

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
Form 10-K**

(Mark One)

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

For the fiscal year ended February 1, 2020

or

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

For the transition period from _____ to _____

Commission file number 0-30877

Marvell Technology Group Ltd.

(Exact name of registrant as specified in its charter)

Bermuda

*(State or other jurisdiction of
incorporation or organization)*

77-0481679

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

Canon's Court, 22 Victoria Street, Hamilton HM 12, Bermuda

(Address of principal executive offices)

(441) 296-6395

(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol	Name of each exchange on which registered
Common shares, \$0.002 par value per share	MRVL	The Nasdaq Stock Market LLC

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 is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

The aggregate market value of the registrant's common shares held by non-affiliates of the registrant was \$16,535,444,225 based upon the closing price of \$25.03 per share on the Nasdaq Global Select Market on August 2, 2019 (the last business day of the registrant's most recently completed second quarter).

As of March 16, 2020, there were 663.1 million common shares of the registrant outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of Part III of this Form 10-K are incorporated by reference from the registrant's definitive proxy statement for its 2020 annual general meeting of shareholders, which proxy statement will be filed with the Securities and Exchange Commission within 120 days after the end of the fiscal year covered by this Form 10-K. Except with respect to information specifically incorporated by reference in this Form 10-K, the proxy statement is not deemed to be filed as part of this Form 10-K.

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MARVELL TECHNOLOGY GROUP LTD.

Forward-Looking Statements

This Annual Report on Form 10-K contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), which are subject to the “safe harbor” created by those sections. These statements involve known and unknown risks, uncertainties and other factors, which may cause our actual results to differ materially from those implied by the forward-looking statements. Words such as “anticipates,” “expects,” “intends,” “plans,” “projects,” “believes,” “seeks,” “estimates,” “forecasts,” “targets,” “may,” “can,” “will,” “would” and similar expressions identify such forward-looking statements.

Forward-looking statements are subject to risks and uncertainties that could cause actual results to differ materially from those indicated in the forward-looking statements. Factors that could cause actual results to differ materially from those predicted include, but are not limited to:

- the impact of actual or potential public health emergencies such as the Novel Coronavirus (COVID-19);*
- our ability to implement our plans, forecasts and other expectations with respect to our acquisitions and to fully realize the anticipated synergies and cost savings in the time frame anticipated;*
- our ability to define, design and develop products for the infrastructure and 5G market and to market and sell those products to infrastructure customers;*
- our dependence on a small number of customers;*
- severe financial hardship or bankruptcy of one or more of our major customers;*
- the effects of any potential future acquisitions, strategic investments, divestitures, mergers or joint ventures;*
- risks associated with acquisition and consolidation activity in the semiconductor industry;*
- our ability and the ability of our customers to successfully compete in the markets in which we serve;*
- our dependence upon the storage market, which is highly cyclical and intensely competitive;*
- our ability and our customers' ability to develop new and enhanced products and the adoption of those products in the market;*
- decreases in our gross margin and results of operations in the future due to a number of factors;*
- our reliance on independent foundries and subcontractors for the manufacture, assembly and testing of our products;*
- the risks associated with manufacturing and selling a majority of our products and our customers' products outside of the United States;*
- the effects of transitioning to smaller geometry process technologies;*
- our ability to scale our operations in response to changes in demand for existing or new products and services;*
- our ability to limit costs related to defective products;*
- our ability to recruit and retain experienced executive management as well as highly-skilled engineering and sales and marketing personnel;*
- our ability to mitigate risks related to our information technology systems;*
- our ability to protect our intellectual property, particularly outside of the U.S.;*
- our ability to estimate customer demand and future sales accurately;*
- our reliance on third-party distributors and manufacturers' representatives to sell our products;*
- the impact of international conflict, trade relations between the U.S. and other countries, and continued economic volatility in either domestic or foreign markets;*
- the impact and costs associated with changes in international financial and regulatory conditions such as the addition of new trade tariffs or embargos;*
- the impact of any change in our application of the United States federal income tax laws and the loss of any beneficial tax treatment that we currently enjoy;*
- our maintenance of an effective system of internal controls;*
- our ability to realize expected benefits from restructuring activities;*
- the impact of natural disasters and other catastrophic events; and*
- the outcome of pending or future litigation and legal proceedings.*

Additional factors that could cause actual results to differ materially include the risks discussed in Part I, Item 1A, “Risk Factors.” These forward-looking statements speak only as of the date hereof. Unless required by law, we undertake no obligation to update publicly any forward-looking statements.

PART I

Item 1. *Business*

Our Company

Marvell Technology Group Ltd., together with its consolidated subsidiaries (“Marvell,” the “Company,” “we,” or “us”) is a global fabless semiconductor solutions provider of high-performance data infrastructure products. We leverage our extensive and growing technology portfolio of intellectual property in the areas of analog, mixed-signal, compute, digital signal processing, networking, security, and storage to address critical data infrastructure bottlenecks spanning performance, power, latency and scalability. Our semiconductor solutions are architected and designed to move, store, process and secure the world’s data faster and more reliably than anyone else. We offer essential technology to service the mounting compute, networking, security and storage requirements of the automotive, carrier, data center and enterprise data infrastructure markets. We were incorporated in Bermuda in January 1995.

Recent Developments

On September 19, 2019, we completed the acquisition of Aquantia Corp. (“Aquantia”). Aquantia is a manufacturer of high speed transceivers which includes copper and optical physical layer products. The merger consideration was funded with a combination of cash on hand and funds from our revolving line of credit (“Revolving Credit Facility”). See “Note 3 - Business Combinations” for discussion of the acquisition and “Note 12- Debt” for discussion of the debt financing in the Notes to Consolidated Financial Statements set forth in Part II, Item 8 of the Annual Report on Form 10-K.

On November 5, 2019, we acquired Avera Semiconductor (“Avera”), the Application Specific Integrated Circuit (“ASIC”) business of GlobalFoundries for \$593.5 million in cash. An additional \$90 million in cash will be paid to acquire additional assets if certain conditions are satisfied within the next 10 months. Avera is a leading provider of ASIC semiconductor solutions. We acquired Avera to expand our ASIC design capabilities. The merger consideration was funded with new debt financing. See “Note 3 - Business Combinations” for discussion of the acquisition and “Note 12 - Debt” for discussion of the debt financing in the Notes to the Consolidated Financial Statements set forth in Part II, Item 8 of the Annual Report on Form 10-K.

On December 6, 2019, we completed the sale of our Wi-Fi Connectivity business to NXP USA, Inc, a subsidiary of NXP Semiconductors, N.V. (“NXP”). The divestiture encompasses our portfolio of connectivity solutions, including Wi-Fi, and Wi-Fi/Bluetooth integrated SOCs and related assets. See “Note 1 - Basis of Presentation” for discussion of the divestiture in the Notes to the Consolidated Financial Statements set forth in Part II, Item 8 of the Annual Report on Form 10-K.

On December 31, 2019, we completed an intra-entity asset transfer of certain of our intellectual property to a subsidiary in Singapore. The internal restructuring aligns the global economic ownership of our intellectual property rights with our current and future business operations. See “Note 16 - Income Taxes” for discussion of such tax effects in the Notes to the Consolidated Financial Statements set forth in Part II, Item 8 of the Annual Report on Form 10-K.

Our registered and mailing address is Canon’s Court, 22 Victoria Street, Hamilton HM 12, Bermuda, and our telephone number there is (441) 296-6395. The address of our U.S. operating subsidiary is Marvell Semiconductor, Inc., 5488 Marvell Lane, Santa Clara, California 95054, and our telephone number there is (408) 222-2500. We also have operations in many countries, including China, India, Israel, Japan, Singapore, South Korea, Taiwan and Vietnam. Our fiscal year ends on the Saturday nearest January 31.

Available Information

Our website address is www.marvell.com. The information contained on any website referred to in this Form 10-K does not form any part of this Annual Report on Form 10-K and is not incorporated by reference herein unless expressly noted. We make available free of charge through our website our annual reports on Form 10-K, our quarterly reports on Form 10-Q, our current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), as soon as reasonably practicable after we electronically file this material with, or furnish it to, the U.S. Securities and Exchange Commission (“SEC”). In addition, the SEC’s website, www.sec.gov, contains reports, proxy statements, and other information that we file electronically with the SEC.

Our Markets and Products

Our products address the data infrastructure market with our four focus markets being automotive, carrier, data center and enterprise. Our compute, networking, security and storage technologies are essential and differentiating for these markets. The data infrastructure market has several very attractive attributes including long product lifecycles, deep customer relationships and are typically sole-sourced.

Our portfolio of solutions integrate multiple analog, mixed-signal and digital intellectual property components incorporating -hardware, firmware and software technologies and our system knowledge to provide our customers highly-integrated optimized solutions for their end products. In addition to selling standard product solutions, where the exact same product is sold to multiple customers, we also offer customized solutions which are tailored to a specific customer's requirements. The acquisition of Avera has extended our ability to offer custom semiconductor solutions for our data infrastructure customers. The demand for custom solutions has been increasing as our customers seek greater optimizations and differentiation for their products and services.

Our current product offerings are primarily in two broad product categories: storage and networking. In storage, we are a market leader in fibre channel products and data storage controller solutions primarily addressing data center, enterprise, and edge computing markets. Our networking products include custom ASICs, ethernet solutions and processors. These products address all four of our focus data infrastructure markets: automotive, carrier, data center and enterprise.

