 885.52	0.1	

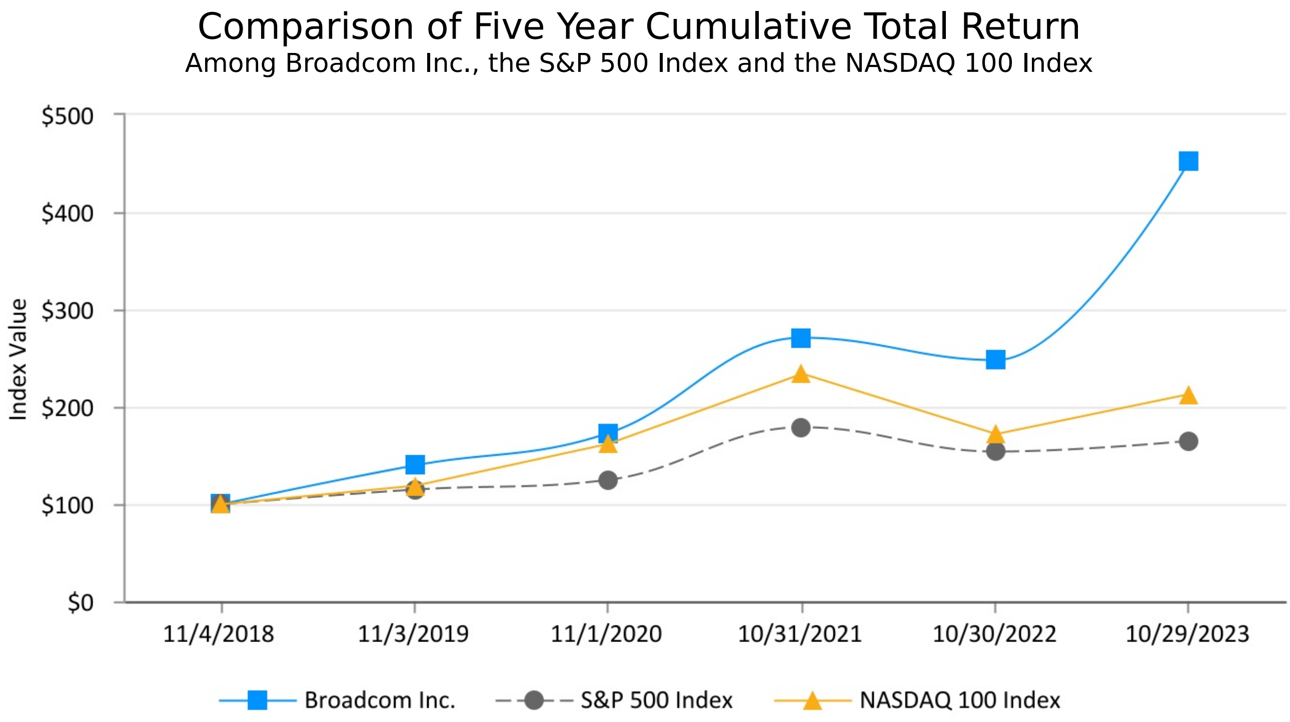
(a) We also paid approximately $454 million in employee withholding taxes due upon the vesting of net settled equity awards. We withheld approximately 1 million shares of common stock from employees in connection with such net share settlement at an average price of $852.93 per share. These shares may be deemed to be "issuer purchases" of shares and are not included in this table.

(b) Represents fewer than 0.1 million shares.

Stock Performance Graph

The following graph shows a comparison of cumulative total return for our common stock, the Standard & Poor's 500 Stock Index (the "S&P 500 Index") and the NASDAQ 100 Index for the five fiscal years ended October 29, 2023. The total return graph and table assume that $100 was invested on November 2, 2018 (the last trading day of our fiscal year 2018) in each of Broadcom Inc. common stock, the S&P 500 Index and the NASDAQ 100 Index and assume that all dividends are reinvested. Indexes are calculated on a month-end basis.

The comparisons in the graph below are based on historical data and are not indicative of, or intended to forecast, the possible future performance of our common stock.



	November 4, 2018	November 3, 2019	November 1, 2020	October 31, 2021	October 30, 2022	October 29, 2023
Broadcom Inc.	$ 100.00	$ 139.62	$ 172.47	$ 270.48	$ 247.83	$ 451.15
S&P 500 Index	$ 100.00	$ 114.95	$ 124.89	$ 178.49	$ 153.55	$ 164.78
NASDAQ 100 Index	$ 100.00	$ 118.49	$ 161.99	$ 233.96	$ 171.79	$ 212.82

The graph and the table above shall not be deemed "filed" with the SEC for the purposes of Section 18 of the Exchange Act or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing made by us with the SEC, regardless of any general incorporation language in such filing.

ITEM 6. [RESERVED]

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

This Management’s Discussion and Analysis of Financial Condition and Results of Operations should be read in conjunction with our consolidated financial statements and notes thereto, which appear elsewhere in this Annual Report on Form 10-K. This discussion may contain forward-looking statements based upon current expectations that involve risks and uncertainties. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set forth under the caption “Risk Factors” or in other parts of this Annual Report on Form 10-K.

The following section generally discusses our financial condition and results of operations for our fiscal year ended October 29, 2023 (“fiscal year 2023”) compared to our fiscal year ended October 30, 2022 (“fiscal year 2022”). A discussion regarding our financial condition and results of operations for fiscal year 2022 compared to our fiscal year ended October 31, 2021 (“fiscal year 2021”) can be found in Part II, Item 7 of our Annual Report on Form 10-K for fiscal year 2022, filed with the Securities and Exchange Commission (the “SEC”) on December 16, 2022.

Overview

We are a global technology leader that designs, develops and supplies a broad range of semiconductor and infrastructure software solutions. We develop semiconductor devices with a focus on complex digital and mixed signal complementary metal oxide semiconductor based devices and analog III-V based products. We have a history of innovation in the semiconductor industry and offer thousands of products that are used in end products such as enterprise and data center networking, home connectivity, set-top boxes, broadband access, telecommunication equipment, smartphones and base stations, data center servers and storage systems, factory automation, power generation and alternative energy systems, and electronic displays. Our infrastructure software solutions enable customers to plan, develop, automate, manage and secure applications across mainframe, distributed, mobile and cloud platforms. Our portfolio of infrastructure and security software is designed to modernize, optimize, and secure the most complex hybrid environments, enabling scalability, agility, automation, insights, resiliency and security. We also offer mission critical fibre channel storage area networking (“FC SAN”) products and related software in the form of modules, switches and subsystems incorporating multiple semiconductor products.

We have two reportable segments: semiconductor solutions and infrastructure software. Our semiconductor solutions segment includes all of our product lines and intellectual property (“IP”) licensing. Our infrastructure software segment includes our mainframe, distributed and cyber security solutions, and our FC SAN business.

Our strategy is to combine best-of-breed technology leadership in semiconductor and infrastructure software solutions, with unmatched scale, on a common sales and administrative platform to deliver a comprehensive suite of infrastructure technology products to the world’s leading business and government customers. We seek to achieve this through responsibly financed acquisitions of category-leading businesses and technologies, as well as investing extensively in research and development, to ensure our products retain their technology leadership. This strategy results in a robust business model designed to drive diversified and sustainable operating and financial results.

The demand for our products has been affected in the past, and is likely to continue to be affected in the future, by various factors, including the following:

- gain or loss of significant customers;
- general economic and market conditions in the industries and markets in which we compete;
- our distributors’ product inventory and end customer demand;
- the rate at which our present and future customers and end-users adopt our products and technologies in our target markets, and the rate at which our customers' products that include our technology are accepted in their markets;
- the shift to cloud-based information technology solutions and services, such as hyperscale computing, which may adversely affect the timing and volume of sales of our products for use in traditional enterprise data centers; and
- the timing, rescheduling or cancellation of expected customer orders.

Fiscal Year Highlights

Highlights during fiscal year 2023 include the following:

- We generated $18,085 million of cash from operations.
- We paid $7,645 million in cash dividends.

- We repurchased $5,824 million of common stock.

Acquisition of VMware, Inc.

On November 22, 2023, we completed the acquisition of VMware in a cash-and-stock transaction (the "VMware Merger"). Pursuant to the Agreement and Plan of Merger, each share of VMware common stock issued and outstanding immediately prior to the effective time of the VMware Merger was indirectly converted into the right to receive, at the election of the holder of such share of VMware common stock, either $142.50 in cash, without interest, or 0.2520 shares of Broadcom common stock. The stockholder election was prorated, such that the total number of shares of VMware common stock entitled to receive cash and the total number of shares of VMware common stock entitled to receive Broadcom common stock, in each case, was equal to 50% of the aggregate number of shares of VMware common stock issued and outstanding. Based on the VMware stockholders' elections, the VMware stockholders received approximately $30.8 billion in cash and 54.4 million shares of Broadcom common stock in aggregate.

We assumed all outstanding VMware restricted stock unit ("RSU") awards and performance stock unit awards held by continuing employees. The assumed awards were converted into approximately 5 million Broadcom RSU awards. All outstanding in-the-money VMware stock options and RSU awards held by non-employee directors were accelerated and converted into the right to receive cash and shares of Broadcom common stock, in equal parts.

VMware was a leading provider of multi-cloud services for all applications, enabling digital innovation with enterprise control. We acquired VMware to enhance our infrastructure software capabilities.

The preliminary purchase consideration for the VMware Merger was approximately $86.3 billion. We funded the cash portion of the VMware Merger with net proceeds from the issuance of $30.4 billion in term loans under a credit agreement that we entered into on August 15, 2023 (the "2023 Credit Agreement"), as well as cash on hand. See Note 15. "Subsequent Events" included in Part II, Item 8 of this Annual Report on Form 10-K for additional information.

The discussions below related to our business and financial results for fiscal year 2023 and prior periods do not include any impact from or information relating to the VMware Merger.

Net Revenue

A majority of our net revenue is derived from sales of a broad range of semiconductor devices that are incorporated into electronic products, as well as from modules, switches and subsystems. Net revenue is also generated from the sale of software solutions that enable our customers to plan, develop, automate, manage, and secure applications across mainframe, distributed, mobile, and cloud platforms.

Our overall net revenue, as well as the percentage of total net revenue generated by sales in our semiconductor solutions and infrastructure software segments, have varied from quarter to quarter, due largely to fluctuations in end-market demand, including the effects of seasonality, which are discussed in detail in Part I, Item 1. *Business* under "Seasonality" of this Annual Report on Form 10-K.

Distributors and original equipment manufacturers ("OEMs"), or their contract manufacturers, typically account for the substantial majority of our semiconductor sales. To serve customers around the world, we have strategically developed relationships with large global electronic component distributors, complemented by a number of regional distributors with customer relationships based on their respective product ranges. We have established strong relationships with leading OEM customers across multiple target markets. Our direct sales force focuses on supporting our large OEM customers and has specialized product and service knowledge that enables us to sell specific offerings at key levels throughout a customer's organization. Certain customers require us to contract with them directly and with specified intermediaries, such as contract manufacturers. Many of our major customer relationships have been in place for many years and are often the result of years of collaborative product development. This has enabled us to build our extensive IP portfolio and develop critical expertise regarding our customers' requirements, including substantial system-level knowledge. This collaboration has provided us with key insights into our customers' businesses and has enabled us to be more efficient and productive and to better serve our target markets and customers. We recognize revenue upon the delivery of our products to the distributors, which can cause our quarterly net revenue to fluctuate significantly. Such revenue is reduced for estimated returns and distributor allowances.

Our software customers generally consist of large enterprises that have computing environments from multiple vendors and are highly complex. We believe our enterprise-wide license model will continue to offer our customers reduced complexity, more flexibility and an easier renewal process that will help drive revenue growth.

Costs and Expenses

Cost of products sold. Cost of products sold consists primarily of the costs for semiconductor wafers and other materials, as well as the costs of assembling and testing those products and materials. Such costs include personnel and overhead related to our manufacturing operations, which include stock-based compensation expense, related occupancy, computer services, equipment costs, manufacturing quality, order fulfillment, warranty adjustments, inventory adjustments including write-downs for inventory obsolescence, and acquisition costs, which include direct transaction costs and acquisition-related costs.

Although we outsource a significant portion of our manufacturing activities, we do have some proprietary semiconductor fabrication facilities. If we are unable to utilize our owned fabrication facilities at a desired level, the fixed costs associated with these facilities will not be fully absorbed, resulting in higher average unit costs and lower gross margins.

Cost of subscriptions and services. Cost of subscriptions and services consists of personnel, project costs associated with professional services or support of our subscriptions and services revenue, and allocated facilities costs and other corporate expenses. Personnel costs include stock-based compensation expense.

Total cost of revenue also includes amortization of acquisition-related intangible assets and restructuring charges.

Research and development. Research and development expense consists primarily of personnel costs for our engineers engaged in the design and development of our products and technologies, including stock-based compensation expense. These expenses also include project material costs, third-party fees paid to consultants, prototype development expense, allocated facilities costs and other corporate expenses and computer services costs related to supporting computer tools used in the engineering and design process.

Selling, general and administrative. Selling expense consists primarily of compensation and associated costs for sales and marketing personnel, including stock-based compensation expense, sales commissions paid to our independent sales representatives, advertising costs, trade shows, corporate marketing, promotion, travel related to our sales and marketing operations, related occupancy and equipment costs, and other marketing costs. General and administrative expense consists primarily of compensation and associated costs for executive management, finance, human resources and other administrative personnel, including stock-based compensation expense, outside professional fees, allocated facilities costs, acquisition-related costs and other corporate expenses.

Amortization of acquisition-related intangible assets. In connection with our acquisitions, we recognize intangible assets that are being amortized over their estimated useful lives. We also recognize goodwill, which is not amortized, and in-process research and development ("IPR&D"), which is initially capitalized as an indefinite-lived intangible asset, in connection with the acquisitions. Upon completion of each underlying project, IPR&D assets are reclassified as amortizable purchased intangible assets and amortized over their estimated useful lives.

Restructuring and other charges. Restructuring and other charges consist primarily of non-recurring charges related to IP litigation, compensation costs associated with employee exit programs, alignment of our global manufacturing operations, rationalizing product development program costs, facility and lease abandonments, fixed asset impairment, IPR&D impairment, and other exit costs, including curtailment of service or supply agreements.

Interest expense. Interest expense includes coupon interest, commitment fees, accretion of original issue discount, amortization of debt premiums and debt issuance costs, and expenses related to debt modifications or extinguishments.

Other income (expense), net. Other income (expense), net includes interest income, gains or losses on investments, foreign currency remeasurement, and other miscellaneous items.

Provision for income taxes. We have structured our operations to maximize the benefit from tax incentives extended to us in various jurisdictions to encourage investment or employment. Our tax incentives from the Singapore Economic Development Board provide that any qualifying income earned in Singapore is subject to tax incentives or reduced rates of Singapore income tax, subject to our compliance with the conditions specified in these incentives and legislative developments. These Singapore tax incentives are presently expected to expire in November 2025. The corporate income tax rate in Singapore that would otherwise apply to us would be 17%. We also have a tax holiday from our qualifying income earned in Malaysia, which is scheduled to expire in 2028.

Each tax incentive and tax holiday is also subject to our compliance with various operating and other conditions. If we cannot, or elect not to, comply with any such operating conditions specified, we could, in some instances, be required to refund previously realized material tax benefits, or if such tax incentive or tax holiday is terminated prior to its expiration absent a new incentive applying, we will lose the related tax benefits earlier than scheduled. We may elect to modify our operational structure and tax strategy, which may not be as beneficial to us as the benefits provided under the present tax concession arrangements. Before taking into consideration the effects of the U.S. Tax Cuts and Jobs Act and other indirect tax impacts, the effect of these tax incentives and tax holiday decreased the provision for income taxes by approximately $2,104 million and $1,821 million for fiscal years 2023 and 2022, respectively.

Our interpretations and conclusions regarding the tax incentives are not binding on any taxing authority, and if our assumptions about tax and other laws are incorrect or if these tax incentives are substantially modified or rescinded, we could suffer material adverse tax and other financial consequences, which would increase our expenses, reduce our profitability and adversely affect our cash flows. In addition, taxable income in any jurisdiction is dependent upon acceptance of our operational practices and intercompany transfer pricing by local tax authorities as being on an arm's length basis. Due to inconsistencies in application of the arm's length standard among taxing authorities, as well as lack of adequate treaty-based protection, transfer pricing challenges by tax authorities could, if successful, substantially increase our income tax expense.

Critical Accounting Estimates

The preparation of financial statements in accordance with generally accepted accounting principles in the United States ("GAAP") requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting periods. We base our estimates and assumptions on current facts, historical experience and various other factors 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 and the accrual of costs and expenses that are not readily apparent from other sources. Our actual financial results may differ materially and adversely from our estimates. Our critical accounting policies are those that affect our financial statements materially and involve difficult, subjective or complex judgments by management. Those policies include revenue recognition, valuation of goodwill and long-lived assets, and income taxes. See Note 2. "Summary of Significant Accounting Policies" included in Part II, Item 8. of this Annual Report on Form 10-K for further information on our critical accounting policies and estimates.

Revenue recognition. We account for a contract with a customer when both parties have approved the contract and are committed to perform their respective obligations, each party's rights can be identified, payment terms can be identified, the contract has commercial substance, and it is probable we will collect substantially all of the consideration we are entitled to. Revenue is recognized when, or as, performance obligations are satisfied by transferring control of a promised product or service to a customer. Our products and services can be broadly categorized as sales of products and subscriptions and services.

We recognize products revenue from sales to direct customers and distributors when control transfers to the customer. An allowance for distributor credits covering price adjustments is made based on our estimate of historical experience rates as well as considering economic conditions and contractual terms. To date, actual distributor claims activity has been materially consistent with the provisions we have made based on our historical estimates. However, because of the inherent nature of estimates, there is always a risk that there could be significant differences between actual amounts and our estimates. Different judgments or estimates could result in variances that might be significant to reported operating results. We also record reductions of revenue for rebates in the same period that the related revenue is recorded. We accrue 100% of potential rebates at the time of sale. We reverse the accrual of unclaimed rebate amounts as specific rebate programs contractually end and when we believe unclaimed rebates are no longer subject to payment and will not be paid. Thus, the reversal of unclaimed rebates may have a positive impact on our net revenue and net income in subsequent periods.

Valuation of goodwill and long-lived assets. We perform an annual impairment review of our goodwill during the fourth fiscal quarter of each year, and more frequently if we believe indicators of impairment exist. The process of evaluating the potential impairment of goodwill is highly subjective and requires significant judgment. To review for impairment, we first assess qualitative factors to determine whether events or circumstances lead to a determination that it is more likely than not that the fair value of any of our reporting units is less than its carrying amount. Our qualitative assessment of the recoverability of goodwill, whether performed annually or based on specific events or circumstances, considers various macroeconomic, industry-specific and company-specific factors. These factors include: (i) severe adverse industry or economic trends; (ii) significant company-specific actions, including exiting an activity in conjunction with restructuring of operations; (iii) current, historical or projected deterioration of our financial performance; or (iv) a sustained decrease in our market capitalization below our net book value. After assessing the totality of events and circumstances, if we determine that it is not more likely than not that the fair value of any of our reporting units is less than its carrying amount, no further assessment is performed. If we determine that it is more likely than not that the fair value of any of our reporting units is less than its carrying amount, we calculate the fair value of that reporting unit and compare the fair value to the reporting unit's net book value.

Determining the fair value of a reporting unit involves the use of significant estimates and assumptions. Our goodwill impairment test uses both the income approach and the market approach to estimate a reporting unit's fair value. The income approach is based on the discounted cash flow method that uses the reporting unit estimates for forecasted future financial performance, including revenues, operating expenses, and taxes, as well as working capital and capital asset requirements. These estimates are developed as part of our long-term planning process based on assumed market segment growth rates and our assumed market segment share, estimated costs based on historical data and various internal estimates. Projected cash flows are then discounted to a present value employing a discount rate that properly accounts for the estimated market weighted-average cost of capital, as well as any risk unique to the subject cash flows. The market approach is based on weighting the financial multiples of comparable companies and applying a control premium. A reporting unit's carrying value represents the assignment of various assets and liabilities, excluding certain corporate assets and liabilities, such as cash and debt.