	Year Ended			
	February 1, 2020		February 2, 2019	February 3, 2018
	(in millions, except for percentages)			
Networking	\$ 1,377	51 %	\$ 1,313	46 %
Storage	1,138	42 %	1,377	48 %
Other	184	7 %	176	6 %
Total	<u>\$ 2,699</u>		<u>\$ 2,866</u>	<u>\$ 2,409</u>

Networking

Ethernet Solutions

We offer a broad portfolio of Ethernet solutions spanning controllers, network adapters, physical transceivers and switches. Our Ethernet solutions address a wide variety of end-customer data infrastructure products from small, high-reliability automotive sub-systems to large, high-performance modular enterprise and data center solutions.

Our Ethernet controllers and network adapters are optimized to accelerate and simplify data center and enterprise networking. Our family of products provide exceptional value features and performance enabling the most agile and data-intensive applications. They deliver Ethernet connectivity for enterprise-class workstations all the way up to enterprise and cloud data centers.

Our Ethernet switches integrate market-optimized innovative features, such as advanced tunneling and routing, high throughput forwarding, and packet processing that make networks more effective at delivering content with low-latency and high-reliability. Our Ethernet switch product portfolio ranges from low-power, five-port switches to highly integrated, multi-terabit Ethernet devices that can be interconnected to form massive network solutions.

We complement our Ethernet switch and infrastructure processors with a broad selection of Ethernet physical-layer transceivers for both fiber and copper interconnect with advanced power management, link security, and time synchronization features. With the acquisition of Aquantia, we have added their multi-gigabit ethernet transceivers to our ethernet product portfolio.

Processors

We offer highly integrated semiconductors that provide single or multiple core processors, along with intelligent Layer 2 through 7 processing of the OSI (Open Systems Interconnection) stack which is the framework that governs network communications within enterprise, datacenter, storage, and carrier markets. All of our products are compatible with standards-based operating systems and general-purpose software to enable ease of programming, and are supported by our ecosystem partners.

Our OCTEON multi-core infrastructure processor families provide integrated Layer 4 through 7 data and security processing with additional capabilities at Layers 2 and 3 at line speeds. These software-compatible processors integrate next-generation networking I/Os along with advanced security, storage, and application hardware accelerators, offering programmability for the Layer 2 through Layer 7 processing requirements of intelligent networks. The OCTEON processors are targeted for use in a wide variety of carrier, data center, and enterprise equipment, including routers, switches, security UTM appliances, content-aware switches, application-aware gateways, wireless access points, 3G/4G/5G wireless base stations, storage arrays, smart network interface controllers, network functions virtualization (NFV) and software-defined networking (SDN) infrastructure.

Our OCTEON Fusion-M family of wireless baseband infrastructure processors is a highly scalable product family supporting enterprise small cells, high capacity outdoor picocells and microcells all the way up to multi-sector macrocells for multiple wireless protocols including 5G. The key features include highly optimized processor cores, a highly efficient caching subsystem, high memory bandwidth digital signal processing engines along with a host of hardware accelerators. Additionally, multiple OCTEON Fusion-M chips can be cascaded for even denser deployments or higher order multiple-input and multiple-output, or MIMO.

Our NITROX security processor family provides the functionality required for Layer 3 to Layer 5 secure communication in a single chip. These single chip, custom-designed processors provide complete security protocol processing, encryption, authentication and compression algorithms to reduce the load on the system processor and increase total system throughput. The LiquidSecurity product family is a high-performance hardware-based transaction security solution for data center and enterprise applications. It addresses the high-performance security requirements for private key management and administration. This family is available as an adapter with complete software or as a standalone appliance.

Our LiquidIO Server Adapter family is a high-performance, general-purpose programmable adapter platform that enables data centers and enterprises to offload their server processors for higher performance and power efficiencies. The LiquidIO Server Adapter family is supported by a feature rich software development kit that allows customers and partners to develop high-performance SDN (software defined networking) applications with packet processing, switching, security, tunneling, quality of service, and metering.

Our ThunderX server processor family is a highly integrated, scalable family of multi-core SoC processors optimized for cloud and datacenter servers. These processors incorporate highly optimized, full custom cores based on 64-bit ARMv8 instruction set architecture targeting data center and enterprise workloads. ThunderX2 is the second-generation workload optimized ARMv8 processor targeting high-performance cloud data centers and high-performance computing server applications.

Custom ASICs

We develop custom product solutions tailored to individual customer specifications that deliver system-level differentiation for next-generation carrier, networking, data center, machine learning, automotive, aerospace and defense applications. These custom offerings leverage our broad portfolio of technologies being used in our standard products.

Storage

Storage Controllers

We offer a broad portfolio of storage controllers for hard disk drives (“HDDs”) and solid-state-drives (“SSDs”) across all high-volume markets. Our controllers integrate several key Marvell technologies spanning compute, networking, security and storage. These key technologies enable our controllers to be optimized performance-power solutions and help our customers high-efficient storage products. Our HDD controllers integrate Marvell’s industry-leading read channel technologies to enable higher volumetric densities at low power profiles and are being used by all the current HDD makers. Our technology density and power differentiators are critical for addressing the fast-growing high-capacity, nearline HDD data center and enterprise markets. To further enhance our HDD controller differentiation and value propositions, we offer customers preamplifier products as part of a chipset with our HDD controllers to increase our customers’ product efficiencies. Our HDD controllers support all the high-volume host system interfaces, including Serial Advanced Technology Attachment (“SATA”) and Serial Attached SCSI (“SAS”), which are critical for the data center and enterprise markets.

Our SSD” controller products leverage our strong HDD controller know-how and system-level expertise. We integrate several of our HDD controller IPs with our flash technologies to deliver optimal solutions for data center, enterprise and client computing markets. Our SSD controller products integrate hardware and firmware components to help accelerate our customers’ time to market and maximize the capabilities of our solutions. Like our HDD controllers, our SSD controllers support all the high-volume SSD host system interfaces, including SAS, SATA, peripheral component interconnect express (“PCIe”), non-volatile memory express (“NVMe”) and NVMe over Fabrics (“NVMe-oF”).

Recently, we have introduced new controller chipset products to enable innovative flash-based storage architectures in data centers and enterprises. These solutions increase overall data center performance, density and scalability while lowering overall power, resulting in lower total cost of ownership for the infrastructure organizations.

Fibre Channel Products

Our QLogic Fibre Channel product family comprises of host bus adapters (HBAs) and controllers for server and storage system connectivity. These products accelerate enterprise and data center applications, deliver a highly resilient infrastructure, enable greater server virtualization density along with an advanced set of data center diagnostic, orchestration and quality of service capabilities to optimize IT productivity. Our latest Fibre Channel products are well-suited for use with all-flash arrays by offering best-in-class latency and performance.

Other Products

Our other products include printer SoC products and application processors. Our printer SoC products power many of today's laser and ink printers and multi-function peripherals.

Our application processors are targeted for non-mobile applications and deliver leading-edge performance for today's embedded and Internet of Things solutions.

Financial Information about Segments and Geographic Areas

We have determined that we operate in one reportable segment: the design, development and sale of integrated circuits. For information regarding our revenue by geographic area, and property and equipment by geographic area, please see "Note 18 - Segment and Geographic Information" in our Notes to the Consolidated Financial Statements set forth in Part II, Item 8 of this Annual Report on Form 10-K. See "Risk Factors" under Item 1A of this Annual Report on Form 10-K for a discussion of the risks associated with our international operations.

Customers, Sales and Marketing

Our target customers are original equipment manufacturers and original design manufacturers, both of which design and manufacture end market devices. Our sales force is strategically aligned along key customer lines in order to offer fully integrated platforms to our customers. In this way, we believe we can more effectively offer a broader set of content into our key customers' end products, without having multiple product groups separately engage the same customer. We complement and support our direct sales force with manufacturers' representatives for our products in North America, Europe and Asia. In addition, we have distributors who support our sales and marketing activities in the United States, Europe and Asia. We also use third-party logistics providers who maintain warehouses in close proximity to our customers' facilities. We expect that a significant percentage of our sales will continue to come from direct sales to key customers.

We use field application engineers to provide technical support and assistance to existing and potential customers in designing, testing and qualifying systems designs that incorporate our products. Our marketing team works in conjunction with our field sales and application engineering force, and is organized around our product groups.

Historically, a relatively small number of customers have accounted for a significant portion of our net revenue. During fiscal year 2020, there was no net revenue attributable to a customer, other than one distributor, whose revenues as a percentage of net revenue was 10% or greater of total net revenues. Net revenue attributable to significant customers whose revenues as a percentage of net revenue was 10% or greater of total net revenues is presented in the following table:

	Year Ended		
	February 1, 2020	February 2, 2019	February 3, 2018
Customer:			
Western Digital	*	12 %	20 %
Toshiba **	*	11 %	14 %
Seagate	*	10 %	11 %
Distributor:			
Wintech	12 %	*	10 %

* Less than 10% of net revenue

** The percentage of net revenue reported for Toshiba for fiscal year 2019 excludes net revenue of Toshiba Memory Corporation after Toshiba divested Toshiba Memory Corporation during fiscal year 2019.

Seasonality

Some of our products are being incorporated into consumer electronics products, including gaming devices and personal computers, which are subject to significant seasonality and fluctuations in demand. Seasonality, including holiday buying trends, may at times negatively impact our results in the first and fourth quarter, and positively impact our results in the second and third quarter of our fiscal years. In addition, the timing of new product introductions by our customers may cause variations in our quarterly revenues, which may not be indicative of future trends.

Inventory and Working Capital

We place firm orders with our suppliers generally up to 16 weeks prior to the anticipated delivery date and typically prior to an order for the product. These lead times typically change based on the current capacity at the foundries. We often maintain substantial inventories of our products because the semiconductor industry is characterized by short lead time orders and quick delivery schedules.

Backlog

We do not believe that backlog is a meaningful or reliable indicator for future demand, due to the following:

- an industry practice that allows customers to cancel or change orders prior to the scheduled shipment dates;
- a portion of our revenue comes from products shipped to customers using third-party logistics providers, or “hubs” wherein the product can be pulled at any time by the customer and is therefore never reflected in backlog

Research and Development

We believe that our future success depends on our ability to introduce improvements to our existing products and to develop new products that deliver cost-effective solutions for both existing and new markets. Our research and development efforts are directed largely to the development of high-performance analog, mixed-signal, digital signal processing and embedded microprocessor integrated circuits with the smallest die size and lowest power. We devote a significant portion of our resources to expanding our product portfolio based on a broad intellectual property portfolio with designs that enable high-performance, reliable communications over a variety of physical transmission media. We are also focused on incorporating functions currently provided by stand-alone integrated circuits into our integrated platform solutions to reduce our customers’ overall system costs.

We have assembled a core team of engineers who have experience in the areas of mixed-signal circuit design, digital signal processing, embedded microprocessors, complementary metal oxide semiconductor (“CMOS”) technology and system-level architectures. We have invested and will continue to invest a significant amount in research and development. See our discussion of research and development expenses in Item 7, Management’s Discussion and Analysis of Financial Condition and Results of Operations, of this Annual Report on Form 10-K for further information.

Manufacturing

Integrated Circuit Fabrication

The vast majority of our integrated circuits are fabricated using widely available CMOS processes, which provide greater flexibility to engage independent foundries to manufacture integrated circuits at lower costs. By outsourcing manufacturing, we are able to avoid the cost associated with owning and operating our own manufacturing facility. This allows us to focus our efforts on the design and marketing of our products. We work closely with our foundry partners to forecast on a monthly basis our manufacturing capacity requirements. We closely monitor foundry production to ensure consistent overall quality, reliability and yield levels. Our integrated circuits are currently fabricated in several advanced manufacturing processes. Because finer manufacturing processes lead to enhanced performance, smaller silicon chip size and lower power requirements, we continually evaluate the benefits and feasibility of migrating to smaller geometry process technology in order to reduce cost and improve performance.

Assembly and Test

We outsource all product packaging and testing requirements for our products in production to several assembly and test subcontractors primarily located in China, Korea, Singapore, Canada and Taiwan.

Environmental Management

We believe that our products comply with the current Restriction of Hazardous Substances Directive, the European legislation that restricts the use of a number of substances, including lead, and the Regulation, Evaluation and Authorization of Chemicals SVHC Substances Directive. In addition, each of our manufacturing subcontractors certifies to us compliance with ISO 14001:2004, the international standard related to environmental management. We are also working to establish a “conflict-free” supply chain, including ethical sourcing of certain minerals for our products.

Intellectual Property

Our future revenue growth and overall success depend in large part on our ability to protect our intellectual property. We rely on a combination of patents, copyrights, trademarks, trade secrets, contractual provisions, confidentiality agreements and licenses to protect our intellectual property. As of February 1, 2020, we have approximately 11,400 U.S. and foreign patents issued and approximately 1200 U.S. and foreign patent applications pending on various aspects of our technology. While we believe the duration of our patents generally covers the expected lives of our products, our patents may not collectively or individually cover every feature on innovation in our product. In addition, our efforts may not be sufficient to protect our intellectual property from misappropriation or infringement. See “Risk Factors” under Item 1A of this Annual Report on Form 10-K for a discussion of the risks associated with our intellectual property.

We have expended and will continue to expend considerable resources in establishing a patent position designed to protect our intellectual property. While our ability to compete is enhanced by our ability to protect our intellectual property, we believe that in view of the rapid pace of technological change, the combination of the technical experience and innovative skills of our employees may be as important to our business as the legal protection of our patents and other proprietary information.

From time to time, we may desire or be required to renew or to obtain licenses from third parties in order to further develop and effectively market commercially viable products or in connection with a pending or future claim or action asserted against us. We cannot be sure that any necessary licenses will be available or will be available on commercially reasonable terms.

The integrated circuit industry is characterized by vigorous pursuit and protection of intellectual property rights, which has resulted in significant and often time consuming and expensive litigation. From time to time, we receive, and may continue to receive in the future, notices that claim we have infringed upon, misappropriated or misused the proprietary rights of other parties.

In addition, we have in the past and may in the future be sued by other parties who claim that we have infringed their patents or misappropriated or misused other intellectual property rights, or who may seek to invalidate one or more of our patents, trademarks, or other rights. Although we defend these claims vigorously, it is possible that we will not prevail in pending or future lawsuits. See “Risk Factors” under Item 1A of this Annual Report on Form 10-K and “Note 13 - Commitments and Contingencies” in our Notes to the Consolidated Financial Statements set forth in Part II, Item 8, of this Annual Report on Form 10-K for further discussion of the risks associated with patent litigation matters.

Competition

The markets for our products are intensely competitive, and are characterized by rapid technological change, evolving industry standards, frequent new product introductions and pricing pressures. Competition has intensified as a result of the increasing demand for higher levels of performance, integration and smaller process geometries. We expect competition to further intensify as current competitors strengthen the depth and breadth of their product offerings, either through in-house development or by acquiring existing technology. In addition, some of our customers have chosen to develop certain semiconductor products internally and this trend may continue to proliferate. We believe that our ability to compete successfully in the rapidly evolving markets for our products depends on multiple factors, including, but not limited to:

- the performance, features, quality and price of our products;
- the timing and success of new product introductions by us, our customers and our competitors;
- emergence, rate of adoption and acceptance of new industry standards;
- our ability to obtain adequate foundry capacity with the appropriate technological capability; and
- the number and nature of our competitors in a given market.

Our major competitors for our products include Advanced Micro Devices Inc., Broadcom Limited, Cypress Semiconductor Corporation, Inphi Corporation, Intel Corporation, MediaTek Inc., Mellanox Technologies Limited, Microchip Technology Inc., NXP Semiconductors N.V., Phison Electronics Corporation and Silicon Motion Technology Corporation. We expect increased competition in the future from both emerging and established companies, as well as from alliances among competitors, customers or other third parties, any of which could acquire significant market share. See “Risk Factors” under Item 1A of this Annual Report on Form 10-K for a discussion of competitive risks associated with our business.

Historically, average unit selling prices in the integrated circuit industry in general, and for our products in particular, have decreased over the life of a particular product. We expect that the average unit selling prices of our products will continue to be subject to significant pricing pressures. In order to offset expected declines in the selling prices of our products, we will need to continue to introduce innovative new products and reduce the cost of our products. To accomplish this, we intend to continue to implement design changes that lower the cost of manufacturing, assembly and testing of our products. See “Risk Factors” under Item 1A of this Annual Report on Form 10-K for a discussion of pricing risks.

Employees

As of February 1, 2020, we had a total of 5,633 employees.

Item 1A. Risk Factors

Investing in our common shares involves a high degree of risk. You should carefully consider the risks and uncertainties described below and all information contained in this report before you decide to purchase our common shares. Many of these risks and uncertainties are beyond our control, including business cycles and seasonal trends of the computing, infrastructure, semiconductor and related industries and end markets. If any of the possible adverse events described below actually occurs, we may be unable to conduct our business as currently planned and our financial condition and operating results could be harmed. In addition, the trading price of our common shares could decline due to the occurrence of any of these risks, and you could lose all or part of your investment.

SUMMARY OF FACTORS THAT MAY AFFECT OUR FUTURE RESULTS

Our financial condition and results of operations may vary from quarter to quarter, which may cause the price of our common shares to decline.