We assess the impairment of long-lived assets, including purchased IPR&D, property, plant and equipment, right-of-use assets, and intangible assets, whenever events or changes in circumstances indicate that the carrying value of such assets may not be recoverable. Factors we consider important which could trigger an impairment review include: (i) significant under-performance relative to historical or projected future operating results, (ii) significant changes in the manner of our use of the acquired assets or the strategy for our overall business, or (iii) significant negative industry or economic trends. The process of evaluating the potential impairment of long-lived assets under the accounting guidance on property, plant and equipment, and intangible assets is also highly subjective and requires significant judgment. In order to estimate the fair value of long-lived assets, we typically make various assumptions about the future prospects of our business or the part of our business to which the long-lived assets relate. We also consider market factors specific to the business and estimate future cash flows to be generated by the business, which requires significant judgment as it is based on assumptions about market demand for our products over a number of future years. Based on these assumptions and estimates, we determine whether we need to take an impairment charge to reduce the value of the long-lived assets stated on our consolidated balance sheets to reflect their estimated fair value. Assumptions and estimates about future values and remaining useful lives are complex and often subjective. They can be affected by a variety of factors, including external factors, such as the real estate market, industry and economic trends, and internal factors, such as changes in our business strategy and our internal forecasts. Although we believe the assumptions and estimates we have made in the past have been reasonable and appropriate, changes in assumptions and estimates could materially impact our reported financial results.

Income taxes. Significant management judgment is required in developing our provision for or benefit from income taxes, including the determination of deferred tax assets and liabilities and any valuation allowances that might be required against the deferred tax assets. We have considered projected future taxable income and ongoing prudent and feasible tax planning strategies in assessing the need for valuation allowances. An adjustment to the valuation allowance will either increase or decrease our provision for or benefit from income taxes in the period such determination is made. In evaluating the exposure associated with various tax filing positions, we accrue an income tax liability when such positions do not meet the more-likely-than-not threshold for recognition.

The calculation of our tax liabilities involves dealing with uncertainties in the application of complex tax laws and regulations in a multitude of jurisdictions. We recognize potential liabilities for anticipated tax audit issues in the U.S. and other tax jurisdictions based on our estimate of whether, and the extent to which, additional taxes, interest, and penalties will be due. If our estimate of income tax liabilities proves to be less than the actual amount ultimately assessed, a further charge to tax expense would be required. If the payment of these amounts ultimately proves to be unnecessary, the reversal of the accrued liabilities would result in tax benefits being recognized in the period when we determine the liabilities no longer exist.

Fiscal Year Presentation

We operate on a 52- or 53-week fiscal year ending on the Sunday closest to October 31 in a 52-week year and the first Sunday in November in a 53-week year. Our fiscal years 2023, 2022 and 2021 each consisted of 52 weeks.

The financial statements included in Part II, Item 8. of this Annual Report on Form 10-K are presented in accordance with GAAP and expressed in U.S. dollars.

Results of Operations

Fiscal Year 2023 Compared to Fiscal Year 2022

The following table sets forth our results of operations for the periods presented:

	Fiscal Year Ended			
	October 29, 2023	October 30, 2022	October 29, 2023	October 30, 2022
	(In millions)		(As a percentage of net revenue)	
Statements of Operations Data:				
Net revenue:				
Products	$ 27,891	$ 26,277	78 %	79 %
Subscriptions and services	7,928	6,926	22	21
Total net revenue	35,819	33,203	100	100
Cost of revenue:				
Cost of products sold	8,636	7,629	24	23
Cost of subscriptions and services	636	627	2	2
Amortization of acquisition-related intangible assets	1,853	2,847	5	8
Restructuring charges	4	5	—	—
Total cost of revenue	11,129	11,108	31	33
Gross margin	24,690	22,095	69	67
Research and development	5,253	4,919	15	15
Selling, general and administrative	1,592	1,382	4	4
Amortization of acquisition-related intangible assets	1,394	1,512	4	5
Restructuring and other charges	244	57	1	—
Total operating expenses	8,483	7,870	24	24
Operating income	$ 16,207	$ 14,225	45 %	43 %

Net Revenue

A relatively small number of customers account for a significant portion of our net revenue. Sales of products to distributors accounted for 57% and 56% of our net revenue for fiscal years 2023 and 2022, respectively. Direct sales to WT Microelectronics Co., Ltd., a distributor, accounted for 21% and 20% of our net revenue for fiscal years 2023 and 2022, respectively. We believe aggregate sales to our top five end customers, through all channels, accounted for approximately 35% of our net revenue for each of fiscal years 2023 and 2022. We believe aggregate sales to Apple Inc., through all channels, accounted for approximately 20% of our net revenue for each of fiscal years 2023 and 2022. We expect to continue to experience significant customer concentration in future periods. The loss of, or significant decrease in demand from, any of our top five end customers could have a material adverse effect on our business, results of operations and financial condition.

From time to time, some of our key semiconductor customers place large orders or delay orders, causing our quarterly net revenue to fluctuate significantly. This is particularly true of our wireless products as fluctuations may be magnified by the timing of launches, and seasonal variations in sales, of mobile devices. In addition, the macroeconomic environment remains uncertain and may cause our net revenue to fluctuate significantly and impact our results of operations.

Although we recognize revenue for the majority of our products when title and control transfer in Penang, Malaysia, we disclose net revenue by country based primarily on the geographic shipment or delivery location specified by our distributors, OEMs, contract manufacturers, channel partners, or software customers. In fiscal years 2023 and 2022, 32% and 35%, respectively, of our net revenue came from shipments or deliveries to China (including Hong Kong). However, the end customers for either our products or for the end products into which our products are incorporated, are frequently located in countries other than China (including Hong Kong). As a result, we believe that a substantially smaller percentage of our net revenue is ultimately dependent on sales of either our product or our customers' product incorporating our product, to end customers located in China (including Hong Kong).

The following tables set forth net revenue by segment for the periods presented:

Net Revenue by Segment	Fiscal Year Ended October 29, 2023	Fiscal Year Ended October 30, 2022	$ Change	% Change
	(In millions, except percentages)			
Semiconductor solutions	$ 28,182	$ 25,818	$ 2,364	9 %
Infrastructure software	7,637	7,385	252	3 %
Total net revenue	$ 35,819	$ 33,203	$ 2,616	8 %

Net Revenue by Segment	Fiscal Year Ended October 29, 2023	Fiscal Year Ended October 30, 2022
	(As a percentage of net revenue)	
Semiconductor solutions	79 %	78 %
Infrastructure software	21	22
Total net revenue	100 %	100 %

Net revenue from our semiconductor solutions segment increased due to strong product demand, primarily for networking, server storage and broadband products. Net revenue from our infrastructure software segment increased primarily due to increases in sales from our mainframe solutions, partially offset by lower demand for our FC SAN products.

Gross Margin

Gross margin was $24,690 million, or 69% of net revenue, for fiscal year 2023, compared to $22,095 million, or 67% of net revenue, for fiscal year 2022. The increase was primarily due to lower amortization of acquisition-related intangible assets, mainly from our 2016 acquisition of Broadcom Corporation, partially offset by less favorable margin within our semiconductor solutions segment driven by product mix. We expect to incur additional amortization of acquisition-related intangible assets in future periods as a result of the VMware Merger and any further acquisitions we may make.

Research and Development Expense

Research and development expense increased $334 million, or 7%, in fiscal year 2023, compared to the prior fiscal year. The increase was primarily due to higher stock-based compensation expense as a result of annual employee equity awards granted at higher grant-date fair values in fiscal year 2023, partially offset by lower variable employee compensation expense. We expect to incur additional research and development expense in future periods as a result of the VMware Merger and any further acquisitions we may make.

Selling, General and Administrative Expense

Selling, general and administrative expense increased $210 million, or 15%, in fiscal year 2023, compared to the prior fiscal year. The increase was primarily due to higher costs incurred in connection with the VMware Merger and higher stock-based compensation expense as a result of annual employee equity awards granted at higher grant-date fair values in fiscal year 2023, partially offset by lower variable employee compensation expense.

Amortization of Acquisition-Related Intangible Assets

Amortization of acquisition-related intangible assets recognized in operating expenses decreased $118 million, or 8%, in fiscal year 2023, compared to the prior fiscal year. The decrease was primarily due to lower amortization of customer-related intangible assets from our acquisition of LSI Corporation. We expect to incur additional amortization of acquisition-related intangible assets in future periods as a result of the VMware Merger and any further acquisitions we may make.

Restructuring and Other Charges

Restructuring and other charges in fiscal year 2023 primarily included non-recurring charges related to IP litigation. We expect to incur additional restructuring and other charges in future periods as a result of the VMware Merger and any further acquisitions we may make.

Stock-Based Compensation Expense

Total stock-based compensation expense was $2,171 million and $1,533 million for fiscal years 2023 and 2022, respectively. The increase was primarily due to annual employee equity awards granted at higher grant-date fair values in fiscal year 2023. We expect to incur additional stock-based compensation expense in future periods as a result of the VMware Merger and any further acquisitions we may make.

The following table sets forth the total unrecognized compensation cost related to unvested stock-based awards outstanding and expected to vest as of October 29, 2023. The remaining weighted-average service period was 3.4 years.

Fiscal Year:	Unrecognized Compensation Cost, Net of Expected Forfeitures
	(In millions)
2024	$ 2,279
2025	1,845
2026	1,407
2027	715
2028	129
Total	$ 6,375

During the first quarter of fiscal year ended November 3, 2019 ("fiscal year 2019"), our Compensation Committee approved a broad-based program of multi-year equity grants of time- and market-based RSUs (the "Multi-Year Equity Awards") in lieu of our annual employee equity awards historically granted on March 15 of each year. Each Multi-Year Equity Award vests on the same basis as four annual grants made on March 15 of each year, beginning in fiscal year 2019, with successive four-year vesting periods. We recognize stock-based compensation expense related to the Multi-Year Equity Awards from the grant date through their respective vesting date, ranging from 4 years to 7 years.

Segment Operating Results

Operating Income by Segment	Fiscal Year Ended October 29, 2023	Fiscal Year Ended October 30, 2022	$ Change	% Change
	(In millions, except percentages)			
Semiconductor solutions	$ 16,486	$ 15,075	$ 1,411	9 %
Infrastructure software	5,639	5,219	420	8 %
Unallocated expenses	(5,918)	(6,069)	151	(2)%
Total operating income	$ 16,207	$ 14,225	$ 1,982	14 %

Operating income from our semiconductor solutions segment increased primarily due to higher net revenue from networking, server storage, and broadband products. Operating income from our infrastructure software segment increased primarily due to higher net revenue from our mainframe solutions, partially offset by lower net revenue from our FC SAN products.

Unallocated expenses include amortization of acquisition-related intangible assets; stock-based compensation expense; restructuring and other charges; acquisition-related costs; and other costs that are not used in evaluating the results of, or in allocating resources to, our segments. Unallocated expenses decreased 2% in fiscal year 2023, compared to the prior fiscal year, primarily due to lower amortization of acquisition-related intangible assets, substantially offset by higher stock-based compensation expense, non-recurring charges related to IP litigation, and acquisition-related costs.

Non-Operating Income and Expenses

Interest expense. Interest expense was $1,622 million and $1,737 million for fiscal years 2023 and 2022, respectively. The decrease was due to losses on extinguishment of debt related to debt transactions incurred in fiscal year 2022. We expect to incur additional interest expense in future periods as a result of indebtedness associated with the VMware Merger.

Other income (expense), net. Other income (expense), net includes interest income, gains or losses on investments, foreign currency remeasurement and other miscellaneous items. Other income, net, was $512 million for fiscal year 2023, compared to other expense, net, of $54 million for fiscal year 2022. The change was primarily due to higher interest income as a result of higher interest rates and changes in investment gains or losses.

Provision for income taxes. The provision for income taxes was $1,015 million and $939 million for fiscal years 2023 and 2022, respectively. The increase was primarily due to higher income before income taxes, partially offset by an increase in the recognition of uncertain tax benefits as a result of lapses of statutes of limitations.

Liquidity and Capital Resources

The following section discusses our principal liquidity and capital resources as well as our primary liquidity requirements and uses of cash. Our cash and cash equivalents are maintained in highly liquid investments with remaining maturities of 90 days or less at the time of purchase. We believe our cash equivalents are liquid and accessible.

Our primary sources of liquidity as of October 29, 2023 consisted of: (i) $14,189 million in cash and cash equivalents, (ii) cash we expect to generate from operations and (iii) available capacity under our $7.5 billion unsecured revolving credit facility. In addition, we may also generate cash from the sale of assets and debt or equity financings from time to time.

Our short-term and long-term liquidity requirements primarily arise from: (i) business acquisitions and investments we may make from time to time, (ii) working capital requirements, (iii) research and development and capital expenditure needs, (iv) cash dividend payments (if and when declared by our Board of Directors), (v) interest and principal payments related to our $40,815 million of outstanding indebtedness, (vi) share repurchases, and (vii) payment of income taxes. Our ability to fund these requirements will depend, in part, on our future cash flows, which are determined by our future operating performance and, therefore, subject to prevailing global macroeconomic conditions and financial, business and other factors, some of which are beyond our control. We expect capital expenditures to be higher in fiscal year 2024 as compared to fiscal year 2023. Our debt and liquidity needs increased as a result of completing the VMware Merger. We funded the cash portion of the consideration with net proceeds from the issuance of $30,390 million in term loans under the 2023 Credit Agreement, as well as cash on hand. We also assumed $8,250 million of VMware’s outstanding senior unsecured notes.

We believe that our cash and cash equivalents on hand, cash flows from operations, and the revolving credit facility will provide sufficient liquidity to operate our business and fund our current and assumed obligations for at least the next 12 months. For additional information regarding our cash requirement from contractual obligations, indebtedness and lease obligations, see Note 13. “Commitments and Contingencies”, Note 9. “Borrowings” and Note 5. “Leases” in Part II, Item 8 of this Annual Report on Form 10-K.

From time to time, we engage in discussions with third parties regarding potential acquisitions of, or investments in, businesses, technologies and product lines. Any such transaction, or evaluation of potential transactions, could require significant use of our cash and cash equivalents, or require us to increase our borrowings to fund such transactions. If we do not have sufficient cash to fund our operations or finance growth opportunities, including acquisitions, or unanticipated capital expenditures, our business and financial condition could suffer. In such circumstances, we may seek to obtain new debt or equity financing. However, we cannot assure you that such additional financing will be available on terms acceptable to us or at all. Our ability to service our senior unsecured notes, the term loans we issued to fund the VMware Merger, and any other indebtedness we may incur will depend on our ability to generate cash in the future. We may also elect to sell additional debt or equity securities for reasons other than those specified above.

In addition, we may, at any time and from time to time, seek to retire or purchase our outstanding debt through cash tenders and/or exchanges for equity or debt, in open-market purchases, privately negotiated transactions or otherwise. Such tenders, exchanges or purchases, if any, will be upon such terms and at such prices as we may determine, and will depend on prevailing market conditions, our liquidity requirements, contractual restrictions and other factors. The amounts involved may be material.

Working Capital

Working capital increased to $13,442 million at October 29, 2023 from $11,452 million at October 30, 2022. The increase was attributable to the following:

- Cash and cash equivalents increased to $14,189 million at October 29, 2023 from $12,416 million at October 30, 2022, primarily due to $18,085 million in net cash provided by operating activities, partially offset by $7,645 million of dividend payments, $5,824 million of common stock repurchases, and $1,861 million of employee withholding tax payments related to net settled equity awards.
- Other current liabilities decreased to $3,652 million at October 29, 2023 from $4,412 million at October 30, 2022, primarily due to decreases in contract liabilities and income taxes payable.
- Other current assets increased to $1,606 million at October 29, 2023 from $1,205 million at October 30, 2022, primarily due to an increase in contract assets, offset in part by a decrease in prepaid income taxes.
- Employee compensation and benefits decreased to $935 million at October 29, 2023 from $1,202 million at October 30, 2022, primarily due to lower variable compensation.

- Accounts receivable increased to $3,154 million at October 29, 2023 from $2,958 million at October 30, 2022, primarily due to revenue linearity, offset in part by additional receivables sold through factoring arrangements.

These increases in working capital were offset in part by the following:

- Current portion of long-term debt increased to $1,608 million at October 29, 2023 from $440 million at October 30, 2022, primarily due to certain debt instruments becoming due within the next twelve months, offset in part by repayments.
- Accounts payable increased to $1,210 million at October 29, 2023 from $998 million at October 30, 2022, primarily due to the timing of vendor payments.

Capital Returns

Cash Dividends Declared and Paid	Fiscal Year Ended October 29, 2023	Fiscal Year Ended October 30, 2022
	(In millions, except per share data)	
Dividends per share to common stockholders	$ 18.40	$ 16.40
Dividends to common stockholders	$ 7,645	$ 6,733
Dividends per share to preferred stockholders	$ —	$ 80.00
Dividends to preferred stockholders	$ —	$ 299

On September 30, 2019, we issued approximately 4 million shares of 8.00% Mandatory Convertible Preferred Stock, Series A, $0.001 par value per share. These shares were converted into shares of our common stock during fiscal year 2022.

In December 2021, our Board of Directors authorized a stock repurchase program to repurchase up to $10 billion of our common stock from time to time on or prior to December 31, 2022, which was subsequently extended through December 31, 2023. In May 2022, our Board of Directors authorized another stock repurchase program to repurchase up to an additional $10 billion of our common stock from time to time through December 31, 2023. As of October 29, 2023, $7,176 million of the authorized amount remained available for repurchases.

During fiscal years 2023 and 2022, we repurchased and retired approximately 9 million and 12 million shares of our common stock for $5,824 million and $7,000 million, respectively, under these stock repurchase programs.

Repurchases under our stock repurchase programs may be effected through a variety of methods, including open market or privately negotiated purchases. The timing and amount of shares repurchased will depend on the stock price, business and market conditions, corporate and regulatory requirements, alternative investment opportunities, acquisition opportunities, and other factors. We are not obligated to repurchase any specific amount of shares of common stock, and the stock repurchase programs may be suspended or terminated at any time.

During fiscal years 2023 and 2022, we paid approximately $1,861 million and $1,455 million, respectively, in employee withholding taxes due upon the vesting of net settled equity awards. We withheld approximately 3 million shares of common stock from employees in connection with such net share settlements during each of fiscal years 2023 and 2022.

Cash Flows

	Fiscal Year Ended October 29, 2023	Fiscal Year Ended October 30, 2022
	(In millions)	
Net cash provided by operating activities	$ 18,085	$ 16,736
Net cash used in investing activities	(689)	(667)
Net cash used in financing activities	(15,623)	(15,816)
Net change in cash and cash equivalents	$ 1,773	$ 253

Operating Activities

Cash flows from operating activities consisted of net income adjusted for certain non-cash and other items and changes in assets and liabilities. The $1,349 million increase in cash provided by operations during fiscal year 2023 compared to fiscal year 2022 was due to $2,587 million higher net income, offset in part by $1,249 million lower non-cash adjustments primarily from lower amortization of intangible assets.

Investing Activities

Cash flows from investing activities primarily consisted of capital expenditures, sales and purchases of investments, and cash used for acquisitions. The $22 million increase in cash used in investing activities for fiscal year 2023 compared to fiscal year 2022 was primarily due to a $118 million increase in purchases of investments, net of proceeds from sales of investments, offset by a $193 million decrease in cash paid for acquisitions.

Financing Activities

Cash flows from financing activities primarily consisted of dividend payments, stock repurchases, proceeds and payments related to our long-term borrowings, and employee withholding tax payments related to net settled equity awards. The $193 million decrease in cash used in financing activities for fiscal year 2023 compared to fiscal year 2022 was primarily due to a $1,958 million decrease in payments on debt obligations and a $1,176 million decrease in stock repurchases, offset by a $1,935 million decrease in proceeds from long-term borrowings, a $613 million increase in dividend payments and a $406 million increase in employee withholding tax payments related to net settled equity awards.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Foreign Currency Exchange Risk

From time to time, we use foreign exchange forward contracts to hedge a portion of our exposures to changes in currency exchange rates, which result from our global operating and financing activities. We do not use derivative financial instruments for trading or speculative purposes. Neither gains and losses from foreign currency transactions nor foreign exchange forward contracts were significant for any period presented in the consolidated financial statements included in this Form 10-K. We did not have any outstanding foreign exchange forward contracts as of October 29, 2023 or October 30, 2022.