Our quarterly results of operations have fluctuated in the past and could do so in the future. Because our results of operations are difficult to predict, you should not rely on quarterly comparisons of our results of operations as an indication of our future performance. Fluctuations in our results of operations may be due to a number of factors, including, but not limited to, those listed below and those identified throughout this “Risk Factors” section:

- the impact of the Novel Coronavirus (COVID-19), or other future pandemics, on the global economy and on our customers, suppliers, employees and business;
- our ability to realize anticipated synergies in connection with our acquisitions and our loss of synergies in connection with our divestitures;
- changes in general economic conditions, such as the impact of Brexit on the economy in the E.U., political conditions, such as the recent tariffs and trade bans, and specific conditions in the end markets we address, including the continuing volatility in the technology sector and semiconductor industry;
- the effects of any future acquisitions, divestitures or significant investments;
- the highly competitive nature of the end markets we serve, particularly within the semiconductor and infrastructure industries;
- our dependence on a few customers for a significant portion of our revenue;
- our ability to maintain a competitive cost structure for our manufacturing and assembly and test processes and our reliance on third parties to produce our products;
- any current and future litigation and regulatory investigations that could result in substantial costs and a diversion of management’s attention and resources that are needed to successfully maintain and grow our business;
- cancellations, rescheduling or deferrals of significant customer orders or shipments, as well as the ability of our customers to manage inventory;
- gain or loss of a design win or key customer;
- seasonality or volatility related to sales into the infrastructure market;
- failure to qualify our products or our suppliers’ manufacturing lines;
- our ability to develop and introduce new and enhanced products in a timely and effective manner, as well as our ability to anticipate and adapt to changes in technology;
- failure to protect our intellectual property, particularly outside the U.S.;
- impact of a significant natural disaster, including earthquakes, fires, floods and tsunamis, particularly in certain regions in which we operate or own buildings, such as Santa Clara, California, and where our third party suppliers operate, such as Taiwan and elsewhere in the Pacific Rim;
- our ability to attract, retain and motivate a highly skilled workforce, especially managerial, engineering, sales and marketing personnel;
- severe financial hardship or bankruptcy of one or more of our major customers; and
- failure of our customers to agree to pay for NRE (non-recurring engineering) costs or failure to pay enough to cover the costs we incur in connection with NREs.

Due to fluctuations in our quarterly results of operations and other factors, the price at which our common shares will trade is likely to continue to be highly volatile. Accordingly, you may not be able to resell your common shares at or above the price you paid. In future periods, our stock price could decline if, amongst other factors, our revenue or operating results are below our estimates or the estimates or expectations of securities analysts and investors. Our stock is traded on the Nasdaq stock exchange under the ticker symbol “MRVL”. As a result of stock price volatility, we may be subject to securities class action litigation. Any litigation could result in substantial costs and a diversion of management’s attention and resources that are needed to successfully maintain and grow our business.

WE ARE SUBJECT TO RISKS ASSOCIATED WITH THE NOVEL CORONAVIRUS (COVID-19)

We face risks related to Novel Coronavirus (COVID-19) which could significantly disrupt our manufacturing, research and development, operations, sales and financial results.

Our business will be adversely impacted by the effects of the Novel Coronavirus (COVID-19). In addition to global macroeconomic effects, the Novel Coronavirus (COVID-19) outbreak and any other related adverse public health developments will cause disruption to our international operations and sales activities. Our third-party manufacturers, suppliers, third-party distributors, sub-contractors and customers have been and will be disrupted by worker absenteeism, quarantines and restrictions on our employees’ ability to work, office and factory closures, disruptions to ports and other shipping infrastructure, border closures, or other travel or health-related restrictions. Depending on the magnitude of such effects on our manufacturing, assembling, and testing activities or the operations of our suppliers, third-party distributors, or sub-contractors, our supply chain, manufacturing and product shipments will be delayed, which could adversely affect our business, operations and customer relationships. In addition, the Novel Coronavirus (COVID-19) or other disease outbreak will in the short-run and may over the longer term adversely affect the economies and financial markets of many countries, resulting in an economic downturn that will affect demand for our products and impact our operating results. There can be no assurance that any decrease in sales resulting from the Novel Coronavirus (COVID-19) will be offset by increased sales in subsequent periods. Although the magnitude of the impact of the Novel Coronavirus (COVID-19) outbreak on our business and operations remains uncertain, the continued spread of the Novel Coronavirus (COVID-19) or the occurrence of other epidemics and the imposition of related public health measures and travel and business restrictions will adversely impact our business, financial condition, operating results and cash flows. In addition, we have experienced and will experience disruptions to our business operations resulting from quarantines, self-isolations, or other movement and restrictions on the ability of our employees to perform their jobs that may impact our ability to develop and design our products in a timely manner or meet required milestones or customer commitments. See the Risk Factor entitled “*If we are unable to develop and introduce new and enhanced products that achieve market acceptance in a timely and cost-effective manner, our results of operations and competitive position will be harmed.*” These disruptions may also impact our ability to win in time sensitive competitive bidding selection processes. See the Risk Factor entitled “*We rely on our customers to design our products into their systems, and the nature of the design process requires us to incur expenses prior to customer commitments to use our products or recognizing revenues associated with those expenses which may adversely affect our financial results.*”

WE ARE SUBJECT TO RISKS ASSOCIATED WITH OUR STRATEGIC TRANSACTIONS

Recent or potential future acquisitions, strategic investments, divestitures, mergers or joint ventures may subject us to significant risks, any of which could harm our business.

Our long-term strategy may include identifying and acquiring, investing in or merging with suitable candidates on acceptable terms, or divesting of certain business lines or activities. In particular, over time, we may acquire, make investments in, or merge with providers of product offerings that complement our business or may terminate such activities.

On May 6, 2019, we entered into a definitive merger agreement to acquire all outstanding shares of Aquantia Corp. common stock for \$13.25 per share in cash. On September 19, 2019, we completed the acquisition of Aquantia for total merger consideration in the amount of \$502.2 million.

On May 20, 2019, we entered into a definitive agreement to purchase Avera Semiconductor, the Application Specific Integrated Circuit (ASIC) business of GlobalFoundries (“Avera”). On November 5, 2019, we completed the acquisition. Total purchase consideration consisted of cash consideration paid to GlobalFoundries of \$593.5 million, net of final working capital adjustments. An additional \$90 million in cash will be paid if certain business conditions are satisfied by the third quarter of our fiscal 2021. GlobalFoundries and the Company are currently discussing whether the necessary conditions have been satisfied to pay the \$90 million. There can be no assurance that the discussions will be resolved in a way that is favorable to the Company.

On May 29, 2019, we entered into an Asset Purchase Agreement with NXP USA, Inc. (“NXP”) pursuant to which we agreed to sell to NXP certain assets related to our Wi-Fi connectivity business for \$1.76 billion in cash at closing, subject to working capital and other customary adjustments. In addition, we agreed to license certain intellectual property to NXP in connection with the transaction and to provide certain temporary transition services following completion of the transaction. On December 6, 2019, we completed the transaction.

Mergers, acquisitions and divestitures include a number of risks and present financial, managerial and operational challenges, including but not limited to:

- diversion of management attention from running our existing business;
- increased expenses, including, but not limited to, legal, administrative and compensation expenses related to newly hired or terminated employees;
- key personnel of an acquired company may decide not to work for us;
- increased costs to integrate or, in the case of a divestiture, separate the technology, personnel, customer base and business practices of the acquired or divested business or assets;
- assuming the legal obligations of the acquired company, including potential exposure to material liabilities not discovered in the due diligence process or assuming indemnity obligations in connection with divestitures;
- ineffective or inadequate control, procedures and policies at the acquired company may negatively impact our results of operations;
- potential adverse effects on reported operating results due to possible write-down of goodwill and other intangible assets associated with acquisitions;
- burdensome conditions required to obtain regulatory approvals;
- potential damage to relationships with customers, suppliers, partners or employees;
- loss of synergies, in the case of divestitures;
- reduction of potential benefits of a transaction in the event of a long delay between signing and closing;
- reduction of our cash in the case of acquisitions for which we are paying cash consideration and share dilution if we are using our shares as consideration; and
- unavailability of acquisition financing on reasonable terms or at all.

Any acquired business, technology, service or product could significantly under-perform relative to our expectations and may not achieve the benefits we expect on a timely basis or at all. Given that our resources are limited, our decision to pursue a transaction has opportunity costs; accordingly, if we pursue a particular transaction, we may need to forgo the prospect of entering into other transactions that could help us achieve our strategic objectives.

When we decide to sell assets or a business, we may have difficulty selling on acceptable terms in a timely manner or at all. These circumstances could delay the achievement of our strategic objectives or cause us to incur additional expense, or we may sell a business at a price or on terms that are less favorable than we had anticipated, resulting in a loss on the transaction.

If we do enter into agreements with respect to acquisitions, divestitures, or other transactions, these transactions, or parts of these transactions, may fail to be completed due to factors such as:

- failure to obtain regulatory or other approvals;
- disputes or litigation; or
- difficulties obtaining financing for the transaction.

If we fail to complete a transaction, we may nonetheless have incurred significant expenses in connection with such transaction. Failure to complete a pending transaction may result in negative publicity and a negative perception of us in the investment community. For all these reasons, our pursuit of an acquisition, investment, divestiture, merger or joint venture could cause our actual results to differ materially from those anticipated.

Our acquisitions of Aquantia and Avera involve a number of risks, including, among others, those associated with our use of a significant portion of our cash and other financial risks and integration risks.

We used a significant portion of our cash and incurred substantial indebtedness in connection with the financing of our acquisition of Cavium, which was completed in fiscal year 2019 (the “Cavium acquisition”). In fiscal year 2020, we used cash and indebtedness to finance our acquisition of Aquantia and indebtedness to finance our acquisition of Avera (collectively, the “Acquisitions”). As of December 11, 2019, the Company repaid the entire amount of the indebtedness related to the Aquantia and Avera acquisitions. Our use of cash in the acquisitions reduced our liquidity and may (i) limit our flexibility in responding to other business opportunities and (ii) increase our vulnerability to adverse economic and industry conditions. In connection with our Cavium acquisition, see the Risk Factor entitled *“Our indebtedness could adversely affect our financial condition and our ability to raise additional capital to fund our operations and limit our ability to react to changes in the economy or our industry.”* for risks related to our use of debt to finance these acquisitions.

The benefits we expect to realize from our Acquisitions will depend, in part, on our ability to integrate the businesses successfully and efficiently. See also the Risk Factor entitled *“Any potential future acquisitions, strategic investments, divestitures, mergers or joint ventures may subject us to significant risks, any of which could harm our business.”* If we are unable to successfully integrate the businesses in connection with our Acquisitions with that of the Company, the combined company’s business, results of operations, financial condition or cash flows could be harmed. The challenges in integrating the operations of the companies include, among others:

- difficulties in fully achieving anticipated cost savings, synergies, business opportunities and growth prospects from combining the businesses;
- difficulties entering new markets or manufacturing in new geographies where we have no or limited direct prior experience;
- difficulties in the integration of operations and systems;
- difficulties in maintaining the Company’s culture and in the assimilation or retention of employees;
- difficulties in the integration of new business models;
- difficulties in absorbing the costs of new businesses that require additional regulatory compliance; and
- difficulties in managing the expanded operations of a significantly larger and more complex company.

Any of the above could harm the combined company and thus decrease the benefits we expect to receive from the acquisitions.

WE OPERATE GLOBALLY AND ARE SUBJECT TO SIGNIFICANT RISKS IN MANY JURISDICTIONS

Adverse changes in the political and economic policies of the U.S. government in connection with trade with China have reduced the demand for our products and damaged our business.

Regulatory activity, such as enforcement of U.S. export control and sanctions laws, and the imposition of new tariffs, have in the past and may continue to materially limit our ability to make sales to our significant customers in China, which has in the past and may continue to harm our results of operations, reputation and financial condition. For example, the recent U.S. government export restrictions on a number of Chinese customers, such as Huawei Technologies Co. Ltd., and others have dampened demand for our products, adding to the already challenging macroeconomic environment. Moreover, concerns that U.S. companies may not be reliable suppliers as a result of the above actions has caused, and may in the future cause, our customers to replace our products in favor of products from other suppliers. In addition, there may be indirect impacts to our business that we cannot easily quantify such as the fact that some of our other customers’ products which use our solutions, such as hard disk drives, may also be impacted by export restrictions. If export restrictions related to Chinese customers are sustained for a long period of time, or if other export restrictions were to be imposed as a result of current trade tensions such as restrictions on trade with other countries, it could have an adverse impact on our revenues and results of operations.

We typically sell products to customers in China pursuant to purchase orders rather than long term purchase commitments. Customers in China can generally cancel or defer purchase orders on short notice without incurring a penalty and, therefore, they may be more likely to do so while the tariffs and trade bans are in effect. See also, risk Factor entitled *“We are subject to order and shipment uncertainties. If we are unable to accurately predict customer demand, we may hold excess or obsolete inventory, which would reduce our gross margin. Conversely, we may have insufficient inventory, which would result in lost revenue opportunities and potential loss of market share as well as damaged customer relationships.”* In addition, customers in China that may be subject to trade bans or tariffs, may develop their own products or solutions instead of purchasing from us or they may acquire products or solutions from our competitors or other third-party sources that are not be subject to the U.S. tariffs and trade restrictions.

Changes to U.S. or foreign tax, trade policy, tariff and import/export regulations may have a material adverse effect on our business, financial condition and results of operations.

Changes in U.S. or foreign international tax, social, political, regulatory and economic conditions or in laws and policies governing foreign trade, manufacturing, development and investment in the territories or countries where we currently sell our products or conduct our business have in the past and could in the future adversely affect our business. The U.S. presidential administration has instituted or proposed changes in trade policies that include the negotiation or termination of trade agreements, the imposition of higher tariffs on imports into the U.S., economic sanctions on individuals, corporations or countries, and other government regulations affecting trade between the U.S. and other countries where we conduct our business. The new tariffs and other changes in U.S. trade policy could trigger retaliatory actions by affected countries, and certain foreign governments have instituted or are considering imposing trade sanctions on certain U.S. goods. The U.S. presidential administration has indicated a focus on policy reforms that discourage corporations from outsourcing manufacturing and production activities to foreign jurisdictions, including through tariffs or penalties on goods manufactured outside the U.S., which may require us to change the way we conduct business. These changes in U.S. and foreign laws and policies have the potential to adversely impact the U.S. economy or certain sectors thereof, our industry and the global demand for our products, and as a result, could have a material adverse effect on our business, financial condition and results of operations. See also, *“Adverse changes in the political and economic policies of the U.S. government in connection with trade with China have reduced the demand for our products and damaged our business”* and *“Changes in existing taxation benefits, rules or practices may adversely affect our financial results.”*

Uncertainty surrounding the effect of Brexit, including changes to the legal and regulatory framework that apply to the United Kingdom and its relationship with the European Union, as well as new and proposed changes relating to Brexit affecting tax laws and trade policy in the U.S. and elsewhere may adversely impact our operations.

The ongoing trade dispute between Japan and South Korea, including changes to the legal and regulatory framework that applies to exports of certain chemicals from Japan to South Korea that are used in the production of semiconductors may impact the global supply chain for semiconductors and therefore may adversely impact our operations.

We face additional risks due to the extent of our global operations since a majority of our products, and those of our customers, are manufactured and sold outside of the United States. The occurrence of any or a combination of the additional risks described below would significantly and negatively impact our business and results of operations.

A substantial portion of our business is conducted outside of the United States and, as a result, we are subject to foreign business, political and economic risks. Most of our products are manufactured outside of the United States. Our current qualified integrated circuit foundries are located in the same region within Taiwan, and our primary assembly and test subcontractors are located in the Pacific Rim region. In addition, many of our customers are located outside of the United States, primarily in Asia, which further exposes us to foreign risks. Sales shipped to customers with operations in Asia represented approximately 82% and 85% of our net revenue in fiscal 2020 and fiscal 2019, respectively.

We also have substantial operations outside of the United States. These operations are directly influenced by the political and economic conditions of the region in which they are located and, with respect to Israel, possible military hostilities periodically affecting the region that could affect our operations there. We anticipate that our manufacturing, assembly, testing and sales outside of the United States will continue to account for a substantial portion of our operations and revenue in future periods.

Accordingly, we are subject to risks associated with international operations, including:

- the rise or spread of global pandemics or actual or threatened public health emergencies such as the Novel Coronavirus (COVID-19) on our operations, employees, customers and suppliers;
- political, social and economic instability, including wars, terrorism, political unrest, boycotts, curtailment of trade and other business restrictions;
- volatile global economic conditions, including downturns in which some competitors may become more aggressive in their pricing practices, which would adversely impact our gross margin;
- compliance with domestic and foreign export and import regulations, including pending changes thereto, and difficulties in obtaining and complying with domestic and foreign export, import and other governmental approvals, permits and licenses;
- local laws and practices that favor local companies, including business practices in which we are prohibited from engaging by the Foreign Corrupt Practices Act and other anti-corruption laws and regulations;
- difficulties in staffing and managing foreign operations;

- natural disasters, including earthquakes, fires, tsunamis and floods;
- trade restrictions, higher tariffs, worsening trade relationship between the United States and China, or changes in cross border taxation, particularly in light of the tariffs imposed by the Trump administration;
- transportation delays;
- difficulties of managing distributors;
- less effective protection of intellectual property than is afforded to us in the United States or other developed countries;
- inadequate local infrastructure; and
- exposure to local banking, currency control and other financial-related risks.

As a result of having global operations, the sudden disruption of the supply chain and/or disruption of the manufacture of our customer's products caused by events outside of our control could impact our results of operations by impairing our ability to timely and efficiently deliver our products.

Moreover, the international nature of our business subjects us to risk associated with the fluctuation of the U.S. dollar versus foreign currencies. Decreases in the value of the U.S. dollar versus currencies in jurisdictions where we have large fixed costs, or where our third-party manufacturers have significant costs, will increase the cost of such operations which could harm our results of operations.

CHANGES IN PRODUCT DEMAND CAN ADVERSELY AFFECT OUR FINANCIAL RESULTS

Our sales are concentrated in a few large customers. If we lose or experience a significant reduction in sales to any of these key customers, if any of these key customers experience a significant decline in market share, or if any of these customers experience significant financial difficulties, our revenue may decrease substantially and our results of operations and financial condition may be harmed.

We receive a significant amount of our revenue from a limited number of customers. Net revenue from our four largest customers represented 36% and 43% of our net revenue for fiscal 2020 and fiscal 2019, respectively. Sales to our largest customers have fluctuated significantly from period to period and year to year and will likely continue to fluctuate in the future, primarily due to the timing and number of design wins with each customer, the continued diversification of our customer base as we expand into new markets, and natural disasters or other issues that may divert a customer's operations. The loss of any of our large customers or a significant reduction in sales we make to them would likely harm our financial condition and results of operations. To the extent one or more of our large customers experience significant financial difficulty, bankruptcy or insolvency, this could have a material adverse effect on our sales and our ability to collect on receivables, which could harm our financial condition and results of operations.