Interest Rate Risk

Changes in interest rates affect the fair value of our outstanding debt. As of October 29, 2023 and October 30, 2022, we had $40.8 billion and $41.2 billion in principal amount of debt outstanding, and the estimated aggregate fair value of debt was $33.2 billion and $33.0 billion, respectively. As of October 29, 2023 and October 30, 2022, a hypothetical 50 basis points increase or decrease in market interest rates would change the fair value of debt by a decrease or increase of approximately $1.4 billion and $1.6 billion, respectively. However, this hypothetical change in interest rates would not impact the interest expense on our debt as we only had fixed rate senior notes outstanding. To hedge variability of cash flows due to changes in the benchmark interest rate of anticipated future debt issuances, we have entered, and in the future may enter, into treasury rate lock contracts.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

BROADCOM INC.
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of Broadcom Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Broadcom Inc. and its subsidiaries (the “Company”) as of October 29, 2023 and October 30, 2022, and the related consolidated statements of operations, of comprehensive income, of stockholders’ equity and of cash flows for each of the three years in the period ended October 29, 2023, including the related notes and financial statement schedule listed in the index appearing under Item 15(a)(2) (collectively referred to as the “consolidated financial statements”). We also have audited the Company's internal control over financial reporting as of October 29, 2023, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of October 29, 2023 and October 30, 2022, and the results of its operations and its cash flows for each of the three years in the period ended October 29, 2023 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of October 29, 2023, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management’s Report on Internal Control over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company’s consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

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

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated 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 consolidated 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 consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) 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 (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of 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 matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Uncertain Tax Positions (UTPs)

As described in Notes 2 and 11 to the consolidated financial statements, the gross unrecognized tax benefits balance was $4,655 million as of October 29, 2023. As management has disclosed, management evaluates the exposure associated with various tax filing positions and accrues an income tax liability when such positions do not meet the more-likely-than-not threshold for recognition. A tax benefit from an UTP may be recognized when it is more-likely-than not that the position will be sustained upon examination, including resolution of any related appeals or litigation processes, based on the technical merits.

The principal considerations for our determination that performing procedures relating to the UTPs is a critical audit matter are (i) the significant judgment by management when evaluating the technical merits of these tax positions, (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating the technical merits of the tax positions, and (iii) the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the identification and recognition of the income tax liability for UTPs, including controls addressing the completeness of the UTPs and the measurement of the income tax liability. These procedures also included, among others, (i) testing management's process for identifying potential new UTPs, (ii) for a selection of UTPs, evaluating possible outcomes, and (iii) for a selection of UTPs, testing the calculation of the income tax liability, including management's assessment of the technical merits of tax positions and estimates of the amount of tax benefit expected to be sustained. Professionals with specialized skill and knowledge were used to assist in (i) the evaluation of the completeness of management's identification of the UTPs and (ii) for a selection of UTPs, the evaluation of the reasonableness of management's assessment of whether the tax positions are more-likely-than-not of being sustained, the amount of potential benefit to be realized, and the application of relevant tax laws.

/s/ PricewaterhouseCoopers LLP

San Jose, California
December 14, 2023

We have served as the Company's auditor since 2006.

BROADCOM INC.
CONSOLIDATED BALANCE SHEETS

	October 29, 2023	October 30, 2022
	(In millions, except par value)	
ASSETS		
Current assets:		
Cash and cash equivalents	$ 14,189	$ 12,416
Trade accounts receivable, net	3,154	2,958
Inventory	1,898	1,925
Other current assets	1,606	1,205
Total current assets	20,847	18,504
Long-term assets:		
Property, plant and equipment, net	2,154	2,223
Goodwill	43,653	43,614
Intangible assets, net	3,867	7,111
Other long-term assets	2,340	1,797
Total assets	$ 72,861	$ 73,249
LIABILITIES AND EQUITY		
Current liabilities:		
Accounts payable	$ 1,210	$ 998
Employee compensation and benefits	935	1,202
Current portion of long-term debt	1,608	440
Other current liabilities	3,652	4,412
Total current liabilities	7,405	7,052
Long-term liabilities:		
Long-term debt	37,621	39,075
Other long-term liabilities	3,847	4,413
Total liabilities	48,873	50,540
Commitments and contingencies (Note 13)		
Stockholders’ equity:		
Preferred stock, $0.001 par value; 100 shares authorized; none issued and outstanding	—	—
Common stock, $0.001 par value; 2,900 shares authorized; 414 and 418 shares issued and outstanding as of October 29, 2023 and October 30, 2022, respectively	—	—
Additional paid-in capital	21,099	21,159
Retained earnings	2,682	1,604
Accumulated other comprehensive income (loss)	207	(54)
Total stockholders’ equity	23,988	22,709
Total liabilities and equity	$ 72,861	$ 73,249

The accompanying notes are an integral part of these consolidated financial statements.

BROADCOM INC.
CONSOLIDATED STATEMENTS OF OPERATIONS

	Fiscal Year Ended		
	October 29, 2023	October 30, 2022	October 31, 2021
	(In millions, except per share data)		
Net revenue:			
Products	$ 27,891	$ 26,277	$ 20,886
Subscriptions and services	7,928	6,926	6,564
Total net revenue	35,819	33,203	27,450
Cost of revenue:			
Cost of products sold	8,636	7,629	6,555
Cost of subscriptions and services	636	627	607
Amortization of acquisition-related intangible assets	1,853	2,847	3,427
Restructuring charges	4	5	17
Total cost of revenue	11,129	11,108	10,606
Gross margin	24,690	22,095	16,844
Research and development	5,253	4,919	4,854
Selling, general and administrative	1,592	1,382	1,347
Amortization of acquisition-related intangible assets	1,394	1,512	1,976
Restructuring and other charges	244	57	148
Total operating expenses	8,483	7,870	8,325
Operating income	16,207	14,225	8,519
Interest expense	(1,622)	(1,737)	(1,885)
Other income (expense), net	512	(54)	131
Income before income taxes	15,097	12,434	6,765
Provision for income taxes	1,015	939	29
Net income	14,082	11,495	6,736
Dividends on preferred stock	—	(272)	(299)
Net income attributable to common stock	$ 14,082	$ 11,223	$ 6,437
Net income per share attributable to common stock:			
Basic	$ 33.93	$ 27.44	$ 15.70
Diluted	$ 32.98	$ 26.53	$ 15.00
Weighted-average shares used in per share calculations:			
Basic	415	409	410
Diluted	427	423	429

The accompanying notes are an integral part of these consolidated financial statements.

BROADCOM INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	Fiscal Year Ended		
	October 29, 2023	October 30, 2022	October 31, 2021
		(In millions)	
Net income	$ 14,082	$ 11,495	$ 6,736
Other comprehensive income (loss), net of tax:			
Change in unrealized gain on derivative instruments	290	37	—
Change in actuarial loss and prior service costs associated with defined benefit plans	(29)	25	(8)
Other comprehensive income (loss), net of tax	261	62	(8)
Comprehensive income	$ 14,343	$ 11,557	$ 6,728

The accompanying notes are an integral part of these consolidated financial statements.

BROADCOM INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Fiscal Year Ended		
	October 29, 2023	October 30, 2022	October 31, 2021
		(In millions)	
Cash flows from operating activities:			
Net income	$ 14,082	$ 11,495	$ 6,736
Adjustments to reconcile net income to net cash provided by operating activities:			
Amortization of intangible and right-of-use assets	3,333	4,455	5,502
Depreciation	502	529	539
Stock-based compensation	2,171	1,533	1,704
Deferred taxes and other non-cash taxes	(501)	(34)	(809)
Loss on debt extinguishment	—	100	198
Non-cash interest expense	132	129	96
Other	9	183	(75)
Changes in assets and liabilities, net of acquisitions and disposals:			
Trade accounts receivable, net	(187)	(870)	210
Inventory	27	(627)	(294)
Accounts payable	209	(79)	243
Employee compensation and benefits	(279)	136	186
Other current assets and current liabilities	(628)	222	(177)
Other long-term assets and long-term liabilities	(785)	(436)	(295)
Net cash provided by operating activities	18,085	16,736	13,764
Cash flows from investing activities:			
Acquisitions of businesses, net of cash acquired	(53)	(246)	(8)
Proceeds from sales of businesses	—	—	45
Purchases of property, plant and equipment	(452)	(424)	(443)
Purchases of investments	(346)	(200)	—
Sales of investments	228	200	169
Other	(66)	3	(8)
Net cash used in investing activities	(689)	(667)	(245)
Cash flows from financing activities:			
Proceeds from long-term borrowings	—	1,935	9,904
Payments on debt obligations	(403)	(2,361)	(11,495)
Payments of dividends	(7,645)	(7,032)	(6,212)
Repurchases of common stock - repurchase program	(5,824)	(7,000)	—
Shares repurchased for tax withholdings on vesting of equity awards	(1,861)	(1,455)	(1,299)
Issuance of common stock	122	114	170
Other	(12)	(17)	(42)
Net cash used in financing activities	(15,623)	(15,816)	(8,974)
Net change in cash and cash equivalents	1,773	253	4,545
Cash and cash equivalents at beginning of period	12,416	12,163	7,618
Cash and cash equivalents at end of period	$ 14,189	$ 12,416	$ 12,163
Supplemental disclosure of cash flow information:			
Cash paid for interest	$ 1,503	$ 1,386	$ 1,565
Cash paid for income taxes	$ 1,782	$ 908	$ 775

The accompanying notes are an integral part of these consolidated financial statements.

BROADCOM INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

	8.00% Mandatory Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity
	Shares	Par Value	Shares	Par Value				
	(In millions)							
Balance as of November 1, 2020	4	$ —	407	$ —	$ 23,982	$ —	$ (108)	$ 23,874
Net income	—	—	—	—	—	6,736	—	6,736
Other comprehensive loss	—	—	—	—	—	—	(8)	(8)
Dividends to common stockholders	—	—	—	—	(224)	(5,689)	—	(5,913)
Dividends to preferred stockholders	—	—	—	—	—	(299)	—	(299)
Common stock issued	—	—	9	—	170	—	—	170
Stock-based compensation	—	—	—	—	1,704	—	—	1,704
Shares repurchased for tax withholdings on vesting of equity awards	—	—	(3)	—	(1,302)	—	—	(1,302)
Balance as of October 31, 2021	4	—	413	—	24,330	748	(116)	24,962
Net income	—	—	—	—	—	11,495	—	11,495
Other comprehensive income	—	—	—	—	—	—	62	62
Fair value of partially vested equity awards assumed in connection with an acquisition	—	—	—	—	4	—	—	4
Dividends to common stockholders	—	—	—	—	(50)	(6,683)	—	(6,733)
Dividends to preferred stockholders	—	—	—	—	—	(272)	—	(272)
Common stock issued	—	—	8	—	114	—	—	114
Stock-based compensation	—	—	—	—	1,533	—	—	1,533
Repurchases of common stock	—	—	(12)	—	(3,316)	(3,684)	—	(7,000)
Common stock issued in connection with Mandatory Convertible Preferred Stock conversion	(4)	—	12	—	—	—	—	—
Shares repurchased for tax withholdings on vesting of equity awards	—	—	(3)	—	(1,456)	—	—	(1,456)
Balance as of October 30, 2022	—	—	418	—	21,159	1,604	(54)	22,709
Net income	—	—	—	—	—	14,082	—	14,082
Other comprehensive income	—	—	—	—	—	—	261	261
Dividends to common stockholders	—	—	—	—	—	(7,645)	—	(7,645)
Common stock issued	—	—	8	—	122	—	—	122
Stock-based compensation	—	—	—	—	2,171	—	—	2,171
Repurchases of common stock	—	—	(9)	—	(481)	(5,359)	—	(5,840)
Shares repurchased for tax withholdings on vesting of equity awards	—	—	(3)	—	(1,872)	—	—	(1,872)
Balance as of October 29, 2023	—	$ —	414	$ —	$ 21,099	$ 2,682	$ 207	$ 23,988

The accompanying notes are an integral part of these consolidated financial statements.

BROADCOM INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Overview and Basis of Presentation

Overview

Broadcom Inc. ("Broadcom"), a Delaware corporation, is a global technology leader that designs, develops and supplies a broad range of semiconductor and infrastructure software solutions. We develop semiconductor devices with a focus on complex digital and mixed signal complementary metal oxide semiconductor based devices and analog III-V based products. We have a history of innovation in the semiconductor industry and offer thousands of products that are used in end products such as enterprise and data center networking, home connectivity, set-top boxes, broadband access, telecommunication equipment, smartphones and base stations, data center servers and storage systems, factory automation, power generation and alternative energy systems, and electronic displays. Our infrastructure software solutions enable customers to plan, develop, automate, manage and secure applications across mainframe, distributed, mobile and cloud platforms. Our portfolio of infrastructure and security software is designed to modernize, optimize, and secure the most complex hybrid environments, enabling scalability, agility, automation, insights, resiliency and security. We also offer mission critical fibre channel storage area networking ("FC SAN") products and related software in the form of modules, switches and subsystems incorporating multiple semiconductor products. Unless stated otherwise or the context otherwise requires, references to "Broadcom," "we," "our," and "us" mean Broadcom and its consolidated subsidiaries. We have two reportable segments: semiconductor solutions and infrastructure software. See Note 12. "Segment Information" for additional information.

Basis of Presentation

We operate on a 52- or 53-week fiscal year ending on the Sunday closest to October 31 in a 52-week year and the first Sunday in November in a 53-week year. Our fiscal year ended October 29, 2023 ("fiscal year 2023") was a 52-week fiscal year. The first quarter of our fiscal year 2023 ended on January 29, 2023, the second quarter ended on April 30, 2023 and the third quarter ended on July 30, 2023. Our fiscal year ended October 30, 2022 ("fiscal year 2022") and fiscal year ended October 31, 2021 ("fiscal year 2021") were both 52-week fiscal years.

The accompanying consolidated financial statements include the accounts of Broadcom and its subsidiaries and have been prepared in accordance with generally accepted accounting principles in the United States ("GAAP"). All intercompany balances and transactions have been eliminated in consolidation.

2. Summary of Significant Accounting Policies

Foreign currency remeasurement. We operate in a U.S. dollar functional currency environment. Foreign currency assets and liabilities for monetary accounts are remeasured into U.S. dollars at current exchange rates. Non-monetary items such as inventory and property, plant and equipment, are measured and recorded at historical exchange rates. The effects of foreign currency remeasurement were not material for any period presented.

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

Cash and cash equivalents. We consider all highly liquid investment securities with original maturities of three months or less at the date of purchase to be cash equivalents. We determine the appropriate classification of our cash and cash equivalents at the time of purchase.

Trade accounts receivable, net. Trade accounts receivable are recognized at the invoiced amount and do not bear interest. Accounts receivable are reduced by an allowance for doubtful accounts, which is our best estimate of the expected credit losses in our existing accounts receivable. We determine the allowance based on historical experience and current economic conditions, among other factors. Allowances for doubtful accounts were not material as of October 29, 2023 or October 30, 2022. Accounts receivable are also recognized net of sales returns and distributor credit allowances. These amounts are recognized when it is both probable and estimable that discounts will be granted or products will be returned. Allowances for sales returns and distributor credit allowances as of October 29, 2023 and October 30, 2022 were $137 million and $126 million, respectively.

Concentrations of credit risk and significant customers. Our cash, cash equivalents and accounts receivable are potentially subject to concentration of credit risk. Cash and cash equivalents may be redeemable upon demand and are maintained with financial institutions that management believes are of high credit quality and therefore bear minimal credit risk. We seek to mitigate our credit risks by spreading such risks across multiple counterparties and monitoring the risk profile

of these counterparties. Our accounts receivable are derived from revenue earned from customers located both within and outside the U.S. We mitigate collection risks from our customers by performing regular credit evaluations of our customers' financial conditions, and require collateral, such as letters of credit and bank guarantees, in certain circumstances.

Concentration of other risks. We operate in markets that are highly competitive and rapidly changing. Significant technological changes, shifting customer needs, the emergence of competitive products with new capabilities, general economic conditions worldwide, the ability to safeguard patents and other intellectual property ("IP") in a rapidly evolving market and reliance on assembly and test subcontractors, third-party wafer fabricators and independent distributors and other factors could affect our financial results.

Inventory. We value our inventory at the lower of actual cost or net realizable value of the inventory, with cost being determined under the first-in, first-out method. We record a provision for excess and obsolete inventory based primarily on our forecast of product demand and production requirements. The excess and obsolete balance determined by this analysis becomes the basis for our excess and obsolete inventory charge and the written-down value of the inventory becomes its new cost basis.

Retirement benefit plans. For defined benefit pension plans, we consider various factors in determining our respective benefit obligations and net periodic benefit cost, including the number of employees that we expect to receive benefits, their salary levels and years of service, the expected return on plan assets, the discount rate, the timing of the payment of benefits, and other actuarial assumptions. If the actual results and events of the benefit plans differ from our current assumptions, the benefit obligations may be over- or under-valued.

The key assumptions are the discount rate and the expected rate of return on plan assets. The U.S. discount rates are based on a hypothetical yield curve constructed using high-quality corporate bonds selected to yield cash flows that match the expected timing and amount of the benefit payments. The U.S. expected rate of return on plan assets is set equal to the discount rate due to the implementation of our fully-matched, liability-driven investment strategy. We evaluate these assumptions at least annually. For the non-U.S. plans, we set assumptions specific to each country. We have elected to measure defined benefit pension plan assets and liabilities as of October 31, which is the month end that is closest to our fiscal year end.

Derivative instruments. We use derivative financial instruments to manage exposure to foreign exchange risk and interest rate risk. We do not use derivative financial instruments for speculative or trading purposes.

Outstanding derivatives are recognized as assets or liabilities at their fair values based on Level 2 inputs, as defined in the fair value hierarchy. For derivative instruments designated as cash flow hedges, the changes in fair value are initially recognized in other comprehensive income (loss), net of tax in the period of change, and are subsequently reclassified and recognized in the same line item as the hedged item when either the hedged transactions affect earnings or it becomes probable that the hedged transactions will not occur.

We use foreign exchange forward contracts to manage exposure to foreign exchange risk. These forward contracts are not designated as hedging instruments, and the changes in fair value are recognized in other income (expense), net in the period of change. We did not have any outstanding foreign exchange forward contracts as of October 29, 2023 or October 30, 2022. The gains and losses recorded in other income (expense), net for derivative instruments not designated as hedges were not material.

During fiscal years 2023 and 2022, we entered into treasury rate lock contracts that mature in approximately one year to hedge variability of cash flows due to changes in the benchmark interest rate of anticipated future debt issuances. These treasury rate locks were designated and accounted for as cash flow hedging instruments. As of October 30, 2022, the total notional amount of these contracts was $1.3 billion, and the fair value of these contracts was $47 million, which was recorded as a derivative asset with the gains recorded net of tax as a component of accumulated other comprehensive loss on our consolidated balance sheet. In August 2023, we early settled all treasury rate lock contracts, which had a $5.5 billion notional amount, for a cumulative gain of $371 million, which was recorded net of tax as a component of accumulated other comprehensive income as of October 29, 2023. The cumulative gain will be amortized to interest expense associated with future debt to be issued referencing the respective hedged treasury rates. The cash receipts were included in cash flows from operating activities in the consolidated statements of cash flows. No derivative instruments that hedge interest rate risk were outstanding as of October 29, 2023.

Property, plant and equipment. Property, plant and equipment are stated at cost less accumulated depreciation and amortization. Additions, improvements and major renewals are capitalized, and maintenance, repairs and minor renewals are expensed as incurred. Assets are held in construction in progress until placed in service, upon which date, we begin to depreciate these assets. When assets are retired or disposed of, the assets and related accumulated depreciation and amortization are removed from our property, plant and equipment balances and the resulting gain or loss is reflected in the consolidated statements of operations. Buildings and leasehold improvements are generally depreciated over 15 to 40 years, or over the lease period, whichever is shorter, and machinery and equipment are generally depreciated over 3 to 10 years. We use the straight-line method of depreciation for all property, plant and equipment.

Leases. We determine if an arrangement is a lease, or contains a lease, at the inception of the arrangement and evaluate whether the lease is an operating lease or a finance lease at the commencement date. We recognize right-of-use (“ROU”) assets and lease liabilities for operating and finance leases with terms greater than 12 months, and account for the lease and non-lease components as a single component. ROU assets represent our right to use an asset for the lease term, while lease liabilities represent our obligation to make lease payments. Operating and finance lease ROU assets and liabilities are recognized based on the present value of lease payments over the lease term at the lease commencement date. We use the implicit interest rate or, if not readily determinable, our incremental borrowing rate as of the lease commencement date to determine the present value of lease payments. The incremental borrowing rate is based on our unsecured borrowing rate, adjusted for the effects of collateral. Operating and finance lease ROU assets are recognized net of any lease prepayments and incentives. Lease terms may include options to extend or terminate the lease when it is reasonably certain that we will exercise that option. Operating lease expense is recognized on a straight-line basis over the lease term. Finance lease expense is recognized based on the effective-interest method over the lease term.

Fair value measurement. Fair value is defined as the price that would be received upon sale of an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. A three-level hierarchy is applied to prioritize the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements).

The three levels of the fair value hierarchy under the guidance on fair value measurements are described below:

Level 1 — Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date. Our Level 1 assets include cash equivalents, banker's acceptances, trading securities investments and investment funds. We measure trading securities investments and investment funds at quoted market prices as they are traded in active markets with sufficient volume and frequency of transactions.

Level 2 — Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. If the asset or liability has a specified contractual term, a Level 2 input must be observable for substantially the full term of the asset or liability.