If we are unable to increase the number of large customers in key markets, then our operating results in the foreseeable future will continue to depend on sales to a relatively small number of customers, as well as the ability of these customers to sell products that incorporate our products. In the future, these customers may decide not to purchase our products at all, purchase fewer products than they did in the past, or alter their purchasing patterns in some other way, particularly because:

- a significant portion of our sales are made on a purchase order basis, which allows our customers to cancel, change or delay product purchase commitments with relatively short notice to us;
- customers may purchase integrated circuits from our competitors;
- customers may discontinue sales or lose market share in the markets for which they purchase our products;
- customers, particularly in jurisdictions such as China that may be subject to trade bans or tariffs, may develop their own solutions or acquire fully developed solutions from third-parties;
- customers may be subject to severe business disruptions, including, but not limited to, those driven by financial instability, actual or threatened pandemics or public health emergencies or other global or regional macroeconomic developments; or
- customers may consolidate (for example, Western Digital acquired SanDisk in 2017, and Toshiba Corporation sold control of a portion of its semiconductor business in 2018), which could lead to changing demand for our products, replacement of our products by the merged entity with those of our competitors and cancellation of orders.

Unfavorable or uncertain conditions in the 5G infrastructure market may cause fluctuations in our rate of revenue growth or financial results.

Markets for 5G infrastructure may not develop in the manner or in the time periods we anticipate. If domestic and global economic conditions worsen, particularly in light of the impacts of Novel Coronavirus (COVID-19) and potential global recession resulting therefrom, overall spending on 5G infrastructure may be reduced, which would adversely impact demand for our products in these markets. In addition, unfavorable developments with evolving laws and regulations worldwide related to 5G or 5G suppliers may limit global adoption, impede our strategy, and negatively impact our long-term expectations in this area. Even if the 5G infrastructure market develops in the manner or in the time periods we anticipate, if we do not have timely, competitively priced, market-accepted products available to meet our customers' planned roll-out of 5G wireless communications systems, we may miss a significant opportunity and our business, financial condition, results of operations and cash flows could be materially and adversely affected. See also, *"Our sales are concentrated in a few large customers. If we lose or experience a significant reduction in sales to any of these key customers, if any of these key customers experience a significant decline in market share, or if any of these customers experience significant financial difficulties, our revenue may decrease substantially and our results of operations and financial condition may be harmed."* for additional risks related to export restrictions that may impact a customer in the 5G infrastructure market.

We are subject to order and shipment uncertainties. If we are unable to accurately predict customer demand, we may hold excess or obsolete inventory, which would reduce our gross margin. Conversely, we may have insufficient inventory, which would result in lost revenue opportunities and potential loss of market share as well as damaged customer relationships.

We typically sell products pursuant to purchase orders rather than long-term purchase commitments. Customers can generally cancel or defer purchase orders on short notice without incurring a significant penalty. Due to their inability to predict demand or other reasons, some of our customers may accumulate excess inventories and, as a consequence, defer purchase of our products. We cannot accurately predict what or how many products our customers will need in the future. Anticipating demand is difficult because our customers face unpredictable demand for their own products and are increasingly focused more on cash preservation and tighter inventory management. In addition, as an increasing number of our chips are being incorporated into consumer products, we anticipate greater fluctuations in demand for our products, which makes it more difficult to forecast customer demand.

We place orders with our suppliers based on forecasts of customer demand and, in some instances, may establish buffer inventories to accommodate anticipated demand. Our forecasts are based on multiple assumptions, each of which may introduce error into our estimates. For example, our ability to accurately forecast customer demand may be impaired by the delays inherent in our customer's product development processes, which may include extensive qualification and testing of components included in their products, including ours. In many cases, they design their products to use components from multiple suppliers. This creates the risk that our customers may decide to cancel or change product plans for products incorporating our integrated circuits prior to completion, which makes it even more difficult to forecast customer demand.

Our products are incorporated into complex devices and systems, which may create supply chain cross-dependencies. Due to cross dependencies, any supply chain disruptions could negatively impact the demand for our products in the short term. We have a limited ability to predict the timing of a supply chain correction. In addition, the market share of our customers could be adversely impacted on a long-term basis due to any continued supply chain disruption, which could negatively affect our results of operations.

If we overestimate customer demand, our excess or obsolete inventory may increase significantly, which would reduce our gross margin and adversely affect our financial results. The risk of obsolescence and/or excess inventory is heightened for devices designed for consumer electronics due to the rapidly changing market for these types of products. Conversely, if we underestimate customer demand or if insufficient manufacturing capacity is available, we would miss revenue opportunities and potentially lose market share and damage our customer relationships. In addition, any future significant cancellations or deferrals of product orders or the return of previously sold products could materially and adversely affect our profit margins, increase product obsolescence and restrict our ability to fund our operations.

We operate in intensely competitive markets. Our failure to compete effectively would harm our results of operations.

The semiconductor industry, and specifically the storage, networking and infrastructure markets, is extremely competitive. We currently compete with a number of large domestic and international companies in the business of designing integrated circuits and related applications, some of which have greater financial, technical and management resources than us. Our efforts to introduce new products into markets with entrenched competitors will expose us to additional competitive pressures. For example, we are facing, and expect we will continue to face, significant competition in the infrastructure, networking and SSD storage markets. Additionally, customer expectations and requirements have been evolving rapidly. For example, customers now expect us to provide turnkey solutions and commit to future roadmaps that have technical risks.

Some of our competitors may be better situated to meet changing customer needs and secure design wins. Increasing competition in the markets in which we operate may negatively impact our revenue and gross margins. For example, competitors with greater financial resources may be able to offer lower prices than us, or they may offer additional products, services or other incentives that we may not be able to match.

We also may experience discriminatory or anti-competitive practices by our competitors that could impede our growth, cause us to incur additional expense or otherwise negatively affect our business. In addition, some of these competitors may use their market power to dissuade our customers from purchasing from us. For example, certain U.S. and E.U. regulators are currently investigating whether a competitor may have abused its dominant market position to harm competition by forcing customers to deal with it exclusively, bundling its various semiconductors with other products, or by distorting the market by using illegal rebates.

In addition, many of our competitors operate and maintain their own fabrication facilities and have longer operating histories, greater name recognition, larger customer bases, and greater sales, marketing and distribution resources than we do.

In addition, the semiconductor industry has experienced increased consolidation over the past several years. For example, Microchip Technology acquired Microsemi in May 2018 and ON Semiconductor purchased Quantenna Communications, Inc. in June 2019, NVIDIA Corporation entered into an agreement to purchase Mellanox Technologies on March 11, 2019 and Infineon entered into an agreement to purchase Cypress Semiconductors in June 2019. Consolidation among our competitors could lead to a changing competitive landscape, capabilities and market share, which could put us at a competitive disadvantage and harm our results of operations.

A significant portion of our revenue comes from the storage industry, which experiences rapid technological change, is subject to industry consolidation, is facing increased competition from alternative technologies and is highly cyclical.

We depend on a few customers for our SSD controllers and as such, the loss of any SSD controller customer or a significant reduction in sales we make to them may harm our financial condition and results of operations. SSD customers have, and may in the future develop their own controllers, which could pose a challenge to our market share in the SSD space and adversely affect our revenues in the storage business.

Furthermore, future changes in the nature of information storage products and personal computing devices could reduce demand for traditional HDDs. For example, products using alternative technologies, such as SSD and other storage technologies are a source of competition to manufacturers of HDDs. Although we offer SSD controllers, leveraging our technology in hard drives, we cannot ensure that our overall business will not be adversely affected if demand for traditional HDDs decreases.

Manufacturers tend to order more components than they may need during growth periods, and sharply reduce orders for components during periods of contraction. Rapid technological changes in the industry often result in shifts in market share among the industry's participants. If the HDD and SSD manufacturers using our products do not retain or increase their market share, our sales may decrease.

In addition, the storage industry has experienced significant consolidation. Consolidation among our customers will lead to changing demand for our products, replacement of our products by the merged entity with those of our competitors and cancellation of orders, each of which could harm our results of operations. If we are unable to leverage our technology and customer relationships, we may not capitalize on the increased opportunities for our products within the combined company.

This industry has historically been cyclical, with periods of increased demand and rapid growth followed by periods of oversupply and subsequent contraction. These cycles may affect us because some of our largest customers participate in this industry.

As a result, the average selling price of each of our products usually declines as individual products mature and competitors enter the market.

Our gross margin and results of operations may be adversely affected in the future by a number of factors, including decreases in average selling prices of products over time and shifts in our product mix.

The products we develop and sell are primarily used for high-volume applications. As a result, the prices of those products have historically decreased rapidly. In addition, our more recently introduced products tend to have higher associated costs because of initial overall development and production expenses. Therefore, over time, we may not be able to maintain or improve our gross margins. Our financial results could suffer if we are unable to offset any reductions in our average selling prices by other cost reductions through efficiencies, introduction of higher margin products and other means.

To attract new customers or retain existing customers, we may offer certain price concessions to certain customers, which could cause our average selling prices and gross margins to decline. 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 by our competitors and other factors. We expect that we will continue to have to reduce prices of existing products in the future. Moreover, because of the wide price differences across the markets we serve, the mix and types of performance capabilities of our products sold may affect the average selling prices of our products and have a substantial impact on our revenue and gross margin. We may enter new markets in which a significant amount of competition exists, and this may require us to sell our products with lower gross margins than we earn in our established businesses. If we are successful in growing revenue in these markets, our overall gross margin may decline. Fluctuations in the mix and types of our products may also affect the extent to which we are able to recover the fixed costs and investments associated with a particular product, and as a result may harm our financial results.

Additionally, because we do not operate our own manufacturing, assembly or testing facilities, we may not be able to reduce our costs as rapidly as companies that operate their own facilities and our costs may even increase, which could also reduce our gross margins.

Entry into new markets, such as markets with different business models, as a result of our acquisitions may reduce our gross margin and operating margin. For example, the Avera business uses an ASIC model to offer end-to-end solutions for IP, design team, Fab & packaging to deliver a tested, yielded product to customers. This business model tends to have a lower gross margin. In addition, the costs related to this type of business model typically include significant NRE (non-recurring engineering) costs that customers pay based on the completion of milestones. Our operating margin may decline if our customers do not agree to pay for NREs or if they do not pay enough to cover the costs we incur in connection with NREs. In addition, our operating margin may decline if we are unable to sell products in sufficient volumes to cover the development costs that we have incurred.

WE ARE VULNERABLE TO PRODUCT DEVELOPMENT AND MANUFACTURING-RELATED RISKS

We may experience increased actual and opportunity costs as a result of our transition to smaller geometry process technologies.

In order to remain competitive, we have transitioned, and expect to continue to transition, our semiconductor products to increasingly smaller line width geometries. We periodically evaluate the benefits, on a product-by-product basis, of migrating to smaller geometry process technologies. We also evaluate the costs of migrating to smaller geometry process technologies including both actual costs such as increased mask costs and wafer costs and increased costs related to EDA tools and the opportunity costs related to the technologies we choose to forego. These transitions are imperative for us to be competitive with the rest of the industry and to target some of our product development in high growth areas to these advanced nodes, which has resulted in significant initial design and development costs.

We have been, and may continue to be, dependent on our relationships with our foundry subcontractors to transition to smaller geometry processes successfully. We cannot ensure that the foundries we use will be able to effectively manage any future transitions. If we or any of our foundry subcontractors experience significant delays in a future transition or fail to efficiently implement a transition, we could experience reduced manufacturing yields, delays in product deliveries and increased expenses, all of which could harm our relationships with our customers and our results of operations.

As smaller geometry processes become more prevalent, we expect to continue to integrate greater levels of functionality, as well as customer and third-party intellectual property, into our products. However, we may not be able to achieve higher levels of design integration or deliver new integrated products on a timely basis, if at all. Moreover, even if we are able to achieve higher levels of design integration, such integration may have a short-term adverse impact on our results of operations, as we may reduce our revenue by integrating the functionality of multiple chips into a single chip.

We rely on our customers to design our products into their systems, and the nature of the design process requires us to incur expenses prior to customer commitments to use our products or recognizing revenues associated with those expenses which may adversely affect our financial results.

One of our primary focuses is on winning competitive bid selection processes, known as “design wins,” to develop products for use in our customers’ products. We devote significant time and resources in working with our customers’ system designers to understand their future needs and to provide products that we believe will meet those needs and these bid selection processes can be lengthy. If a customer’s system designer initially chooses a competitor’s product, it becomes significantly more difficult for us to sell our products for use in that system because changing suppliers can involve significant cost, time, effort and risk for our customers. Thus, our failure to win a competitive bid can result in our foregoing revenues from a given customer’s product line for the life of that product. In addition, design opportunities may be infrequent or may be delayed. Our ability to compete in the future will depend, in large part, on our ability to design products to ensure compliance with our customers’ and potential customers’ specifications. We expect to invest significant time and resources and to incur significant expenses to design our products to ensure compliance with relevant specifications.

We often incur significant expenditures in the development of a new product without any assurance that our customers’ system designers will select our product for use in their applications. We often are required to anticipate which product designs will generate demand in advance of our customers expressly indicating a need for that particular design. Even if our customers’ system designers select our products, a substantial period of time will elapse before we generate revenues related to the significant expenses we have incurred.

The reasons for this delay generally include the following elements of our product sales and development cycle timeline and related influences:

- our customers usually require a comprehensive technical evaluation of our products before they incorporate them into their designs,
- it can take from six months to three years from the time our products are selected to commence commercial shipments; and
- our customers may experience changed market conditions or product development issues. The resources devoted to product development and sales and marketing may not generate material revenue for us, and from time to time, we may need to write off excess and obsolete inventory if we have produced product in anticipation of expected demand. We may spend resources on the development of products that our customers may not adopt. If we incur significant expenses and investments in inventory in the future that we are not able to recover, and we are not able to compensate for those expenses, our operating results could be adversely affected. In addition, if we sell our products at reduced prices in anticipation of cost reductions but still hold higher cost products in inventory, our operating results would be harmed.

Additionally, even if system designers use our products in their systems, we cannot assure you that these systems will be commercially successful or that we will receive significant revenue from the sales of our products for those systems. As a result, we may be unable to accurately forecast the volume and timing of our orders and revenues associated with any new product introductions.

Additionally, failure of our customers to agree to pay for NRE (non-recurring engineering) costs or failure to pay enough to cover the costs we incur in connection with NREs may harm our financial results. See also, “*Research and Development*” under Results of Operations.

If we are unable to develop and introduce new and enhanced products that achieve market acceptance in a timely and cost-effective manner, our results of operations and competitive position will be harmed.

Our future success will depend on our ability to develop and introduce new products and enhancements to our existing products that address customer requirements, in a timely and cost-effective manner and are competitive as to a variety of factors. For example, for our products addressing the 5G market, we must successfully identify customer requirements and design, develop and produce products on time that compete effectively as to price, functionality and performance. We sell products in markets that are characterized by rapid technological change, evolving industry standards, frequent new product introductions, and increasing demand for higher levels of integration and smaller process geometries. In addition, the development of new silicon devices is highly complex and, due to supply chain cross-dependencies and other issues, we may experience delays in completing the development, production and introduction of our new products. See also, *“We may be unable to protect our intellectual property, which would negatively affect our ability to compete.”*

Our ability to adapt to changes and to anticipate future standards, and the rate of adoption and acceptance of those standards, will be a significant factor in maintaining or improving our competitive position and prospects for growth. We may also have to incur substantial unanticipated costs to comply with these new standards. Our success will also depend on the ability of our customers to develop new products and enhance existing products for the markets they serve and to introduce and promote those products successfully and in a timely manner. Even if we and our customers introduce new and enhanced products to the market, those products may not achieve market acceptance.

We rely on independent foundries and subcontractors for the manufacture, assembly and testing of our integrated circuit products, and the failure of any of these third-party vendors to deliver products or otherwise perform as requested could damage our relationships with our customers, decrease our sales and limit our ability to grow our business.

We do not have our own manufacturing or assembly facilities and have very limited in-house testing facilities. Therefore, we currently rely on several third-party foundries to produce our integrated circuit products. We also currently rely on several third-party assembly and test subcontractors to assemble, package and test our products. This exposes us to a variety of risks, including the following:

Regional Concentration

Substantially all of our products are manufactured by third-party foundries located in Taiwan, and other sources are located in China, Germany, South Korea, Singapore and the United States. In addition, substantially all of our third-party assembly and testing facilities are located in China, Malaysia, Singapore and Taiwan. Because of the geographic concentration of these third-party foundries, as well as our assembly and test subcontractors, we are exposed to the risk that their operations may be disrupted by regional disasters including, for example, earthquakes (particularly in Taiwan and elsewhere in the Pacific Rim close to fault lines), tsunamis or typhoons, or by pandemics or other actual or threatened public health emergencies such as the Novel Coronavirus (COVID-19), or by political, social or economic instability. In the case of such an event, our revenue, cost of goods sold and results of operations would be negatively impacted. In addition, there are limited numbers of alternative foundries and identifying and implementing alternative manufacturing facilities would be time consuming. As a result, if we needed to implement alternate manufacturing facilities, we could experience significant expenses and delays in product shipments, which could harm our results of operations.

No Guarantee of Capacity or Supply

The ability of each foundry to provide us with semiconductor devices is limited by its available capacity and existing obligations. When demand is strong, availability of foundry capacity may be constrained or not available, and with limited exceptions, our vendors are not obligated to perform services or supply products to us for any specific period, in any specific quantities, or at any specific price, except as may be provided in a particular purchase order. We place our orders on the basis of our customers' purchase orders or our forecast of customer demand, and the foundries can allocate capacity to the production of other companies' products and reduce deliveries to us on short notice. It is possible that foundry customers that are larger and better financed than we are or that have long-term agreements with our main foundries may induce our foundries to reallocate capacity to those customers. This reallocation could impair our ability to secure the supply of components that we need. In particular, as we and others in our industry transition to smaller geometries, our manufacturing partners may be supply constrained or may charge premiums for these advanced technologies, which may harm our business or results of operations. See also, *"We may experience difficulties in transitioning to smaller geometry process technologies or in achieving higher levels of design integration, which may result in reduced manufacturing yields, delays in product deliveries and increased expenses."* Moreover, if any of our third-party foundry suppliers are unable to secure necessary raw materials from their suppliers, lose benefits under material agreements, experience power outages, lack sufficient capacity to manufacture our products, encounter financial difficulties or suffer any other disruption or reduction in efficiency, we may encounter supply delays or disruptions, which could harm our business or results of operations.