Level 3 — Level 3 inputs are unobservable inputs for the asset or liability in which there is little, if any, market activity for the asset or liability at the measurement date. Level 3 assets and liabilities include investment in equity securities without readily determinable fair values, goodwill, intangible assets, and property, plant and equipment, which are measured at fair value using a discounted cash flow approach when they are impaired. Quantitative information for Level 3 assets and liabilities reviewed at each reporting period includes indicators of significant deterioration in the earnings performance, credit rating, asset quality, business prospects of the investee, and financial indicators of the investee's ability to continue as a going concern.

Business combinations. We account for business combinations under the acquisition method of accounting, which requires us to recognize separately from goodwill the assets acquired and the liabilities assumed at their acquisition date fair values, except for revenue contracts acquired, which are recognized in accordance with our revenue recognition policy. While we use our best estimates and assumptions to accurately value assets acquired and liabilities assumed at the acquisition date as well as contingent consideration, where applicable, our estimates are inherently uncertain and subject to refinement. As a result, during the measurement period, which may be up to one year from the acquisition date, we record adjustments to the assets acquired and liabilities assumed with the corresponding offset to goodwill. Upon the conclusion of the measurement period or final determination of the values of assets acquired or liabilities assumed, whichever comes first, any subsequent adjustments are recognized in our consolidated statements of operations. Accounting for business combinations requires our management to make significant estimates and assumptions, especially at the acquisition date including our estimates for intangible assets, contractual obligations assumed, restructuring liabilities, pre-acquisition contingencies, and contingent consideration, where applicable. Although we believe the assumptions and estimates we have made in the past have been reasonable and appropriate, they are based, in part, on historical experience and information obtained from the management of the acquired companies and are inherently uncertain. Critical estimates in valuing certain acquired intangible assets under the income approach include growth in future expected cash flows from product sales, customer contracts and acquired technologies, revenue growth rate, customer ramp-up period, technology obsolescence rates, expected costs to develop in-process research and development (“IPR&D”) into commercially viable products, estimated cash flows from the projects when completed and discount rates. Unanticipated events and circumstances may occur which could affect the accuracy or validity of such assumptions, estimates or actual results.

Goodwill. Goodwill represents the excess of purchase price and related costs over the value assigned to the net tangible and identifiable intangible assets of businesses acquired. Goodwill is not amortized but is reviewed annually (or more frequently if impairment indicators arise) for impairment. To review for impairment we first assess qualitative factors to determine whether events or circumstances lead to a determination that it is more likely than not that the fair value of any of our reporting units is less than its carrying amount. Our qualitative assessment of the recoverability of goodwill, whether performed annually or based on specific events or circumstances, considers various macroeconomic, industry-specific and company-specific factors. Those factors include: (i) severe adverse industry or economic trends; (ii) significant company-specific actions, including exiting an activity in conjunction with restructuring of operations; (iii) current, historical or projected deterioration of our financial performance; or (iv) a sustained decrease in our market capitalization below our net book value. After assessing the totality of events and circumstances, if we determine that it is not more likely than not that the fair value of any of our reporting units is less than its carrying amount, no further assessment is performed. If we determine that it is more likely than not that the fair value of any of our reporting units is less than its carrying amount, we calculate the fair value of that reporting unit and compare the fair value to the reporting unit's net book value. If the fair value of the reporting unit is greater than its net book value, there is no impairment. Otherwise, we calculate the implied fair value of goodwill by deducting the fair value of all tangible and intangible assets, excluding goodwill, of the reporting unit from the fair value of the reporting unit. The implied fair value of goodwill is compared to the carrying value of goodwill. If the implied fair value of goodwill is less than the carrying value of goodwill, an impairment loss is recognized equal to the difference. Determining the fair value of a reporting unit involves the use of significant estimates and assumptions.

Long-lived assets. Purchased finite-lived intangible assets are carried at cost less accumulated amortization. Amortization is recognized over the periods during which the intangible assets are expected to contribute to our cash flows. Purchased IPR&D projects are capitalized at fair value as an indefinite-lived intangible asset and assessed for impairment thereafter. Upon completion of each underlying project, IPR&D assets are reclassified as amortizable purchased intangible assets and amortized over their estimated useful lives. If an IPR&D project is abandoned, we recognize the carrying value of the related intangible asset in our consolidated statements of operations in the period it is abandoned. On a quarterly basis, we monitor factors and changes in circumstances that could indicate carrying amounts of long-lived assets, including purchased intangible assets, ROU assets, and property, plant and equipment, may not be recoverable. Factors we consider important which could trigger an impairment review include: (i) significant under-performance relative to historical or projected future operating results, (ii) significant changes in the manner of our use of the acquired assets or the strategy for our overall business, and (iii) significant negative industry or economic trends. An impairment loss must be measured if the sum of the expected future cash flows (undiscounted and before interest) from the use and eventual disposition of the asset (or asset group) is less than the net book value of the asset (or asset group). The amount of the impairment loss will generally be measured as the difference between the net book value of the asset (or asset group) and the estimated fair value.

Warranty. We accrue for the estimated costs of product warranties at the time revenue is recognized. Product warranty costs are estimated based upon our historical experience and specific identification of the product requirements, which may fluctuate based on product mix. Additionally, we accrue for warranty costs associated with occasional or unanticipated product quality issues if a loss is probable and can be reasonably estimated.

Revenue recognition. We account for a contract with a customer when both parties have approved the contract and are committed to perform their respective obligations, each party's rights can be identified, payment terms can be identified, the contract has commercial substance, and it is probable we will collect substantially all of the consideration we are entitled to. Revenue is recognized when, or as, performance obligations are satisfied by transferring control of a promised product or service to a customer.

Nature of Products and Services

Our products and services can be broadly categorized as sales of products and subscriptions and services. The following is a description of the principal activities from which we generate revenue.

Products. We recognize revenue from sales to direct customers and distributors when control transfers to the customer. Rebates and incentives offered to distributors, which are earned when sales to end customers are completed, are estimated at the point of revenue recognition. We have elected to exclude from the transaction price any taxes collected from a customer and to account for shipping and handling activities performed after a customer obtains control of the product as activities to fulfill the promise to transfer the product. From time to time, certain customers agree to pay us secure supply fees in exchange for prioritized fulfillment of product orders. Such fees are included in the transaction price of the product orders and are recognized as revenue in the period that control over the products is transferred to the customer.

Subscriptions and services. Our subscriptions and services revenue consists of sales and royalties from software arrangements, support services, professional services, transfer of IP, and non-recurring engineering ("NRE") arrangements.

Revenue from software arrangements primarily consists of fees, which may be paid either at contract inception or in installments over the contract term, that provide customers with a right to use the software, access general support and maintenance, and utilize our professional services.

Our software licenses have standalone functionality from which customers derive benefit, and the customer obtains control of the software when it is delivered or made available for download. We believe that for the majority of software arrangements, customers derive significant benefit from the ongoing support we provide. The majority of our subscriptions and services arrangements permit our customers to unilaterally terminate or cancel these arrangements at any time at the customer’s convenience, referred to as termination for convenience provisions, without substantive termination penalty and receive a pro-rata refund of any prepaid fees. Accordingly, we account for arrangements with these termination for convenience provisions as a series of daily contracts, resulting in ratable revenue recognition of software revenue over the contractual period.

Support services consist primarily of telephone support and the provision of unspecified updates and upgrades on a when-and-if-available basis. Support services represent stand-ready obligations for which revenue is recognized ratably over the term of the arrangement.

Professional services consist of implementation, consulting, customer education and customer training services. The obligation to provide professional services is generally satisfied over time, with the customer simultaneously receiving and consuming the benefits as we satisfy our performance obligations.

Rights to our IP are either sold or licensed to a customer. IP revenue recognition is dependent on the nature and terms of each agreement. We recognize IP revenue upon delivery of the IP if there are no substantive future obligations to perform under the arrangement. Sales-based or usage-based royalties from the license of IP are recognized at the later of the period the sales or usages occur or the satisfaction of the performance obligation to which some or all of the sales-based or usage-based royalties have been allocated.

There are two main categories of NRE contracts that we enter into with our customers: (a) NRE contracts in which we develop a custom chip and (b) NRE contracts in which we accelerate our development of a new chip upon the customer’s request. The majority of our NRE contract revenues meet the over time criteria. As such, revenue is recognized over the development period with the measure of progress using the input method based on costs incurred to total cost as the services are provided. For NRE contracts that do not meet the over time criteria, revenue is recognized at a point in time when the NRE services are complete.

Material rights. Contracts with customers may also include material rights that are also performance obligations. These include the right to renew or receive products or services at a discounted price in the future. Revenue allocated to material rights is recognized when the customer exercises the right or the right expires.

Arrangements with Multiple Performance Obligations

Our contracts may contain more than one of the products and services listed above, each of which is separately accounted for as a distinct performance obligation.

Allocation of consideration. We allocate total contract consideration to each distinct performance obligation in a bundled arrangement on a relative standalone selling price basis. The standalone selling price reflects the price we would charge for a specific product or service if it were sold separately in similar circumstances and to similar customers.

Standalone selling price. When available, we use directly observable transactions to determine the standalone selling prices for performance obligations. When directly observable transactions are not available, our estimates of standalone selling price for each performance obligation require judgment that considers multiple factors, including, but not limited to, historical discounting trends for products and services and pricing practices through different sales channels, gross margin objectives, internal costs, competitor pricing strategies, technology lifecycles and market conditions.

We separately determine the standalone selling prices by product or service type. Additionally, we segment the standalone selling prices for products where the pricing strategies differ, and where there are differences in customers and circumstances that warrant segmentation.

We also estimate the standalone selling price of our material rights. We estimate the value of the customer’s option to purchase or receive additional products or services at a discounted price by estimating the incremental discount the customer would obtain when exercising the option and the likelihood that the option would be exercised.

Other Policies and Judgments

Contract modifications. We may modify contracts to offer customers additional products or services. Each of the additional products and services is generally considered distinct from those products or services transferred to the customer before the modification. We evaluate whether the contract price for the additional products and services reflects the standalone selling price as adjusted for facts and circumstances applicable to that contract. In these cases, we account for the additional products or services as a separate contract. In other cases where the pricing in the modification does not reflect the standalone selling price as adjusted for facts and circumstances applicable to that contract, we account for the additional products or services as part of the existing contract on a prospective basis, on a cumulative catch-up basis, or a combination of both based on the nature of the modification. In instances where the pricing in the modification offers the customer a credit for a prior arrangement, we adjust our variable consideration reserves for returns and other concessions.

Right of return. Certain contracts contain a right of return that allows the customer to cancel all or a portion of the product or service and receive a credit. We estimate returns based on historical returns data which is constrained to an amount for which a material revenue reversal is not probable. We do not recognize revenue for products or services that are expected to be returned.

Practical expedient elected. We do not disclose the value of unsatisfied performance obligations for (i) contracts with an original expected length of one year or less and (ii) contracts for which we recognize revenue at the amount to which we have the right to invoice for services performed. For contracts that were modified before the beginning of the earliest reporting period presented, we have not retrospectively restated the contract for those modifications. We have disclosed the aggregate effect of all modifications when identifying the satisfied and unsatisfied performance obligations for purposes of determining the transaction price and allocating the transaction price at transition.

Research and development. Research and development expense consists primarily of personnel costs for our engineers and third parties engaged in the design and development of our products, software and technologies, including salary, bonus and stock-based compensation expense, project material costs, services and depreciation. Such costs are charged to research and development expense as they are incurred.

Stock-based compensation expense. We recognize compensation expense for time-based restricted stock units ("RSUs") using the straight-line amortization method based on the fair value of RSUs on the date of grant. The fair value of RSUs is the closing market price of Broadcom common stock on the date of grant, reduced by the present value of dividends expected to be paid on Broadcom common stock prior to vesting. We recognize compensation expense for time-based stock options and employee stock purchase plan rights under the Broadcom Inc. Employee Stock Purchase Plan, as amended ("ESPP") based on the estimated grant-date fair value determined using the Black-Scholes valuation model with a straight-line amortization method.

Certain equity awards include both service and market conditions. The fair value of market-based awards is estimated on the date of grant using the Monte Carlo simulation technique. Compensation expense for market-based awards is amortized based upon a graded vesting method over the service period.

We estimate forfeitures expected to occur and recognize stock-based compensation expense for such awards expected to vest. Changes in the estimated forfeiture rates can have a significant effect on stock-based compensation expense since the effect of adjusting the rate is recognized in the period the forfeiture estimate is changed.

Shipping and handling costs. Our shipping and handling costs charged to customers are included in net revenue and the associated expense is included in cost of revenue for all periods presented.

Litigation and settlement costs. We are involved in legal actions and other matters arising in our recent business acquisitions and in the normal course of business. We recognize an estimated loss contingency when the outcome is probable prior to issuance of the consolidated financial statements and we are able to reasonably estimate the amount or range of any possible loss.

Income taxes. We account for income taxes under the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been included in the consolidated financial statements. Under this method, deferred tax assets and liabilities are determined based on the differences between the consolidated financial statements and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. The effect of a change in tax rates on deferred tax assets and liabilities is recognized in income in the period that includes the enactment date.

We recognize net deferred tax assets to the extent we believe these assets will more likely than not be realized. In making such determination, we consider all available positive and negative evidence, including scheduled reversals of deferred tax liabilities, projected future taxable income, tax planning strategies and recent financial operations. If we determine that we are able to realize our deferred income tax assets in the future in excess of their net carrying values, we adjust the valuation allowance and reduce the provision for income taxes or increase the benefit from income taxes. Likewise, if we determine that we are not able to realize all or part of our net deferred tax assets, we increase the provision for income taxes or decrease the benefit from income taxes in the period such determination is made.

The U.S. Tax Cuts and Jobs Act enacted on December 22, 2017 (the "2017 Tax Act") introduced significant changes to U.S. income tax law. The Global Intangible Low-Taxed Income ("GILTI") provisions of the 2017 Tax Act require Broadcom to include in its U.S. income tax return foreign subsidiary earnings in excess of an allowable return on the foreign subsidiary's tangible assets. We have elected to record the impacts of GILTI during the period incurred.

We account for uncertainty in income taxes in accordance with the applicable accounting guidance on income taxes. This guidance provides that a tax benefit from an uncertain tax position may be recognized when it is more likely than not that the position will be sustained upon examination, including resolutions of any related appeals or litigation processes, based on the technical merits.

Net income per share. Basic net income per share is computed by dividing net income attributable to common stock by the weighted-average number of shares of common stock outstanding during the period. Diluted net income per share is computed by dividing net income attributable to common stock by the weighted-average number of shares of common stock and potentially dilutive shares of common stock outstanding during the period. Diluted shares outstanding include the dilutive effect of unvested RSUs, in-the-money stock options, and ESPP rights (together referred to as "equity awards"), as well as convertible preferred stock. Potentially dilutive shares whose effect would have been antidilutive are excluded from the computation of diluted net income per share.

The dilutive effect of equity awards is calculated based on the average stock price for each fiscal period, using the treasury stock method. Under the treasury stock method, the amount the employee must pay for exercising stock options and purchasing shares under the ESPP and the amount of compensation cost for future service that we have not yet recognized are collectively assumed to be used to repurchase shares. The dilutive effect of convertible preferred stock is calculated using the if-converted method. The if-converted method assumes that these securities were converted at the beginning of the reporting period to the extent that the effect is dilutive.

3. Revenue from Contracts with Customers

Disaggregation

We have considered (1) information that is regularly reviewed by our Chief Executive Officer, who has been identified as the chief operating decision maker (the "CODM") as defined by the authoritative guidance on segment reporting, in evaluating financial performance and (2) disclosures presented outside of our financial statements in our earnings releases and used in investor presentations to disaggregate revenues. The principal category we use to disaggregate revenues is the nature of our products and subscriptions and services, as presented in our consolidated statements of operations. In addition, revenues by reportable segment are presented in Note 12. "Segment Information."

The following tables present revenue disaggregated by type of revenue and by region for the periods presented:

	Fiscal Year 2023			
	Americas	**Asia Pacific**	**Europe, the Middle East and Africa**	**Total**
	(In millions)			
Products	$ 2,601	$ 23,263	$ 2,027	$ 27,891
Subscriptions and services[a]	5,678	657	1,593	7,928
Total	$ 8,279	$ 23,920	$ 3,620	$ 35,819

	Fiscal Year 2022			
	Americas	**Asia Pacific**	**Europe, the Middle East and Africa**	**Total**
	(In millions)			
Products	$ 2,371	$ 21,761	$ 2,145	$ 26,277
Subscriptions and services[a]	4,573	744	1,609	6,926
Total	$ 6,944	$ 22,505	$ 3,754	$ 33,203

	Fiscal Year 2021			
	Americas	Asia Pacific	Europe, the Middle East and Africa	Total
	(In millions)			
Products	$ 1,809	$ 17,258	$ 1,819	$ 20,886
Subscriptions and services[(a)]	4,290	720	1,554	6,564
Total	$ 6,099	$ 17,978	$ 3,373	$ 27,450

(a) Subscriptions and services predominantly includes software licenses with termination for convenience clauses.

Although we recognize revenue for the majority of our products when title and control transfer in Penang, Malaysia, we disclose net revenue by region based primarily on the geographic shipment location or delivery location specified by our distributors, original equipment manufacturer (“OEM”) customers, contract manufacturers, channel partners, or software customers.

Contract Balances

Contract assets and contract liabilities balances were as follows:

	October 29, 2023	October 30, 2022
	(In millions)	
Contract Assets	$ 955	$ 128
Contract Liabilities	$ 2,786	$ 3,341

Changes in our contract assets and contract liabilities primarily result from the timing difference between our performance and the customer’s payment. We fulfill our obligations under a contract with a customer by transferring products and services in exchange for consideration from the customer. We recognize a contract asset when we transfer products or services to a customer and the right to consideration is conditional on something other than the passage of time. Accounts receivable are recorded when the customer has been billed or the right to consideration is unconditional. We recognize contract liabilities when we have received consideration or an amount of consideration is due from the customer and we have a future obligation to transfer products or services. The majority of our contract liabilities represents amounts billed or collected and advanced payments on contracts or arrangements which include termination for convenience provisions. The amount of revenue recognized during fiscal year 2023 that was included in the contract liabilities balance as of October 30, 2022 was $2,915 million. The amount of revenue recognized during fiscal year 2022 that was included in the contract liabilities balance as of October 31, 2021 was $2,615 million.

Remaining Performance Obligations

Revenue allocated to remaining performance obligations represents the transaction price allocated to unsatisfied or partially unsatisfied performance obligations. Remaining performance obligations include unearned revenue and amounts that will be invoiced and recognized as revenue in future periods, but do not include contracts for software, subscriptions or services where the customer is not committed. The customer is not considered committed when termination for convenience without payment of a substantive penalty exists, either contractually or through customary business practice. The majority of our customer software contracts include termination for convenience clauses without a substantive penalty and are not considered committed. Additionally, as a practical expedient, we have not included contracts that have an original duration of one year or less, nor have we included contracts with sales-based or usage-based royalties promised in exchange for a license of IP.

Certain multi-year customer contracts, primarily in our semiconductor solutions segment, contain firmly committed amounts and the remaining performance obligations under these contracts as of October 29, 2023 were approximately $20.3 billion. We expect approximately 30% of this amount to be recognized as revenue over the next 12 months. Although the majority of our software contracts are not deemed to be committed, our customers generally do not exercise their termination for convenience rights. In addition, the majority of our contracts for products, subscriptions and services have a duration of one year or less. Accordingly, our remaining performance obligations disclosed above are not indicative of revenue for future periods.

4. Supplemental Financial Information

Cash Equivalents

Cash equivalents included $1,470 million and $3,915 million of time deposits and $1,650 million and $2,365 million of money-market funds as of October 29, 2023 and October 30, 2022, respectively. For time deposits, carrying value approximates fair value due to the short-term nature of the instruments. The fair value of money-market funds, which was consistent with their carrying value, was determined using unadjusted prices in active, accessible markets for identical assets, and as such, they were classified as Level 1 assets in the fair value hierarchy.

Accounts Receivable Factoring

We sell certain of our trade accounts receivable on a non-recourse basis to third-party financial institutions pursuant to factoring arrangements. We account for these transactions as sales of receivables and present cash proceeds as cash provided by operating activities in the consolidated statements of cash flows. Total trade accounts receivable sold under the factoring arrangements were $3,975 million, $3,700 million and $4,027 million during fiscal years 2023, 2022 and 2021, respectively. Factoring fees for the sales of receivables were recorded in other income (expense), net and were not material for any of the periods presented.

Inventory

	October 29, 2023	October 30, 2022
	(In millions)	
Finished goods	$ 676	$ 780
Work-in-process	901	966
Raw materials	321	179
Total inventory	$ 1,898	$ 1,925

Property, Plant and Equipment, Net

	October 29, 2023	October 30, 2022
	(In millions)	
Land	$ 195	$ 195
Construction in progress	63	63
Buildings and leasehold improvements	1,181	1,156
Machinery and equipment	4,739	4,413
Total property, plant and equipment	6,178	5,827
Accumulated depreciation and amortization	(4,024)	(3,604)
Total property, plant and equipment, net	$ 2,154	$ 2,223

Depreciation expense was $502 million, $529 million and $539 million for fiscal years 2023, 2022 and 2021, respectively.

Other Current Assets

	October 29, 2023	October 30, 2022
	(In millions)	
Prepaid expenses	$ 743	$ 864
Other	863	341
Total other current assets	$ 1,606	$ 1,205

Other Current Liabilities

	October 29, 2023	October 30, 2022
	(In millions)	
Contract liabilities	$ 2,487	$ 2,931
Tax liabilities	473	680
Interest payable	380	393
Other	312	408
Total other current liabilities	$ 3,652	$ 4,412

Other Long-Term Liabilities

	October 29, 2023	October 30, 2022
	(In millions)	
Unrecognized tax benefits, interest and penalties	$ 2,792	$ 3,229
Contract liabilities	299	410
Other	756	774
Total other long-term liabilities	$ 3,847	$ 4,413

Other Income (Expense), Net

	Fiscal Year		
	2023	2022	2021
		(In millions)	
Interest income	$ 535	$ 100	$ 16
Other income	15	30	26
Gain (loss) on investments	11	(169)	99
Other expense	(49)	(15)	(10)
Other income (expense), net	$ 512	$ (54)	$ 131

Other income and other expense include foreign exchange gains and losses, factoring fees for the sales of receivables, dividend income, and other miscellaneous items.

5. Leases

We have operating and finance leases for our facilities, data centers and certain equipment. Operating lease expense was $91 million, $98 million and $102 million for fiscal years 2023, 2022 and 2021, respectively. Finance lease expense was $16 million, $18 million and $16 million for fiscal years 2023, 2022 and 2021 respectively.

Other information related to leases was as follows:

	Fiscal Year 2023	2022	2021
	(In millions)		
Cash paid for operating leases included in operating cash flows	$ 90	$ 103	$ 140
ROU assets obtained in exchange for operating lease liabilities	$ 28	$ 16	$ 92
ROU assets obtained in exchange for finance lease liabilities	$ —	$ 1	$ 15

	October 29, 2023	October 30, 2022
Weighted-average remaining lease term – operating leases (In years)	10	10
Weighted-average remaining lease term – finance leases (In years)	2	2
Weighted-average discount rate – operating leases	3.90 %	3.60 %
Weighted-average discount rate – finance leases	3.09 %	3.05 %

Supplemental balance sheet information related to leases was as follows:

	Classification on the Consolidated Balance Sheets	October 29, 2023	October 30, 2022
		(In millions)	
ROU assets - operating leases	Other long-term assets	$ 463	$ 517
ROU assets - finance leases	Property, plant and equipment, net	$ 22	$ 40
Short-term lease liabilities - operating leases	Other current liabilities	$ 60	$ 74
Long-term lease liabilities - operating leases	Other long-term liabilities	$ 359	$ 389
Short-term lease liabilities - finance leases	Current portion of long-term debt	$ 45	$ 37
Long-term lease liabilities - finance leases	Long-term debt	$ 4	$ 22

Future minimum lease payments under non-cancelable leases as of October 29, 2023 were as follows:

	October 29, 2023 Operating Leases	Finance Leases
	(In millions)	
2024	$ 75	$ 45
2025	65	2
2026	52	2
2027	46	—
2028	40	—
Thereafter	236	—
Total undiscounted liabilities	514	49
Less: interest	(95)	—
Present value of lease liabilities	$ 419	$ 49

As of October 29, 2023, the Company had $642 million of future payments under additional leases that will commence in fiscal year ending November 3, 2024 with a lease term of 15 years.

6. Goodwill and Intangible Assets

Goodwill

	Semiconductor Solutions	Infrastructure Software	Total
		(In millions)	
Balance as of October 31, 2021	$ 25,959	$ 17,491	$ 43,450
Acquisitions	8	156	164
Balance as of October 30, 2022	25,967	17,647	43,614
Acquisitions	34	5	39
Balance as of October 29, 2023	$ 26,001	$ 17,652	$ 43,653

We completed three acquisitions in fiscal year 2023 and four acquisitions in fiscal year 2022, all of which qualified as business combinations. The consideration for these acquisitions was primarily allocated to goodwill and intangible assets.

During the fourth quarter of fiscal years 2023, 2022 and 2021, we completed our annual impairment assessments and concluded that goodwill was not impaired in any of these years.

Intangible Assets

	Gross Carrying Amount	Accumulated Amortization	Net Book Value
		(In millions)	
As of October 29, 2023:			
Purchased technology	$ 12,938	$ (10,723)	$ 2,215
Customer contracts and related relationships	7,059	(5,753)	1,306
Order backlog	9	(8)	1
Trade names	649	(388)	261
Other	168	(94)	74
Intangible assets subject to amortization	20,823	(16,966)	3,857
IPR&D	10	—	10
Total	$ 20,833	$ (16,966)	$ 3,867
As of October 30, 2022:			
Purchased technology	$ 19,450	$ (15,422)	$ 4,028
Customer contracts and related relationships	7,066	(4,535)	2,531
Order backlog	484	(382)	102
Trade names	700	(372)	328
Other	174	(81)	93
Intangible assets subject to amortization	27,874	(20,792)	7,082
IPR&D	29	—	29
Total	$ 27,903	$ (20,792)	$ 7,111

Based on the amount of intangible assets subject to amortization at October 29, 2023, the expected amortization expense for each of the next five fiscal years and thereafter was as follows:

Fiscal Year:	Expected Amortization Expense
	(In millions)
2024	$ 2,392
2025	685
2026	348
2027	222
2028	69
Thereafter	141
Total	$ 3,857

The weighted-average remaining amortization periods by intangible asset category were as follows:

Amortizable intangible assets:	October 29, 2023	October 30, 2022
	(In years)	
Purchased technology	3	3
Customer contracts and related relationships	1	2
Order backlog	— (a)	1
Trade names	8	8
Other	8	8

(a) Represents less than one year.

7. Net Income Per Share

	Fiscal Year		
	2023	2022	2021
	(In millions, except per share data)		
Numerator:			
Net income	$ 14,082	$ 11,495	$ 6,736
Dividends on preferred stock	—	(272)	(299)
Net income attributable to common stock	$ 14,082	$ 11,223	$ 6,437
Denominator:			
Weighted-average shares outstanding - basic	415	409	410
Dilutive effect of equity awards	12	14	19
Weighted-average shares outstanding - diluted	427	423	429
Net income per share attributable to common stock:			
Basic	$ 33.93	$ 27.44	$ 15.70
Diluted	$ 32.98	$ 26.53	$ 15.00

For fiscal years 2022 and 2021, diluted net income per share excluded the potentially dilutive effect of 10 million and 12 million shares of common stock, respectively, issuable upon the conversion of 8.00% Mandatory Convertible Preferred Stock, Series A, $0.001 par value per share (“Mandatory Convertible Preferred Stock”) as their effect was antidilutive. All shares of our Mandatory Convertible Preferred Stock were converted into shares of our common stock before the end of fiscal year 2022.

8. Retirement Plans

Defined Benefit Pension Plans

The U.S. defined benefit pension plans primarily consist of a qualified pension plan. Benefits of the qualified pension plan are provided under an adjusted career-average-pay program, a cash-balance program or a dollar-per-month program. Benefit accruals under this plan were frozen in 2009. Participants in the adjusted career-average-pay program no longer earn service accruals. Participants in the cash-balance program no longer earn service accruals, but continue to earn 4% interest per year on their cash-balance accounts. There are no active participants under the dollar-per-month program. We also have a frozen non-qualified supplemental pension plan in the United States that principally provides benefits based on compensation in excess of amounts that can be considered under the qualified pension plan.

We also have defined benefit pension plans for certain employees in Austria, France, Germany, India, Israel, Italy, Japan and Taiwan. Eligibility is generally determined based on the terms of our plans and local statutory requirements.

Net Periodic Benefit Cost

	Fiscal Year		
	2023	2022	2021
		(In millions)	
Service cost	$ 8	$ 8	$ 11
Interest cost	60	39	39
Expected return on plan assets	(59)	(39)	(40)
Other	—	1	1
Net periodic benefit cost	$ 9	$ 9	$ 11
Net actuarial (gain) loss	$ 20	$ (17)	$ 8

The components of net periodic benefit cost other than the service cost are included in other income (expense), net. Service cost is recognized in operating expenses.

Benefit Obligations and Plan Assets

	October 29, 2023	October 30, 2022
	(In millions)	
Change in plan assets:		
Fair value of plan assets — beginning of period	$ 1,160	$ 1,521
Actual return on plan assets	19	(279)
Employer contributions	15	10
Plan participants' contributions	1	1
Benefit payments	(94)	(95)
Foreign currency impact	4	2
Fair value of plan assets — end of period	1,105	1,160
Change in benefit obligations:		
Benefit obligations — beginning of period	1,143	1,526
Service cost	8	8
Interest cost	60	39
Actuarial gain (a)	(22)	(336)
Plan participants' contributions	1	1
Benefit payments	(94)	(95)
Foreign currency impact	5	—
Benefit obligations — end of period	1,101	1,143
Overfunded (underfunded) status of benefit obligations (b)	$ 4	$ 17
Actuarial losses and prior service costs recognized in accumulated other comprehensive loss, net of taxes	$ (108)	$ (82)

(a) The actuarial gain in fiscal year 2022 was primarily due to an increase in discount rates experienced by the majority of our plans.

(b) Substantially all amounts recognized on the consolidated balance sheets were recorded in other long-term assets and other long-term liabilities for all periods presented.

Plans with benefit obligations in excess of plan assets:

	October 29, 2023	October 30, 2022
	(In millions)	
Projected benefit obligations	$ 79	$ 71
Accumulated benefit obligations	$ 64	$ 55
Fair value of plan assets	$ 26	$ 12

Plans with benefit obligations less than plan assets:

	October 29, 2023	October 30, 2022
	(In millions)	
Projected benefit obligations	$ 1,022	$ 1,072
Accumulated benefit obligations	$ 1,022	$ 1,070
Fair value of plan assets	$ 1,079	$ 1,148

The fair value of pension plan assets as of October 29, 2023 and October 30, 2022 included $204 million and $184 million, respectively, of assets for our non-U.S. pension plans.

The projected benefit obligations as of October 29, 2023 and October 30, 2022 included $202 million and $185 million, respectively, of obligations related to our non-U.S. pension plans. The accumulated benefit obligations as of October 29, 2023 and October 30, 2022 included $188 million and $168 million, respectively, of obligations related to our non-U.S. pension plans.

Expected Future Benefit Payments

Fiscal Years:	**Expected Benefit Payments**
	(In millions)
2024	$ 96
2025	$ 95
2026	$ 95
2027	$ 93
2028	$ 91
2029-2033	$ 429

Investment Policy

Plan assets of the U.S. qualified pension plan, which represent substantially all of the plan assets, are generally invested in funds held by third-party fund managers. Our benefit plan investment committee has set the investment strategy to fully match the liability. We direct the overall portfolio allocation and use a third-party investment consultant that has the discretion to structure portfolios and select the investment managers within those allocation parameters. Multiple investment managers are utilized, including both active and passive management approaches. The plan assets are invested using the liability-driven investment strategy intended to minimize market and interest rate risks, and those assets are periodically rebalanced toward asset allocation targets.

The target asset allocation for the U.S. qualified pension plan reflects a risk/return profile that we believe is appropriate relative to the liability structure and return goals for the plan. We periodically review the allocation of plan assets relative to alternative allocation models to evaluate the need for adjustments based on forecasted liabilities and plan liquidity needs. For both fiscal years 2023 and 2022, 100% of the U.S. qualified pension plan assets were allocated to fixed income, in line with the target allocation. The fixed income allocation is primarily directed toward long-term core bond investments, with smaller allocations to Treasury Inflation-Protected Securities and high-yield bonds.

Fair Value Measurement of Plan Assets

	October 29, 2023		
	Fair Value Measurements at Reporting Date Using		
	Level 1	Level 2	Total
		(In millions)	
Cash equivalents	$ 16 [(a)]	$ —	$ 16
Equity securities:			
Non-U.S. equity securities	62 [(b)]	—	62
Fixed-income securities:			
U.S. treasuries	—	144 [(c)]	144
Corporate bonds	—	837 [(c)]	837
Municipal bonds	—	23 [(c)]	23
Government bonds	—	21 [(c)]	21
Asset-backed securities	—	2 [(c)]	2
Total plan assets	$ 78	$ 1,027	$ 1,105

	October 30, 2022		
	Fair Value Measurements at Reporting Date Using		
	Level 1	Level 2	Total
		(In millions)	
Cash equivalents	$ 19 [(a)]	$ —	$ 19
Equity securities:			
Non-U.S. equity securities	46 [(b)]	—	46
Fixed-income securities:			
U.S. treasuries	—	147 [(c)]	147
Corporate bonds	—	901 [(c)]	901
Municipal bonds	—	20 [(c)]	20
Government bonds	—	25 [(c)]	25
Asset-backed securities	—	2 [(c)]	2
Total plan assets	$ 65	$ 1,095	$ 1,160

(a) Cash equivalents primarily included short-term investment funds which consisted of short-term money market instruments that were valued based on quoted prices in active markets.

(b) These equity securities were valued based on quoted prices in active markets.

(c) These amounts consisted of investments that were traded less frequently than Level 1 securities and were valued using inputs that included quoted prices for similar assets in active markets and inputs other than quoted prices that were observable for the assets, such as interest rates, yield curves, prepayment speeds, collateral performance, broker/dealer quotes and indices that were observable at commonly quoted intervals.

Assumptions

The assumptions used to determine the benefit obligations and net periodic benefit cost for our defined benefit pension plans are presented in the table below. The expected long-term return on assets shown in the table below represents an estimate of long-term returns on investment portfolios primarily consisting of combinations of debt, equity and other investments, depending on the plan. The long-term rates of return are then weighted based on the asset classes in which the pension funds are invested. Discount rates reflect the current rate at which defined benefit pension obligations could be settled based on the measurement dates of the plans, which is October 31, the month end closest to our fiscal year end. The range of assumptions reflects the different economic environments within various countries.

	Assumptions for Benefit Obligations as of		Assumptions for Net Periodic Benefit Cost Fiscal Year		
	October 29, 2023	October 30, 2022	2023	2022	2021
Discount rate	1.75%-7.00%	1.25%-7.25%	1.25%-7.25%	0.75%-6.50%	0.61%-6.54%
Average increase in compensation levels	2.00%-10.00%	2.00%-10.00%	2.00%-10.00%	2.00%-10.00%	2.00%-10.00%
Expected long-term return on assets	N/A	N/A	2.50%-7.00%	1.50%-7.25%	1.00%-8.00%

Defined Contribution Plans

Our eligible U.S. employees participate in a company-sponsored 401(k) plan. Under the plan, we match employee contributions dollar for dollar up to 6% of their eligible earnings. All matching contributions vest immediately. During fiscal years 2023, 2022 and 2021, we made contributions of $100 million, $96 million and $94 million, respectively, to the 401(k) plan.

In addition, other eligible employees outside of the U.S. receive retirement benefits under various defined contribution retirement plans.

9. Borrowings

	Effective Interest Rate	October 29, 2023	October 30, 2022
	(In millions, except percentages)		
April 2022 Senior Notes - fixed rate			
4.000% notes due April 2029	4.17 %	$ 750	$ 750
4.150% notes due April 2032	4.30 %	1,200	1,200
4.926% notes due May 2037	5.33 %	2,500	2,500
		4,450	4,450
September 2021 Senior Notes - fixed rate			
3.137% notes due November 2035	4.23 %	3,250	3,250
3.187% notes due November 2036	4.79 %	2,750	2,750
		6,000	6,000
March 2021 Senior Notes - fixed rate			
3.419% notes due April 2033	4.66 %	2,250	2,250
3.469% notes due April 2034	4.63 %	3,250	3,250
		5,500	5,500
January 2021 Senior Notes - fixed rate			
1.950% notes due February 2028	2.10 %	750	750
2.450% notes due February 2031	2.56 %	2,750	2,750
2.600% notes due February 2033	2.70 %	1,750	1,750
3.500% notes due February 2041	3.60 %	3,000	3,000
3.750% notes due February 2051	3.84 %	1,750	1,750
		10,000	10,000
June 2020 Senior Notes - fixed rate			
3.459% notes due September 2026	4.19 %	752	752
4.110% notes due September 2028	5.02 %	1,118	1,118
		1,870	1,870
May 2020 Senior Notes - fixed rate			
2.250% notes due November 2023	2.40 %	105	105
3.150% notes due November 2025	3.29 %	900	900
4.150% notes due November 2030	4.27 %	1,856	1,856
4.300% notes due November 2032	4.39 %	2,000	2,000
		4,861	4,861
April 2020 Senior Notes - fixed rate			
5.000% notes due April 2030	5.18 %	606	606
April 2019 Senior Notes - fixed rate			
3.625% notes due October 2024	3.98 %	622	622
4.750% notes due April 2029	4.95 %	1,655	1,655
		2,277	2,277
2017 Senior Notes - fixed rate			
2.650% notes due January 2023	2.78 %	—	260
3.625% notes due January 2024	3.74 %	829	829
3.125% notes due January 2025	3.23 %	495	495
3.875% notes due January 2027	4.02 %	2,922	2,922

	Effective Interest Rate	October 29, 2023	October 30, 2022
	(In millions, except percentages)		
3.500% notes due January 2028	3.60 %	777	777
		5,023	5,283
Assumed CA Senior Notes - fixed rate			
4.500% notes due August 2023	4.10 %	—	143
4.700% notes due March 2027	5.15 %	215	215
		215	358
Other senior notes - fixed rate			
3.500% notes due August 2024	3.55 %	7	7
4.500% notes due August 2034	4.55 %	6	6
		13	13
Total principal amount outstanding		$ 40,815	$ 41,218
Current portion of principal amount outstanding		$ 1,563	$ 403
Short-term finance lease liabilities		45	37
Total current portion of long-term debt		$ 1,608	$ 440
Non-current portion of principal amount outstanding		$ 39,252	$ 40,815
Long-term finance lease liabilities		4	22
Unamortized discount and issuance costs		(1,635)	(1,762)
Total long-term debt		$ 37,621	$ 39,075

The senior notes are recorded net of discount and issuance costs, which are amortized to interest expense over the respective terms of such senior notes.

We may redeem or purchase, in whole or in part, any of our senior notes prior to their respective maturities, subject to a specified make-whole premium determined in accordance with the indentures governing the respective notes, plus accrued and unpaid interest. In the event of a change in control, note holders will have the right to require us to repurchase their notes at a price equal to 101% of the principal amount of such notes, plus accrued and unpaid interest.

Subsequent to the end of fiscal year 2023, we borrowed term loans to finance the acquisition of VMware, Inc. (“VMware”) and assumed VMware’s outstanding senior unsecured notes. See Note 15. “Subsequent Events” for additional information.

April 2022 Senior Notes

In April 2022, we issued $750 million of 4.000% senior unsecured notes due April 2029 and $1,200 million of 4.150% senior unsecured notes due April 2032. Using the net proceeds, we redeemed the outstanding balance of $1,020 million of our 4.700% notes due 2025 and $944 million of our 4.250% notes due 2026. As a result of these redemptions, we incurred premiums of $85 million and wrote off $15 million of unamortized discount and issuance costs, both of which were included in interest expense.

In April 2022, we issued $2,500 million of 4.926% senior unsecured notes due May 2037 in exchange for $2,502 million of certain of our outstanding notes maturing between 2027 and 2030. As a result of this exchange, we paid premiums of $47 million, which were included in unamortized discount and issuance costs. The 4.926% notes due 2037, the 4.000% notes due 2029 and the 4.150% notes due 2032 are collectively referred as the “April 2022 Senior Notes.”

September 2021 Senior Notes

In September 2021, we completed our private offers to exchange $6.0 billion of certain of our outstanding notes maturing between 2025 and 2030 for $3,250 million of 3.137% senior unsecured notes due November 2035 and $2,750 million of 3.187% senior unsecured notes due November 2036 (collectively, the “September 2021 Senior Notes”). As a result of this exchange, we paid premiums of $762 million, which were included in unamortized discount and issuance costs.

March 2021 Senior Notes

In March 2021, we completed our private offers to exchange $5.5 billion of certain of our outstanding notes maturing between 2024 and 2027 (the “March 2021 Exchange Offer”) for $2,250 million of 3.419% senior unsecured notes due April 2033 and $3,250 million of 3.469% senior unsecured notes due April 2034 (collectively, the “March 2021 Senior Notes”). As a result of this exchange, we paid premiums of $581 million, which were included in unamortized discount and issuance costs.

In connection with the March 2021 Exchange Offer, Broadcom Corporation (“BRCM”) and Broadcom Technologies Inc. (“BTI”) were automatically and unconditionally released from their guarantees in accordance with the respective indentures governing the January 2021 Senior Notes, June 2020 Senior Notes, May 2020 Senior Notes, April 2020 Senior Notes, and April 2019 Senior Notes, as defined below respectively.

January 2021 Senior Notes

In January 2021, we issued $10 billion of senior unsecured notes (the “January 2021 Senior Notes”). Using the net proceeds from the January 2021 Senior Notes, we repaid the outstanding balance of $5,888 million of our unsecured term A-3 facility and unsecured term A-5 facility under the credit agreement entered into on November 4, 2019 (the “November 2019 Credit Agreement”), repurchased $3,830 million of certain of our outstanding notes maturing between 2021 and 2023 through a cash tender offer and redemption, and repaid $282 million of our 2.200% notes upon maturity in January 2021. As a result of these repayments and repurchases, we incurred premiums of $151 million and wrote off $47 million of unamortized discount and issuance costs, both of which were included in interest expense.

2021 Credit Agreement

In January 2021, we entered into a credit agreement (the “2021 Credit Agreement”), which provides for a five-year $7.5 billion unsecured revolving credit facility, of which $500 million is available for the issuance of multi-currency letters of credit. The issuance of letters of credit and certain other instruments would reduce the aggregate amount otherwise available under the revolving credit facility for revolving loans. Subject to the terms of the 2021 Credit Agreement, we are permitted to borrow, repay and reborrow revolving loans at any time prior to the earlier of (a) January 19, 2026 and (b) the date of termination in whole of the revolving lenders’ commitments under the 2021 Credit Agreement. In connection with the 2021 Credit Agreement, we terminated the credit agreement entered into on May 7, 2019, which provided for a five-year $5 billion unsecured revolving credit facility, and the November 2019 Credit Agreement. We had no borrowings outstanding under the revolving credit facility at either October 29, 2023 or October 30, 2022.

June 2020 Senior Notes

In June 2020, we completed our private offers to exchange $3,742 million of certain series of our outstanding senior notes maturing between 2021 and 2024 for $1,695 million of senior notes due 2026 and $2,222 million of senior notes due 2028 (collectively, the “June 2020 Senior Notes”).

May 2020 Senior Notes

In May 2020, we issued $8 billion of senior unsecured notes (the “May 2020 Senior Notes”). Using the net proceeds, we repaid certain term loans under the November 2019 Credit Agreement and all outstanding borrowings under a revolving credit facility.

April 2020 Senior Notes

In April 2020, we issued $4.5 billion of senior unsecured notes (the “April 2020 Senior Notes”). Using the net proceeds, we repurchased certain series of our outstanding senior notes maturing between 2021 and 2022, pursuant to a cash tender offer that we completed in April 2020.

April 2019 Senior Notes

In April 2019, we issued $11 billion of senior unsecured notes (the “April 2019 Senior Notes”). Using the net proceeds, we repaid certain term loans.

Registered Exchange Offer

In connection with the issuance of the June 2020 Senior Notes, the May 2020 Senior Notes, the April 2020 Senior Notes (collectively, the "2020 Senior Notes") and the April 2019 Senior Notes, we entered into registration rights agreements, pursuant to which we were obligated to use commercially reasonable efforts to file with the Securities and Exchange Commission (the "SEC"), and cause to be declared effective, a registration statement with respect to an offer to exchange (the "Registered Exchange Offer") each series of the 2020 Senior Notes and the April 2019 Senior Notes for notes that are registered with the SEC (the "Registered Notes"), with substantially identical terms. We completed the Registered Exchange Offer on August 10, 2020. Substantially all of our 2020 Senior Notes and April 2019 Senior Notes were tendered and exchanged for the corresponding Registered Notes in the Registered Exchange Offer.

Commercial Paper

In February 2019, we established a commercial paper program pursuant to which we may issue unsecured commercial paper notes ("Commercial Paper") in principal amount of up to $2 billion outstanding at any time with maturities of up to 397 days from the date of issue. Commercial Paper is sold under customary terms in the commercial paper market and may be issued at a discount from par or, alternatively, may be sold at par and bear interest at rates dictated by market conditions at the time of their issuance. The discount associated with the Commercial Paper is amortized to interest expense over its term. Outstanding Commercial Paper reduces the amount that would otherwise be available to borrow for general corporate purposes under our revolving credit facility. We had no Commercial Paper outstanding at either October 29, 2023 or October 30, 2022.

2017 Senior Notes

During the fiscal year ended October 29, 2017, Broadcom Cayman Finance Limited, which subsequently merged into BTI during the fiscal year ended November 3, 2019 ("fiscal year 2019") with BTI remaining as the surviving entity, and BRCM issued $17,550 million of senior unsecured notes (the "2017 Senior Notes"). Our 2017 Senior Notes are fully and unconditionally guaranteed, jointly and severally, on an unsecured, unsubordinated basis by Broadcom and BTI. Using the net proceeds, plus cash on hand, we repaid certain term loans and financed the acquisition of Brocade Communications Systems, Inc.

During the fiscal year ended November 4, 2018, substantially all of the 2017 Senior Notes were tendered and exchanged for notes registered with the SEC, with substantially identical terms.

Assumed CA Senior Notes

In connection with our acquisition of CA, Inc. ("CA") during fiscal year 2019, we assumed $2.25 billion of CA's outstanding senior unsecured notes (the "Assumed CA Senior Notes"). CA remains the sole obligor under the Assumed CA Senior Notes.

Fair Value of Debt

As of October 29, 2023, the estimated aggregate fair value of our debt was $33,181 million. The fair value of our senior notes was determined using quoted prices from less active markets. All of our debt obligations are categorized as Level 2 instruments.

Future Principal Payments of Debt

The future scheduled principal payments of debt as of October 29, 2023 were as follows:

Fiscal Year:	**Future Scheduled Principal Payments**
	(In millions)
2024	$ 1,563
2025	495
2026	1,652
2027	3,137
2028	2,645
Thereafter	31,323
Total	$ 40,815

As of October 29, 2023 and October 30, 2022, we were in compliance with all debt covenants.

10. Stockholders' Equity

Cash Dividends Declared and Paid

	Fiscal Year		
	2023	2022	2021
	(In millions, except per share data)		
Dividends per share to common stockholders	$ 18.40	$ 16.40	$ 14.40
Dividends to common stockholders	$ 7,645	$ 6,733	$ 5,913
Dividends per share to preferred stockholders	$ —	$ 80.00	$ 80.00
Dividends to preferred stockholders	$ —	$ 299	$ 299

On September 30, 2019, we completed an offering of approximately 4 million shares of Mandatory Convertible Preferred Stock, which generated net proceeds of approximately $3,679 million and would automatically convert into shares of our common stock on September 30, 2022.

The holders of Mandatory Convertible Preferred Stock were entitled to receive, when, as and if declared by our Board of Directors, or an authorized committee thereof, out of funds legally available for payment, cumulative dividends at the annual rate of 8.00% of the liquidation preference of $1,000 per share (equivalent to $80 annually per share), payable in cash or, subject to certain limitations, by delivery of shares of our common stock or any combination of cash and shares of our common stock, at our election.

During fiscal year 2022, outstanding shares of our Mandatory Convertible Preferred Stock converted into an aggregate of approximately 12 million shares of our common stock at conversion rates ranging between 3.0894 and 3.1149 common shares per share of Mandatory Convertible Preferred Stock. We paid cash in lieu of fractional shares of common stock upon conversion.

Stock Repurchase Programs

In December 2021, our Board of Directors authorized a stock repurchase program to repurchase up to $10 billion of our common stock from time to time through December 31, 2022, which was subsequently extended to December 31, 2023. In May 2022, our Board of Directors authorized another stock repurchase program to repurchase up to an additional $10 billion of our common stock from time to time through December 31, 2023. We repurchased and retired approximately 9 million and 12 million shares of our common stock for $5,824 million and $7,000 million under these stock repurchase programs during fiscal years 2023 and 2022, respectively.

Repurchases under our stock repurchase programs may be effected through a variety of methods, including open market or privately negotiated purchases. The timing and amount of shares repurchased will depend on the stock price, business and market conditions, corporate and regulatory requirements, alternative investment opportunities, acquisition opportunities, and other factors. We are not obligated to repurchase any specific amount of shares of common stock, and the stock repurchase programs may be suspended or terminated at any time.

Equity Incentive Award Plan

2012 Plan

In connection with the acquisition of BRCM, we assumed the BRCM 2012 Stock Incentive Plan (the "Original 2012 Plan") and outstanding unvested RSUs originally granted by BRCM under the Original 2012 Plan that were held by continuing employees. During the second quarter of fiscal year 2021, our stockholders approved the amendment and restatement of the Original 2012 Plan, now called the Broadcom Inc. 2012 Stock Incentive Plan (the "Amended 2012 Plan"). Under the Amended 2012 Plan, we may grant stock options and stock appreciation rights with an exercise price that is no less than the fair market value on the date of grant, restricted stock awards, and RSUs to employees. No participant may be granted such awards for more than an aggregate of 4 million shares in any fiscal year. Equity awards granted under the Amended 2012 Plan generally vest over four years. The Amended 2012 Plan reduced the number of shares available for new equity award grants to 20 million shares and removed the annual share replenishment provision provided under the Original 2012 Plan. During the second quarter of fiscal year 2023, our stockholders approved the amendment and restatement of the Amended 2012 Plan to increase the number of shares of common stock authorized for issuance by 25 million shares. Awards cancelled or forfeited and shares withheld to satisfy tax withholding obligations become available for future issuance. As of October 29, 2023, 36 million shares remained available for issuance under the Amended 2012 Plan.

We may grant market-based RSUs with both a service condition and a market condition as part of our equity compensation programs. The market-based RSUs generally vest over four years, subject to satisfaction of market conditions. During fiscal years 2023, 2022 and 2021, we granted market-based RSUs under which grantees may receive the number of

shares ranging from 0% to 300% of the original grant at vesting based upon the total stockholder return ("TSR") on our common stock on an absolute basis and as compared to the TSR of an index group of companies. During fiscal year 2023, we also granted market-based RSUs vesting over five years, subject to satisfaction of stock price performance milestones.

Employee Stock Purchase Plan

The ESPP provides eligible employees with the opportunity to acquire an ownership interest in us through periodic payroll deductions, based on a 6-month look-back period, at a price equal to the lesser of 85% of the fair market value of our common stock at either the beginning or the end of the relevant offering period. The ESPP is structured as a qualified employee stock purchase plan under Section 423 of the Internal Revenue Code of 1986. However, the ESPP is not intended to be a qualified pension, profit sharing or stock bonus plan under Section 401(a) of the Internal Revenue Code of 1986 and is not subject to the provisions of the Employee Retirement Income Security Act of 1974.

Stock-Based Compensation Expense

	Fiscal Year		
	2023	2022	2021
		(In millions)	
Cost of products sold	$ 88	$ 65	$ 78
Cost of subscriptions and services	122	82	65
Research and development	1,513	1,048	1,199
Selling, general and administrative	448	338	362
Total stock-based compensation expense	$ 2,171	$ 1,533	$ 1,704
Estimated income tax benefits for stock-based compensation	$ 367	$ 255	$ 283
Excess income tax benefits for stock-based awards exercised or released	$ 507	$ 375	$ 310

We have assumed an annualized forfeiture rate for RSUs of 5%. We will recognize additional expense if actual forfeitures are lower than we estimated, and will recognize a benefit if actual forfeitures are higher than we estimated.

During the first quarter of fiscal year 2019, the Compensation Committee of our Board of Directors approved a broad-based program of multi-year equity grants of time- and market-based RSUs (the "Multi-Year Equity Awards") in lieu of our annual employee equity awards historically granted on March 15 of each year. Each Multi-Year Equity Award vests on the same basis as four annual grants made March 15 of each year, beginning in fiscal year 2019, with successive four-year vesting periods. Stock-based compensation expense related to the Multi-Year Equity Awards was $596 million, $794 million and $816 million for fiscal years 2023, 2022 and 2021, respectively.

As of October 29, 2023, the total unrecognized compensation cost related to unvested stock-based awards was $6,375 million, which is expected to be recognized over the remaining weighted-average service period of 3.4 years.

The following table summarizes the weighted-average assumptions utilized to calculate the fair value of market-based awards granted in the periods presented:

	Fiscal Year		
	2023	2022	2021
Risk-free interest rate	4.0 %	1.4 %	0.3 %
Dividend yield	3.3 %	2.7 %	3.0 %
Volatility	32.8 %	37.1 %	39.0 %
Expected term (in years)	4.8	3.4	3.4

The risk-free interest rate was derived from the average U.S. Treasury Strips rate, which approximated the rate in effect appropriate for the term at the time of grant.

The dividend yield was based on the historical and expected dividend payouts as of the respective award grant dates.

The volatility was based on our own historical stock price volatility over the period commensurate with the expected life of the awards and the implied volatility of a 180-day call option on our own common stock measured at a specific date.

The expected term was commensurate with the awards' contractual terms.

Restricted Stock Unit Awards

A summary of time- and market-based RSU activity was as follows:

	Number of RSUs Outstanding	Weighted-Average Grant Date Fair Value Per Share
	(In millions, except per share data)	
Balance as of November 1, 2020	32	$ 188.35
Granted	2	$ 408.69
Vested	(8)	$ 214.15
Forfeited	(3)	$ 189.84
Balance as of October 31, 2021	23	$ 200.38
Granted	3	$ 527.69
Vested	(7)	$ 225.52
Forfeited	(1)	$ 242.82
Balance as of October 30, 2022	18	$ 238.49
Granted	12	$ 519.78
Vested	(7)	$ 262.48
Forfeited	(1)	$ 307.91
Balance as of October 29, 2023	22	$ 389.21

The aggregate fair value of time- and market-based RSUs that vested in fiscal years 2023, 2022 and 2021 was $5,423 million, $4,207 million and $3,715 million, respectively, which represented the market value of our common stock on the date that the RSUs vested. The number of RSUs vested included shares of common stock that we withheld for settlement of employees' tax obligations due upon the vesting of RSUs.

11. Income Taxes

The components of income before income taxes by U.S. and foreign jurisdictions were as follows:

	Fiscal Year		
	2023	2022	2021
		(In millions)	
Domestic loss	$ (63)	$ (2,020)	$ (3,103)
Foreign income	15,160	14,454	9,868
Income before income taxes	$ 15,097	$ 12,434	$ 6,765

The components of the provision for income taxes were as follows:

	Fiscal Year		
	2023	2022	2021
		(In millions)	
Current tax provision:			
Federal	$ 952	$ 174	$ 446
State	23	48	46
Foreign	541	762	534
Total	1,516	984	1,026
Deferred tax provision (benefit):			
Federal	(499)	68	(876)
State	(31)	(15)	(114)
Foreign	29	(98)	(7)
Total	(501)	(45)	(997)
Total provision for income taxes	$ 1,015	$ 939	$ 29

The following is a reconciliation of our effective tax rate to the statutory federal tax rate:

	Fiscal Year		
	2023	2022	2021
Statutory tax rate	21.0 %	21.0 %	21.0 %
State, net of federal benefit	—	0.2	(0.8)
Foreign income taxed at different rates	(17.3)	(19.1)	(22.8)
Deemed inclusion of foreign earnings	9.9	8.0	9.5
Foreign-derived intangible income deduction	—	—	(3.1)
Uncertain tax benefits	(1.9)	1.6	3.7
Excess tax benefits from stock-based compensation	(3.4)	(3.0)	(4.6)
Research and development credit	(1.8)	(1.4)	(2.3)
Other, net	0.2	0.2	(0.2)
Effective tax rate on income before income taxes	6.7 %	7.5 %	0.4 %

The increase in provision for income taxes in fiscal year 2023 compared to fiscal year 2022 was primarily due to higher income before income taxes, partially offset by an increase in the recognition of uncertain tax benefits as a result of lapses of statutes of limitations. The increase in provision for income taxes in fiscal year 2022 compared to fiscal year 2021 was primarily due to higher income before income taxes.

We derive the effective tax rate benefit attributed to foreign income taxed at different rates primarily from our operations in Singapore and Malaysia. Our tax incentives from the Singapore Economic Development Board provide that any qualifying income earned in Singapore is subject to tax incentives or reduced rates of Singapore income tax, subject to our compliance with the conditions specified in these incentives and legislative developments. These Singapore tax incentives are expected to expire in November 2025. We have also obtained a tax holiday from our qualifying income earned in Malaysia, which is scheduled to expire in fiscal year 2028. The tax holiday that we negotiated in Malaysia is also subject to our compliance with various operating and other conditions. Before taking into consideration the effects of the U.S. Tax Cuts and Jobs Act and other indirect tax impacts, the effect of these tax incentives and tax holiday decreased the provision for income taxes by approximately $2,104 million, $1,821 million and $1,156 million for fiscal years 2023, 2022 and 2021, respectively.

Significant components of our deferred tax assets and liabilities consisted of the following:

	October 29, 2023	October 30, 2022
	(In millions)	
Deferred income tax assets:		
Net operating loss, credit and other carryforwards	$ 1,809	$ 1,808
Capitalized research and development	275	—
Deferred revenue	208	645
Employee stock awards	190	183
Depreciation and amortization	223	156
Other deferred income tax assets	329	343
Gross deferred income tax assets	3,034	3,135
Less: valuation allowance	(1,789)	(1,777)
Deferred income tax assets	1,245	1,358
Deferred income tax liabilities:		
Depreciation and amortization	97	341
Unamortized debt discount and issuance costs	302	322
Foreign earnings not indefinitely reinvested	86	86
Other deferred income tax liabilities	62	36
Deferred income tax liabilities	547	785
Net deferred income tax assets	$ 698	$ 573

The 2017 Tax Act amended Internal Revenue Code Section 174 to require businesses to capitalize and amortize research and development expenses and became effective in our fiscal year 2023. In fiscal year 2023, we recorded a deferred tax asset of $275 million for capitalized research and development.

We continue to indefinitely reinvest $1,963 million of certain accumulated foreign earnings. The unrecognized deferred income tax liability related to these earnings is estimated to be $206 million. All other current and future earnings of all our foreign subsidiaries are not considered permanently reinvested.

As of October 29, 2023, we had tax effected U.S. state net operating loss (“NOL”) carryforwards of $136 million and foreign NOL carryforwards of $128 million. The state and foreign NOL carryforwards expire in various years beginning in fiscal years 2024 and 2025, respectively. We had $1,462 million of state research and development tax credits which begin to expire in fiscal year 2024. We have provided a valuation allowance on substantially all state tax credits and state and foreign net operating loss carryforwards as we do not expect them to be realized.

Uncertain Tax Positions

The following table reconciles the beginning and ending balance of gross unrecognized tax benefits:

	Fiscal Year		
	2023	2022	2021
		(In millions)	
Beginning balance	$ 5,117	$ 5,030	$ 4,748
Lapses of statutes of limitations	(634)	(50)	(58)
Increases in balances related to tax positions taken during prior periods	26	—	41
Decreases in balances related to tax positions taken during prior periods	(13)	(113)	—
Increases in balances related to tax positions taken during current period	170	288	337
Decreases in balances related to settlements with taxing authorities	(11)	(38)	(38)
Ending balance	$ 4,655	$ 5,117	$ 5,030

We recognize interest and penalties related to unrecognized tax benefits within the provision for income taxes. Accrued interest and penalties were included within other long-term liabilities. During fiscal years 2023, 2022 and 2021, we recognized interest and penalties of $22 million, $25 million and $46 million respectively, within the provision for income taxes. As of October 29, 2023 and October 30, 2022, the combined amount of cumulative accrued interest and penalties was approximately $389 million and $411 million, respectively.

As of October 29, 2023 and October 30, 2022, approximately $5,044 million and $5,528 million, respectively, of the unrecognized tax benefits and accrued interest and penalties would, if recognized, benefit our effective income tax rate. We are subject to U.S. income tax examination for fiscal years 2018 and later. Certain of our acquired companies are subject to tax examinations in major jurisdictions outside of the U.S. for fiscal years 2008 and later. It is possible that our existing unrecognized tax benefits may change up to $499 million as a result of lapses of the statute of limitations for certain audit periods and/or audit examinations expected to be completed within the next 12 months.

12. Segment Information

Reportable Segments

We have two reportable segments: semiconductor solutions and infrastructure software. Each segment has separate financial information that is utilized on a regular basis by the CODM in determining how to allocate resources and evaluate performance. The reportable segments are determined based on several factors including, but not limited to, customer base, homogeneity of products, technology, delivery channels and similar economic characteristics.

Semiconductor solutions. We provide semiconductor solutions for managing the movement of data in data center, service provider, and enterprise networking applications. We provide a broad variety of radio frequency semiconductor devices, wireless connectivity solutions, custom touch controllers, and inductive charging solutions for mobile applications. We also provide semiconductor solutions for enabling the set-top box and broadband access markets and for enabling secure movement of digital data to and from host machines, such as servers, personal computers and storage systems, to the underlying storage devices, such as hard disk drives and solid state drives. We also provide a broad variety of products for the general industrial and automotive markets. Our semiconductor solutions segment also includes our IP licensing.

Infrastructure software. We provide a portfolio of software solutions that enables customers to plan, develop, automate, manage and secure applications across mainframe, distributed, mobile and cloud platforms. Our portfolio of infrastructure and security software is designed to modernize, optimize, and secure the most complex hybrid environments, enabling scalability, agility, automation, insights, resiliency and security. We also offer mission critical FC SAN products and related software.

Our CODM assesses the performance of each segment and allocates resources to each segment based on net revenue and operating results and does not evaluate each segment using discrete asset information. Operating results by segment include items that are directly attributable to each segment and also include shared expenses such as marketing, general and administrative activities, facilities and information technology (“IT”) expenses. Shared expenses are primarily allocated based on revenue and headcount.

Unallocated Expenses

Unallocated expenses include amortization of acquisition-related intangible assets, stock-based compensation expense, restructuring and other charges, acquisition-related costs, and other costs, which are not used in evaluating the results of, or in allocating resources to, our segments. Acquisition-related costs include transaction costs and any costs directly related to the acquisition and integration of acquired businesses.

Depreciation expense directly attributable to each reportable segment is included in the operating results of each segment. However, the CODM does not evaluate depreciation expense by operating segment and, therefore, it is not separately presented. There was no inter-segment revenue for any of the periods presented. The accounting policies of the segments are the same as those described in the summary of significant accounting policies.

	Fiscal Year		
	2023	2022	2021
		(In millions)	
Net revenue:			
Semiconductor solutions	$ 28,182	$ 25,818	$ 20,383
Infrastructure software	7,637	7,385	7,067
Total net revenue	$ 35,819	$ 33,203	$ 27,450
Operating income:			
Semiconductor solutions	$ 16,486	$ 15,075	$ 10,976
Infrastructure software	5,639	5,219	4,936
Unallocated expenses	(5,918)	(6,069)	(7,393)
Total operating income	$ 16,207	$ 14,225	$ 8,519

Geographic Information

Net revenue by country is based primarily on the geographic shipment or delivery location as specified by the distributors, OEMs, contract manufacturers, channel partners, or software customers who purchased our products or services. For the majority of our products, title and control transfer to our customers in Penang, Malaysia. The products are then transported to the customer specific locations. Net revenue from the United States for fiscal years 2023, 2022 and 2021 was $6,975 million, $5,915 million and $5,285 million, respectively. Net revenue from China (including Hong Kong) for fiscal years 2023, 2022 and 2021 was $11,533 million, $11,637 million and $9,752 million, respectively. Net revenue from Singapore for fiscal years 2023, 2022 and 2021 was $4,479 million, $4,003 million and $2,754 million, respectively. Net revenue from other foreign countries for fiscal years 2023, 2022 and 2021 was $12,832 million, $11,648 million and $9,659 million, respectively. These geographic delivery locations are not necessarily indicative of the geographic location of our end customers or the country in which our end customers sell devices containing our products. For example, we believe a substantial portion of our products shipped or delivered to China (including Hong Kong) is included in devices sold by our end customers in the United States and Europe.

Long-lived assets include property, plant and equipment and are based on the physical location of the assets.

	October 29, 2023	October 30, 2022
	(In millions)	
Long-lived assets:		
United States	$ 1,371	$ 1,441
Taiwan	341	318
Other	442	464
Total long-lived assets	$ 2,154	$ 2,223

Significant Customer Information

We sell our products through our direct sales force and a select network of distributors and channel partners globally. One customer accounted for 21% of our net accounts receivable balance as of October 29, 2023. Two customers accounted for 15% and 11% of our net accounts receivable balance as of October 30, 2022. During fiscal years 2023, 2022 and 2021, one customer accounted for 21%, 20% and 18% of our net revenue, respectively. Revenue from this customer was included in our semiconductor solutions segment.

13. Commitments and Contingencies

Commitments

The following table summarizes contractual obligations and commitments as of October 29, 2023:

Fiscal Year:	Purchase Commitments	Other Contractual Commitments
	(In millions)	
2024	$ 254	$ 328
2025	168	269
2026	11	278
2027	7	219
2028	7	176
Thereafter	—	341
Total	$ 447	$ 1,611

Purchase Commitments. Represent unconditional purchase obligations to purchase goods or services, primarily inventory, that are enforceable and legally binding on us and specify all significant terms, including fixed or minimum quantities to be purchased, price provisions, and the approximate timing of the transaction. Purchase obligations exclude agreements that are cancelable without penalty and unconditional purchase obligations with a remaining term of one year or less.

Other Contractual Commitments. Represent amounts payable pursuant to agreements related to IT and other service agreements.

Due to the inherent uncertainty with respect to the timing of future cash outflows associated with our unrecognized tax benefits at October 29, 2023, we are unable to reliably estimate the timing of cash settlement with the respective taxing authorities. Therefore, $2,792 million of unrecognized tax benefits and accrued interest and penalties as of October 29, 2023 have been excluded from the table above.

Contingencies

From time to time, we are involved in litigation that we believe is of the type common to companies engaged in our lines of business, including commercial disputes, employment issues, tax disputes and disputes involving claims by third parties that our activities infringe their patent, copyright, trademark or other IP rights, as well as regulatory investigations or inquiries. Legal proceedings and regulatory investigations or inquiries are often complex, may require the expenditure of significant funds and other resources, and the outcomes of such proceedings are inherently uncertain, with material adverse outcomes possible. IP property claims generally involve the demand by a third-party that we cease the manufacture, use or sale of the allegedly infringing products, processes or technologies and/or pay substantial damages or royalties for past, present and future use of the allegedly infringing IP. Claims that our products or processes infringe or misappropriate any third-party IP rights (including claims arising through our contractual indemnification of our customers) often involve highly complex, technical issues, the outcome of which is inherently uncertain. Moreover, from time to time, we pursue litigation to assert our IP rights. Regardless of the merit or resolution of any such litigation, complex IP litigation is generally costly and diverts the efforts and attention of our management and technical personnel.

Lawsuits Relating to California Institute of Technology

California Institute of Technology ("Caltech") filed a complaint against Broadcom and Apple Inc. on May 26, 2016 in the United States District Court for the Central District of California (the “U.S. Central District Court”), and an amended complaint adding Cypress Semiconductor Corporation as a defendant on August 15, 2016. The amended complaint alleged that chips that support certain error correction codes as specified in IEEE Standards 802.11n and 802.11ac willfully infringed four patents related to error correction coding: U.S. Patent Nos. 7,116,710; 7,421,032; 7,916,781; and 8,284,833 (“’833 patent”). Prior to trial, Caltech dismissed its claims against Cypress and withdrew its infringement allegations as to ‘833 patent. The complaint sought a preliminary and permanent injunction, damages, pre- and post-judgment interest, as well as attorneys’ fees, costs, and expenses. The trial was held in January 2020, and on January 29, 2020, the jury issued its verdict finding infringement and awarding Caltech past damages of $270.2 million from Broadcom and $837.8 million from Apple, for which Apple is seeking indemnification from Broadcom. On August 3, 2020, the U.S. Central District Court issued its judgment, awarding Caltech past damages in the amounts awarded by the jury, as well as pre- and post-judgment interest. Additionally, the U.S. Central District Court awarded Caltech an unspecified amount of ongoing royalties to be determined after the anticipated appeals process is resolved. Neither the jury nor the U.S. Central District Court found willful infringement, which if it had, could have resulted in enhanced damages up to three times the amount awarded. Broadcom and Apple appealed to the United States Court of Appeals for the Federal Circuit (the “Federal Circuit Court”). In February 2022, the Federal Circuit Court affirmed infringement of two patents, both of which expired in August 2020, but it did not address all issues and ordered a new trial on damages and on the infringement of the 7,916,781 patent, which also expired in August 2020. In May 2022, the Federal Circuit Court denied the petition for rehearing filed by Broadcom and Apple, and remanded the case to the U.S. Central District Court. Subsequently, Caltech withdrew its infringement allegations as to the 7,916,781 patent. In September 2023, we entered into a settlement and patent license agreement with Caltech pursuant to which we agreed to pay an aggregate of $160 million over five years and the case was dismissed with prejudice.

Other Matters

In addition to the matters discussed above, we are currently engaged in a number of legal actions in the ordinary course of our business.

Contingency Assessment

We do not believe, based on currently available facts and circumstances, that the final outcome of any pending legal proceedings or ongoing regulatory investigations, taken individually or as a whole, will have a material adverse effect on our consolidated financial statements. However, lawsuits may involve complex questions of fact and law and may require the expenditure of significant funds and other resources to defend. The results of litigation or regulatory investigations are inherently uncertain, and material adverse outcomes are possible. From time to time, we may enter into confidential discussions regarding the potential settlement of such lawsuits. Any settlement of pending litigation could require us to incur substantial costs and other ongoing expenses, such as future royalty payments in the case of an IP dispute.

During the periods presented, no material amounts have been accrued or disclosed in the accompanying consolidated financial statements with respect to loss contingencies associated with any other legal proceedings or regulatory investigations, as potential losses for such matters are not considered probable and ranges of losses are not reasonably estimable. These matters are subject to many uncertainties and the ultimate outcomes are not predictable. There can be no assurances that the actual amounts required to satisfy any liabilities arising from the matters described above will not have a material adverse effect on our consolidated financial statements.

Other Indemnifications

As is customary in our industry and as provided for in local law in the U.S. and other jurisdictions, many of our standard contracts provide remedies to our customers and others with whom we enter into contracts, such as defense, settlement, or payment of judgment for IP claims related to the use of our products. From time to time, we indemnify customers, as well as our suppliers, contractors, lessors, lessees, companies that purchase our businesses or assets and others with whom we enter into contracts, against combinations of loss, expense, or liability arising from various triggering events related to the sale and the use of our products, the use of their goods and services, the use of facilities and state of our owned facilities, the state of the assets and businesses that we sell and other matters covered by such contracts, usually up to a specified maximum amount. In addition, from time to time we also provide protection to these parties against claims related to undiscovered liabilities, additional product liabilities or environmental obligations. In our experience, claims made under such indemnifications are rare and the associated estimated fair value of the liability is not material.

14. Restructuring and Other Charges

Restructuring Charges

From time to time, we initiate cost reduction activities to integrate acquired businesses, align our workforce with strategic business activities, or improve efficiencies in our operations. We recognized charges of $36 million, $55 million and $149 million during fiscal years 2023, 2022 and 2021, respectively. These charges were primarily recognized in operating expenses.

The following table summarizes the significant activities within, and components of, the restructuring liabilities:

	Employee Termination Costs	Other Exit Costs	Total
		(In millions)	
Balance as of November 1, 2020	$ 34	$ —	$ 34
Restructuring charges	100	13	113
Utilization	(130)	(13)	(143)
Balance as of October 31, 2021	4	—	4
Restructuring charges	24	6	30
Utilization	(24)	(4)	(28)
Balance as of October 30, 2022	4	2	6
Restructuring charges	20	9	29
Utilization	(22)	(11)	(33)
Balance as of October 29, 2023	$ 2	$ —	$ 2

Restructuring charges in our consolidated statement of operations for the fiscal years 2023, 2022 and 2021 included $7 million, $25 million and $36 million respectively, for the write-down of certain lease-related ROU assets and other lease-related charges. As of each October 29, 2023 and October 30, 2022, short-term and long-term lease liabilities included $44 million and $52 million of liabilities related to restructuring activities.

Other Charges

During fiscal year 2023, other charges included $204 million of non-recurring charges related to IP litigation and $8 million of impairment and disposal charges primarily related to property, plant and equipment. During fiscal years 2022 and 2021, other charges included impairment and disposal charges of $7 million and $16 million, respectively, primarily related to leasehold improvements.

15. Subsequent Events

Acquisition of VMware, Inc.

On November 22, 2023, we completed the acquisition of VMware in a cash-and-stock transaction (the “VMware Merger”). Pursuant to the Agreement and Plan of Merger, each share of VMware common stock issued and outstanding immediately prior to the effective time of the VMware Merger was indirectly converted into the right to receive, at the election of the holder of such share of VMware common stock, either $142.50 in cash, without interest, or 0.2520 shares of Broadcom common stock. The stockholder election was prorated, such that the total number of shares of VMware common stock entitled to receive cash and the total number of shares of VMware common stock entitled to receive Broadcom common stock, in each case, was equal to 50% of the aggregate number of shares of VMware common stock issued and outstanding. Based on the VMware stockholders’ elections, the VMware stockholders received approximately $30.8 billion in cash and 54.4 million shares of Broadcom common stock in aggregate.

We assumed all outstanding VMware RSU awards and performance stock unit awards held by continuing employees. The assumed awards were converted into approximately 5 million Broadcom RSU awards. All outstanding in-the-money VMware stock options and RSU awards held by non-employee directors were accelerated and converted into the right to receive cash and shares of Broadcom common stock, in equal parts.

VMware was a leading provider of multi-cloud services for all applications, enabling digital innovation with enterprise control. We acquired VMware to enhance our infrastructure software capabilities.

Preliminary Purchase Consideration

		(In millions)
Fair value of Broadcom common stock issued for outstanding VMware common stock	$	53,39
Cash paid for outstanding VMware common stock		30,78
Cash paid by Broadcom to retire VMware’s term loan		1,25
Fair value of partially vested assumed equity awards		80
Fair value of Broadcom common stock issued for accelerated VMware equity awards		2
Cash paid for accelerated VMware equity awards		1
Effective settlement of pre-existing relationships		
Total purchase consideration		86,29
Less: cash acquired		6,64
Total purchase consideration, net of cash acquired	$	79,64

We funded the cash portion of the VMware Merger with the net proceeds from the issuance of the 2023 Term Loans, as discussed in further detail below, as well as cash on hand. We assumed $8,250 million of VMware’s outstanding senior unsecured notes.

We are currently evaluating the purchase price allocation following the consummation of the VMware Merger. It is not practicable to disclose the preliminary purchase price allocation or unaudited pro forma combined financial information for this transaction, given the short period of time between the acquisition date and the issuance of these consolidated financial statements.

2023 Term Loans

On August 15, 2023, we entered into a credit agreement (the “2023 Credit Agreement”), which provided us with the ability to borrow term loans in connection with the VMware Merger. In connection with entering into the 2023 Credit Agreement, we terminated the commitment letter for a senior unsecured bridge facility in an aggregate principal amount of $32 billion that we entered into on May 26, 2022. Upon completion of the VMware Merger, we entered an $11,195 million unsecured term A-2 facility (the "Term A-2 Loan”), an $11,195 million unsecured term A-3 facility (the “Term A-3 Loan”), and an $8,000 million unsecured term A-5 facility (the “Term A-5 Loan”, collectively, the “2023 Term Loans”).

The term loans under the Term A-2 Loan, Term A-3 Loan and Term A-5 Loan bear interest at floating interest rates and will mature and be payable on the second, third or fifth anniversary, respectively, of the date of the VMware Merger. Our obligations under the 2023 Credit Agreement are unsecured and are not guaranteed by any of our subsidiaries.

Cash Dividends Declared

On December 5, 2023, our Board of Directors declared a quarterly cash dividend of $5.25 per share on our common stock, payable on December 29, 2023 to stockholders of record on December 20, 2023.

Schedule II — Valuation and Qualifying Accounts

	Balance at Beginning of Period	Additions to Allowances	Charges Utilized/ Write-offs	Balance at End of Period
	(In millions)			
Accounts receivable allowances:				
Distributor credit allowances [(a)]				
Fiscal year ended October 29, 2023	$ 125	$ 502	$ (494)	$ 133
Fiscal year ended October 30, 2022	$ 128	$ 484	$ (487)	$ 125
Fiscal year ended October 31, 2021	$ 149	$ 756	$ (777)	$ 128
Other accounts receivable allowances [(b)]				
Fiscal year ended October 29, 2023	$ 1	$ 5	$ (2)	$ 4
Fiscal year ended October 30, 2022	$ 2	$ 10	$ (11)	$ 1
Fiscal year ended October 31, 2021	$ 28	$ 14	$ (40)	$ 2
Income tax valuation allowances:				
Fiscal year ended October 29, 2023	$ 1,777	$ 117	$ (105)	$ 1,789
Fiscal year ended October 30, 2022	$ 1,782	$ 118	$ (123)	$ 1,777
Fiscal year ended October 31, 2021	$ 1,707	$ 121	$ (46)	$ 1,782

(a) Distributor credit allowances relate to price adjustments and other allowances.

(b) Other accounts receivable allowances primarily include sales returns and allowance for doubtful accounts.

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

Not applicable.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO"), evaluated the effectiveness of our disclosure controls and procedures as of October 29, 2023. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to our management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of October 29, 2023, our CEO and CFO concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rules 13a-15(f) and 15d-15(f) promulgated under the Exchange Act as a process designed by, or under the supervision of, our principal executive and principal financial officers and effected by the Board, 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 GAAP and includes those policies and procedures that:

- pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, and that receipts and expenditures of us are being made only in accordance with authorizations of management and directors; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our 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. 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.

Our management assessed the effectiveness of our internal control over financial reporting as of October 29, 2023. In making this assessment, our management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in *Internal Control-Integrated Framework* (2013). Based on this assessment, our management concluded that, as of October 29, 2023, our internal control over financial reporting is effective based on those criteria.

The effectiveness of our internal control over financial reporting as of October 29, 2023 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which is included in Part II, Item 8. of this Annual Report on Form 10-K.

Changes in Internal Control over Financial Reporting

No change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) occurred during the fourth quarter ended October 29, 2023 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by Item 10 is incorporated herein by reference from sections entitled “Board of Directors,” “Corporate Governance” and “Proposal 1 — Election of Directors” in our definitive Proxy Statement for our 2024 Annual Meeting of Stockholders. Our executive officers are listed at the end of Item 1 of this Annual Report on Form 10-K.

ITEM 11. EXECUTIVE COMPENSATION

The information required by Item 11 is incorporated herein by reference from sections entitled “Board of Directors — Director Compensation,” “Board of Directors — Board Committees — Compensation Committee — Compensation Committee Interlocks and Insider Participation,” “Compensation Discussion and Analysis,” “Compensation Committee Report,” “Executive Compensation,” “CEO Pay Ratio” and “Pay versus Performance” in our definitive Proxy Statement for our 2024 Annual Meeting of Stockholders.

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

The information required by Item 12 is incorporated herein by reference from sections entitled “Stockholder Information — Security Ownership of Certain Beneficial Owners, Directors and Executive Officers” and “Equity Compensation Plan Information” in our definitive Proxy Statement for our 2024 Annual Meeting of Stockholders.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by Item 13 is incorporated herein by reference from sections entitled “Board of Directors” and “Certain Relationships and Related Party Transactions” in our definitive Proxy Statement for our 2024 Annual Meeting of Stockholders.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by Item 14 is incorporated herein by reference from the section entitled “Proposal 2 — Ratification of Appointment of Independent Registered Public Accounting Firm” in our definitive Proxy Statement for our 2024 Annual Meeting of Stockholders.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) The following are filed as part of this Annual Report on Form 10-K:

1. Financial Statements

The following consolidated financial statements are included in Item 8 of this Annual Report on Form 10-K:

2. Financial Statement Schedules

The financial statement schedule of the Registrant and its subsidiaries for fiscal years 2023, 2022 and 2021 required by Item 15(a) (Schedule II, Valuation and Qualifying Accounts) is included in Item 8 of this Annual Report on Form 10-K:

Schedules not filed have been omitted because they are not applicable, are not required or the information required to be set forth therein is included in the financial statements or notes thereto.

3. Exhibits

The documents set forth below are filed herewith or incorporated by reference to the location indicated.

		Incorporated by Reference				
Exhibit Number	Description	Form	File No.	Exhibit	Filing Date	Filed Herewith
2.1	Agreement and Plan of Merger, dated as of May 26, 2022, by and among Broadcom Inc., VMware, Inc., Verona Holdco, Inc., Verona Merger Sub, Inc., Barcelona Merger Sub 2, Inc. and Barcelona Merger Sub 3, LLC.	Broadcom Inc. Current Report on Form 8-K	001-38449	2.1	05-26-2022	
3.1	Amended and Restated Certificate of Incorporation.	Broadcom Inc. Current Report on Form 8-K12B	001-38449	3.1	04-04-2018	
3.2	Certificate of Designation of the 8.00% Mandatory Convertible Preferred Stock, Series A.	Broadcom Inc. Current Report on Form 8-K	001-38449	3.1	09-30-2019	
3.3	Amended and Restated Bylaws.	Broadcom Inc. Current Report on Form 8-K12B	001-38449	3.2	04-04-2018	
4.1	Form of Common Stock Certificate.	Broadcom Inc. Quarterly Report on Form 10-Q	001-38449	4.1	06-14-2018	
4.2	Description of Common Stock.	Broadcom Inc. Annual Report on Form 10-K	001-38449	4.3	12-20-2019	

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Exhibit Number	Description	Incorporated by Reference				Filed Herewith
		Form	File No.	Exhibit	Filing Date	
4.3	Indenture, dated as of January 19, 2017, by and among the Broadcom Corporation and Broadcom Cayman Finance Limited (the "Co-Issuers"), the guarantors and Wilmington Trust, National Association, as trustee.	Broadcom Limited Current Report on Form 8-K	001-37690	4.1	01-20-2017	
4.4	Supplement Indenture to the January 2017 Indenture, dated as of April 9, 2018.	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	04-09-2018	
4.5	Second Supplement Indenture to the January 2017 Indenture, dated as of January 25, 2019.	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	01-25-2019	
4.6	Form of 3.625% Senior Notes due 2024 (included in Exhibit 4.5).	Broadcom Limited Current Report on Form 8-K	001-37690	4.1	01-20-2017	
4.7	Form of 3.875% Senior Notes due 2027 (included in Exhibit 4.5).	Broadcom Limited Current Report on Form 8-K	001-37690	4.1	01-20-2017	
4.8	Indenture, dated as of October 17, 2017, by and among the Co-Issuers, the guarantors and Wilmington Trust, National Association, as trustee.	Broadcom Limited Current Report on Form 8-K	001-37690	4.1	10-17-2017	
4.9	Supplemental Indenture to October 2017 Indenture, dated as of April 9, 2018.	Broadcom Inc. Current Report on Form 8-K	001-38449	4.2	04-09-2018	
4.10	Second Supplemental Indenture to October 2017 Indenture, dates as of January 25, 2019.	Broadcom Inc. Current Report on Form 8-K	001-38449	4.2	01-25-2019	
4.11	Form of 2.650% Senior Notes due 2023 (included in Exhibit 4.11).	Broadcom Limited Current Report on Form 8-K	001-37690	4.1	10-17-2017	
4.12	Form of 3.125% Senior Notes due 2025 (included in Exhibit 4.11).	Broadcom Limited Current Report on Form 8-K	001-37690	4.1	10-17-2017	
4.13	Form of 3.500% Senior Notes due 2028 (included in Exhibit 4.11).	Broadcom Limited Current Report on Form 8-K	001-37690	4.1	10-17-2017	
4.14	Indenture, dated as of April 5, 2019, by and among the Company, as Issuer, Broadcom Technologies Inc., Broadcom Corporation and Broadcom Cayman Finance Limited (the "2019 Guarantors"), and Wilmington Trust, National Association, as trustee.	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	04-05-2019	
4.15	Form of 3.625% Senior Notes due 2024 (included in Exhibit 4.17).	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	04-05-2019	
4.16	Form of 4.750% Senior Notes due 2029 (included in Exhibit 4.17).	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	04-05-2019	
4.17	Indenture, dated as of April 9, 2020, by and among the Company, as Issuer, Broadcom Technologies Inc. and Broadcom Corporation (the "2020 Guarantors"), and Wilmington Trust, National Association, as trustee.	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	04-09-2020	

Exhibit Number	Description	Incorporated by Reference				Filed Herewith
		Form	File No.	Exhibit	Filing Date	
4.18	Form of 5.000% Senior Notes due 2030 (included in Exhibit 4.21).	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	04-09-2020	
4.19	Indenture, dated as of May 8, 2020, by and among the Company, as Issuer, the 2020 Guarantors, and Wilmington Trust, National Association, as trustee.	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	05-08-2020	
4.20	Form of 2.250% Senior Notes due 2023 (included in Exhibit 4.24).	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	05-08-2020	
4.21	Form of 3.150% Senior Notes due 2025 (included in Exhibit 4.24).	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	05-08-2020	
4.22	Form of 4.150% Senior Notes due 2030 (included in Exhibit 4.24).	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	05-08-2020	
4.23	Form of 4.300% Senior Notes due 2032 (included in Exhibit 4.24).	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	05-08-2020	
4.24	Indenture, dated as of May 21, 2020, by and among the Company, the 2020 Guarantors and Wilmington Trust, National Association, as trustee.	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	05-21-2020	
4.25	Form of 3.459% Senior Notes due 2026 (included in Exhibit 4.29).	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	05-21-2020	
4.26	Form of 4.110% Senior Notes due 2028 (included in Exhibit 4.29).	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	05-21-2020	
4.27	Indenture, dated as of January 19, 2021, by and among the Company, the 2020 Guarantors and Wilmington Trust, National Association, as Trustee.	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	01-19-2021	
4.28	Form of 1.950% Senior Notes due 2028 (included in Exhibit 4.32).	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	01-19-2021	
4.29	Form of 2.450% Senior Notes due 2031 (included in Exhibit 4.32).	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	01-19-2021	
4.30	Form of 2.600% Senior Notes due 2033 (included in Exhibit 4.32).	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	01-19-2021	
4.31	Form of 3.500% Senior Notes due 2041 (included in Exhibit 4.32).	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	01-19-2021	
4.32	Form of 3.750% Senior Notes due 2051 (included in Exhibit 4.32).	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	01-19-2021	

Exhibit Number	Description	Incorporated by Reference				Filed Herewith
		Form	File No.	Exhibit	Filing Date	
4.33	Registration Rights Agreement, dated as of January 19, 2021, by and among the Company, the 2020 Guarantors and Morgan Stanley & Co. LLC, BNP Paribas Securities Corp., RBC Capital Markets, LLC, SMBC Nikko Securities America, Inc., and Truist Securities, Inc., as representatives of the several initial purchasers of the January 2021 Senior Notes.	Broadcom Inc. Current Report on Form 8-K	001-38449	4.7	01-19-2021	
4.34	Indenture, dated as of March 31, 2021, by and between the Company and Wilmington Trust, National Association, as Trustee.	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	03-31-2021	
4.35	Form of 3.419% Senior Notes due 2033 (included in Exhibit 4.39).	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	03-31-2021	
4.36	Form of 3.469% Senior Notes due 2034 (included in Exhibit 4.39).	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	03-31-2021	
4.37	Registration Rights Agreement, dated as of March 31, 2021, by and among the Company and BofA Securities, Inc. and HSBC Securities (USA) Inc., as dealer-managers in connection with the March 2021 Exchange Offer.	Broadcom Inc. Current Report on Form 8-K	001-38449	4.4	03-31-2021	
4.38	Indenture, dated as of September 30, 2021, by and between the Company and Wilmington Trust, National Association, as Trustee.	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	09-30-2021	
4.39	Form of 3.137% Senior Notes due 2035 (included in Exhibit 4.43).	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	09-30-2021	
4.40	Form of 3.187% Senior Notes due 2036 (included in Exhibit 4.43).	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	09-30-2021	
4.41	Registration Rights Agreement, dated as of September 30, 2021, by and among the Company and BNP Paribas Securities Corp., J.P. Morgan Securities LLC and TD Securities (USA) LLC, as dealer-mangers in connection with the September 2021 exchange offer.	Broadcom Inc. Current Report on Form 8-K	001-38449	4.4	09-30-2021	
4.42	Indenture, dated April 14, 2022, between the Company and Wilmington Trust, National Association, as trustee.	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	04-15-2022	
4.43	Form of 4.00% Senior Notes due 2029 (included in Exhibit 4.47).	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	04-15-2022	
4.44	Form of 4.15% Senior Notes due 2032 (included in Exhibit 4.47).	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	04-15-2022	

Exhibit Number	Description	Incorporated by Reference Form	File No.	Exhibit	Filing Date	Filed Herewith
4.45	Registration Rights Agreement, dated as of April 14, 2022, between the Company and BofA Securities, Inc., HSBC Securities (USA) Inc., and RBC Capital Markets, LLC, as representatives of the several initial purchasers of the April 2022 Senior Notes.	Broadcom Inc. Current Report on Form 8-K	001-38449	4.4	04-15-2022	
4.46	Indenture, dated April 18, 2022, between the Company and Wilmington Trust, National Association, as trustee.	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	04-18-2022	
4.47	Form of 4.926% Senior Notes due 2037 (included in Exhibit 4.51).	Broadcom Inc. Current Report on Form 8-K	001-38449	4.1	04-18-2022	
4.48	Registration Rights Agreement, dated April 18, 2022, between the Company and Barclays Capital Inc., BBVA Securities Inc., BNP Paribas Securities Corp. and J.P. Morgan Securities LLC, as dealer-managers in connection with the April 2022 Exchange Offer.	Broadcom Inc. Current Report on Form 8-K	001-38449	4.3	04-18-2022	
10.1	Form of Indemnification and Advancement Agreement (effective April 4, 2018).	Broadcom Inc. Current Report on Form 8-K12B	001-38449	10.1	04-04-2018	
10.2	Credit Agreement, dated as of May 7, 2019, among Broadcom Inc., the lenders and other parties party thereto, and Bank of America, N.A., as Administrative Agent.	Broadcom Inc. Current Report on Form 8-K	001-38449	10.1	05-07-2019	
10.3	Credit Agreement, dated as of November 4, 2019, among Broadcom Inc., the lenders and other parties party thereto, and Bank of America, N.A., as Administrative Agent.	Broadcom Inc. Current Report on Form 8-K	001-38449	10.1	11-04-2019	
10.4	Credit Agreement, dated as of January 19, 2021, among the Company, the lenders and other parties party thereto, and Bank of America, N.A., as Administrative Agent.	Broadcom Inc. Current Report on Form 8-K	001-38449	10.1	01-19-2021	
10.5	Amendment No. 1, dated April 18, 2023, among Broadcom Inc., the lenders and other parties thereto, and Bank of America, N.A., as Administrative Agent, to the Credit Agreement, dated as of January 19, 2021.	Broadcom Inc. Quarterly Report on Form 10-Q	001-38449	10.1	06-07-2023	
10.6	Credit Agreement, dated as of August 15, 2023, among Broadcom, the lenders and other parties party thereto, and Bank of America, N.A., as Administrative Agent.	Broadcom Inc. Current Report on Form 8-K	001-38449	10.1	08-16-2023	
10.7	Lease Agreement dated August 10, 2017 between Five Point Office Venture I, LLC and Broadcom Corporation.	Broadcom Limited Annual Report on Form 10-K	001-37690	10.29	12-21-2017	
10.8	First Amendment to Lease Agreement by and between Five Point Office Venture 1, LLC and Broadcom Corporation.	Broadcom Inc. Annual Report on Form 10-K	001-38449	10.12	12-18-2020	

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Exhibit Number	Description	Incorporated by Reference: Form	File No.	Exhibit	Filing Date	Filed Herewith
10.9 +	Settlement and Patent License and Non-Assert Agreement by and between Qualcomm Incorporated and Broadcom Corporation.	Broadcom Corporation Current Report on Form 8-K/A	000-23993	10.1	07-23-2009	
10.10 +	Avago Technologies Limited 2009 Equity Incentive Award Plan.	Avago Technologies Limited Amendment No. 5 to Registration Statement on Form S-1	333-153127	10.18	07-27-2009	
10.11 +	Broadcom Inc. Employee Stock Purchase Plan (as amended and restated on April 1, 2019).	Broadcom Inc. Definitive Proxy Statement on Schedule 14A	001-38449	Appendix B-1	02-19-2019	
10.12 +	LSI Corporation 2003 Equity Incentive Plan, as amended.	Avago Technologies Limited Registration Statement on Form S-8	333-195741	4.1	05-06-2014	
10.13 +	Amendment to the LSI Corporation 2003 Equity Incentive Plan (effective February 1, 2016).	Broadcom Limited Annual Report on Form 10-K	001-37690	10.45	12-23-2016	
10.14 +	Amendment to the LSI Corporation 2003 Equity Incentive Plan (effective April 4, 2018).	Broadcom Inc. Current Report on Form 8-K12B	001-38449	10.10	04-04-2018	
10.15 +	Broadcom Inc. 2012 Stock Incentive Plan (as amended and restated on April 5, 2021).	Broadcom Inc. Quarterly Report on Form 10-Q	001-38449	10.1	06-11-2021	
10.16 +	Form of Annual Bonus Plan for Executive Employees.	Broadcom Limited Annual Report on Form 10-K	001-37690	10.53	12-23-2016	
10.17 +	Form of Option Agreement under Avago Technologies Limited 2009 Equity Incentive Plan.	Avago Technologies Limited Amendment No. 5 to Registration Statement on Form S-1	333-153127	10.61	07-27-2009	
10.18 +	Form of Restricted Stock Unit Agreement (Sell to Cover) Under Avago Technologies Limited 2009 Equity Incentive Award Plan (effective December 5, 2017).	Broadcom Limited Annual Report on Form 10-K	001-37690	10.49	12-21-2017	
10.19 +	Form of Agreement for Multi-Year Equity Award of Restricted Stock Unit Award under the Avago Technologies Limited 2009 Equity Incentive Award Plan).	Broadcom Inc. Current Report on Form 8-K	001-38449	10.1	12-06-2018	
10.20 +	Form of Performance Share Unit Agreement (Relative TSR) under Avago Technologies Limited 2009 Equity Incentive Plan (effective March 13, 2018).	Broadcom Limited Quarterly Report on Form 10-Q	001-37690	10.2	03-15-2018	
10.21 +	Form of Agreement for Multi-Year Equity Award of Performance Stock Units under the Avago Technologies Limited 2009 Equity Incentive Award Plan).	Broadcom Inc. Current Report on Form 8-K	001-38449	10.2	12-06-2018	

Exhibit Number	Description	Incorporated by Reference				Filed Herewith
		Form	File No.	Exhibit	Filing Date	
10.22 +	Form of Restricted Stock Unit Award Agreement under LSI Corporation 2003 Equity Incentive Plan, as amended (effective December 8, 2020).	Broadcom Inc. Annual Report on Form 10-K	001-38449	10.51	12-18-2020	
10.23 +	Form of Performance Stock Unit Agreement (Relative TSR) under LSI Corporation 2003 Equity Incentive Plan, as amended (effective December 8, 2020).	Broadcom Inc. Annual Report on Form 10-K	001-38449	10.52	12-18-2020	
10.24 +	Form of Restricted Stock Unit Award Agreement under Broadcom Corporation 2012 Stock Incentive Plan (effective December 5, 2017).	Broadcom Limited Annual Report on Form 10-K	001-37690	10.61	12-21-2017	
10.25 +	Form of Restricted Stock Unit Award Agreement under Broadcom Inc. 2012 Stock Incentive Plan (effective April 5, 2021).	Broadcom Inc. Quarterly Report on Form 10-Q	001-38449	10.3	06-11-2021	
10.26 +	Form of Performance Share Unit Agreement (Relative TSR) under Broadcom Corporation 2012 Stock Incentive Plan (effective March 15, 2018).	Broadcom Limited Quarterly Report on Form 10-Q	001-37690	10.5	03-15-2018	
10.27 +	Form of Performance Stock Unit Award Agreement under the Broadcom Inc. 2012 Stock Incentive Plan (effective April 5, 2021).	Broadcom Inc. Quarterly Report on Form 10-Q	001-38449	10.4	06-11-2021	
10.28 +	Form of Performance Stock Unit Award Agreement (Price Contingency) under Broadcom Inc. 2012 Stock Incentive Plan.	Broadcom Inc. Current Report on Form 8-K	001-38449	10.1	11-02-2022	
10.29 +	Performance Stock Unit Award Agreement, dated April 5, 2021, between Broadcom Inc. and Hock E. Tan.	Broadcom Inc. Quarterly Report on Form 10-Q	001-38449	10.2	06-11-2021	
10.30 +	Policy on Acceleration of Executive Staff Equity Awards in the Event of Permanent Disability (as amended June 2, 2021).	Broadcom Inc. Current Report on Form 8-K	001-38449	10.1	06-03-2021	
10.31 +	Policy on Acceleration of Equity Awards in the Event of Death (as amended January 1, 2023).	Broadcom Inc. Quarterly Report on Form 10-Q	001-38449	10.2	09-06-2023	
10.32 +	Amended and Restated Severance Benefits Agreement, dated December 10, 2020, between Broadcom Inc. and Hock E. Tan.	Broadcom Inc. Current Report on Form 8-K	001-38449	10.1	12-10-2020	
10.33 +	Amended and Restated Severance Benefits Agreement, dated December 10, 2020, between Broadcom Inc. and Charlie B. Kawwas.	Broadcom Inc. Current Report on Form 8-K	001-38449	10.2	12-10-2020	
10.34 +	Severance Benefits Agreement, dated September 26, 2017, between Broadcom Limited and Mark Brazeal.	Broadcom Inc. Quarterly Report on Form 10-Q	001-38449	10.18	06-16-2018	
10.35 +	Severance Benefits Agreement, dated December 10, 2020, between Broadcom Inc. and Kirsten M. Spears.	Broadcom Inc. Current Report on Form 8-K	001-38449	10.5	12-10-2020	
21.1	List of Subsidiaries.					X

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Exhibit Number	Description	Incorporated by Reference Form	File No.	Exhibit	Filing Date	Filed Herewith
23.1	Consent of PricewaterhouseCoopers LLP, independent registered public accounting firm.					X
24.1	Power of Attorney (see signature page to this Form 10-K).					X
31.1	Certification of Principal Executive Officer of Broadcom Inc. Pursuant to Rule 13a-14 of the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.					X
31.2	Certification of Principal Financial Officer of Broadcom Inc. Pursuant to Rule 13a-14 of the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.					X
32.1	Certification of Principal Executive Officer of Broadcom Inc. Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.					X
32.2	Certification of Principal Financial Officer of Broadcom Inc. Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.					X
97.1	Clawback Policy.					X
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.					X
101.SCH	XBRL Schema Document.					X
101.CAL	XBRL Calculation Linkbase Document.					X
101.DEF	XBRL Definition Linkbase Document.					X
101.LAB	XBRL Labels Linkbase Document.					X
101.PRE	XBRL Presentation Linkbase Document.					X
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.					X

Notes:

+ Indicates a management contract or compensatory plan or arrangement.

Schedules have been omitted pursuant to Item 601(b)(2) of Regulation S-K. Broadcom Inc. hereby undertakes to furnish supplementally copies of any omitted schedules upon request by the SEC.

* Certain information omitted pursuant to a request for confidential treatment filed with the SEC.

ITEM 16. FORM 10-K SUMMARY

None.

SIGNATURES

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

BROADCOM INC.

By: **/s/ Hock E. Tan**

Name: Hock E. Tan

Title: President and Chief Executive Officer

Date: December 14, 2023

POWER OF ATTORNEY

Each person whose individual signature appears below hereby authorizes and appoints Hock E. Tan, Kirsten M. Spears and Mark D. Brazeal, and each of them, with full power of substitution and resubstitution and full power to act without the other, as his or her true and lawful attorney-in-fact and agent to act in his or her name, place and stead and to execute in the name and on behalf of each person, individually and in each capacity stated below, and to file any and all amendments to this Annual Report on Form 10-K, 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, ratifying and confirming all that said attorneys-in-fact and agents or any of them or their or his substitute or substitutes may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this Annual Report on Form 10-K has been signed by the following persons on behalf of the Registrant in the capacities indicated and on the dates indicated.

Signature	Title	Date
/s/ Hock E. Tan **Hock E. Tan**	President, Chief Executive Officer and Director (Principal Executive Officer)	December 14, 2023
/s/ Kirsten M. Spears **Kirsten M. Spears**	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	December 14, 2023
/s/ Henry Samueli **Henry Samueli**	Chairman of the Board of Directors	December 14, 2023
/s/ Eddy W. Hartenstein **Eddy W. Hartenstein**	Lead Independent Director	December 14, 2023
/s/ Diane M. Bryant **Diane M. Bryant**	Director	December 14, 2023
/s/ Gayla J. Delly **Gayla J. Delly**	Director	December 14, 2023
/s/ Raul F. Fernandez **Raul F. Fernandez**	Director	December 14, 2023
/s/ Check Kian Low **Check Kian Low**	Director	December 14, 2023
/s/ Justine F. Page **Justine F. Page**	Director	December 14, 2023
/s/ Harry L. You **Harry L. You**	Director	December 14, 2023