While we attempt to create multiple sources for our products, most of our products are not manufactured at more than one foundry at any given time, and our products typically are designed to be manufactured in a specific process at only one of these foundries. Accordingly, if one of our foundries is unable to provide us with components as needed, it would be difficult for us to transition the manufacture of our products to other foundries, and we could experience significant delays in securing sufficient supplies of those components. This could result in a material decline in our revenue, net income and cash flow.

In order to secure sufficient foundry capacity when demand is high and to mitigate the risks described in the foregoing paragraph, we may enter into various arrangements with suppliers that could be costly and harm our results of operations, such as nonrefundable deposits with or loans to foundries in exchange for capacity commitments, or contracts that commit us to purchase specified quantities of integrated circuits over extended periods. We may not be able to make any such arrangement in a timely fashion or at all, and any arrangements may be costly, reduce our financial flexibility, and not be on terms favorable to us. Moreover, if we are able to secure foundry capacity, we may be obligated to use all of that capacity or incur penalties. These penalties may be expensive and could harm our financial results.

Uncertain Yields and Quality

The fabrication of integrated circuits is a complex and technically demanding process. Our technology is transitioning from planar to FINFET transistors. This transition may result in longer qualification cycles and lower yields. Our foundries have from time to time experienced manufacturing defects and lower manufacturing yields, which are difficult to detect at an early stage of the manufacturing process and may be time consuming and expensive to correct. Changes in manufacturing processes or the inadvertent use of defective or contaminated materials by our foundries could result in lower than anticipated manufacturing yields or unacceptable performance. In addition, we may face lower manufacturing yields and reduced quality in the process of ramping up and diversifying our manufacturing partners. Poor yields from our foundries, or defects, integration issues or other performance problems with our products could cause us significant customer relations and business reputation problems, harm our financial performance and result in financial or other damages to our customers. Our customers could also seek damages in connection with product liability claims, which would likely be time consuming and costly to defend. In addition, defects could result in significant costs. See also, *"Costs related to defective products could have a material adverse effect on us."*

To the extent that we rely on outside suppliers to manufacture or assemble and test our products, we may have a reduced ability to directly control product delivery schedules and quality assurance, which could result in product shortages or quality assurance problems that could delay shipments or increase costs.

Commodity Prices

We are also subject to risk from fluctuating market prices of certain commodity raw materials, including gold and copper, which are incorporated into our end products or used by our suppliers to manufacture our end products. Supplies for such commodities may from time to time become restricted, or general market factors and conditions may affect pricing of such commodities.

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

From time to time, we have experienced hardware and software defects and bugs associated with the introduction of our highly complex products. Despite our testing procedures, we cannot ensure that errors will not be found in new products or releases after commencement of commercial shipments in the future. Such errors could result in:

- loss of or delay in market acceptance of our products;
- material recall and replacement costs;
- delay in revenue recognition or loss of revenue;
- writing down the inventory of defective products;
- the diversion of the attention of our engineering personnel from product development efforts;
- our having to defend against litigation related to defective products or related property damage or personal injury; and
- damage to our reputation in the industry that could adversely affect our relationships with our customers.

In addition, the process of identifying a recalled product in devices that have been widely distributed may be lengthy and require significant resources. We may have difficulty identifying the end customers of the defective products in the field, which may cause us to incur significant replacement costs, contract damage claims from our customers and further reputational harm. Any of these problems could materially and adversely affect our results of operations.

Despite our best efforts, security vulnerabilities may exist with respect to our products. Mitigation techniques designed to address such security vulnerabilities, including software and firmware updates or other preventative measures, may not operate as intended or effectively resolve such vulnerabilities. Software and firmware updates and/or other mitigation efforts may result in performance issues, system instability, data loss or corruption, unpredictable system behavior, or the theft of data by third parties, any of which could significantly harm our business and reputation.

We rely on third-party distributors and manufacturers' representatives and the failure of these distributors and manufacturers' representatives to perform as expected could reduce our future sales.

From time to time, we enter into relationships with distributors and manufacturers' representatives to sell our products, and we are unable to predict the extent to which these partners will be successful in marketing and selling our products. Moreover, many of our distributors and manufacturers' representatives also market and sell competing products, and may terminate their relationships with us at any time. Our future performance will also depend, in part, on our ability to attract additional distributors or manufacturers' representatives that will be able to market and support our products effectively, especially in markets in which we have not previously distributed our products. If we cannot retain or attract quality distributors or manufacturers' representatives, our sales and results of operations will be harmed.

CHANGES IN OUR EFFECTIVE TAX RATE MAY REDUCE OUR NET INCOME

Changes in existing taxation benefits, rules or practices may adversely affect our financial results.

Changes in existing taxation benefits, rules or practices may also have a significant effect on our reported results. Both the U.S. Congress and the G-20 (Group of Twenty Finance Ministers and Central Bank Governors) may consider legislation affecting the taxation of foreign corporations and such legislation if enacted might adversely affect our future tax liabilities and have a material impact on our results of operations. For example, the Tax Cuts and Jobs Act ("2017 Tax Act") was signed into law on December 22, 2017. The 2017 Tax Act significantly revises the U.S. corporate income tax by, among other things, lowering the statutory corporate tax rate from 35% to 21%, eliminating certain deductions, imposing a mandatory one-time tax on accumulated earnings of foreign subsidiaries, introducing new tax regimes, and changing how foreign earnings are subject to U.S. tax.

In addition, in prior years, we have entered into agreements in certain foreign jurisdictions that if certain criteria are met, the foreign jurisdiction will provide a more favorable tax rate than their current statutory rate. For example, we have obtained an undertaking from the Minister of Finance of Bermuda that in the event Bermuda enacts legislation imposing tax computed on profits, income, or capital asset, gain or appreciation, then the imposition of any such taxes will not apply to us until March 31, 2035. Additionally, our Singapore subsidiary qualifies the Development and Expansion Incentive until June 2024. Furthermore, under the Israeli Encouragement law of “approved or benefited enterprise,” our subsidiary in Israel, Marvell Israel (M.I.S.L) Ltd., is entitled to, and has certain existing programs that qualify as, approved and benefited tax programs that include reduced tax rates and exemption of certain income through fiscal 2027. Moreover, receipt of past and future benefits under tax agreements may depend on our ability to fulfill commitments regarding employment of personnel or performance of specified activities in the applicable jurisdiction. Changes in our business plans, including divestitures, could result in termination of an agreement or loss of benefits thereunder. If any of our tax agreements in any of these foreign jurisdictions were terminated, our results of operations would be harmed.

The Organization for Economic Cooperation and Development has been working on a Base Erosion and Profit Sharing Project, and issued in 2015, and is expected to continue to issue, guidelines and proposals that may change various aspects of the existing framework under which our tax obligations are determined in some of the countries in which we do business. We can provide no assurance that changes in tax laws and additional investigations as a result of this project would not have an adverse tax impact on our international operations. In addition, the European Union (“EU”) has initiated its own measures along similar lines. In December 2017, the EU identified certain jurisdictions (including Bermuda and Cayman Islands) which it considered had a tax system that facilitated offshore structuring by attracting profits without commensurate economic activity. In order to avoid EU “blacklisting”, both Bermuda and Cayman Islands introduced new legislation in December 2018, which came into force on January 1, 2019. These new laws require Bermuda and Cayman companies carrying on one or more “relevant activity” (including: banking, insurance, fund management, financing, leasing, headquarters, shipping, distribution and service center, intellectual property or holding company) to maintain a substantial economic presence in Bermuda in order to comply with the economic substance requirements. There is no experience yet as to how the Bermuda and Cayman Islands authorities will interpret and enforce these new rules. To the extent that we are required to maintain more of a presence in Bermuda or the Cayman Islands, such requirements will increase our costs either directly in those locations or indirectly as a result of increased costs related to moving our operations to other jurisdictions.

If the Company transfers its domicile or a significant portion of its assets from Bermuda to another jurisdiction, like we did when we completed an intra-entity transfer of the majority of our intellectual property to a subsidiary in Singapore on December 31, 2019, the Company’s taxes may increase and its earnings after taxes may decrease. In addition, the tax impact to the Company in connection with an intra-entity intellectual property transfer depends on the fair value determination of the intellectual property rights which determination requires management to make significant estimates and to apply complex tax regulations in multiple jurisdictions. Local tax authorities may challenge the fair value determinations made by the Company which could adversely impact the tax benefits we expect to realize as a result of the transfer.

Our profitability and effective tax rate could be impacted by unexpected changes to our statutory income tax rates or income tax liabilities. Such changes might include changes in tax law, changes to our geographic mix of earnings, changes in the valuation of deferred tax assets and liabilities, changes in our supply chain and changes due to audit assessments. In particular, the tax benefits associated with our transfer of intellectual property to Singapore are sensitive to future profitability and taxable income in Singapore, audit assessments and changes in applicable tax law.

If we were classified as a passive foreign investment company, there would be adverse tax consequences to U.S. holders of our ordinary shares.

If we were classified as a “passive foreign investment company” or “PFIC” under section 1297 of the Internal Revenue Code, of 1986, as amended (the “Code”), for any taxable year during which a U.S. holder holds ordinary shares, such U.S. holder generally would be taxed at ordinary income tax rates on any gain realized on the sale or exchange of the ordinary shares and on any “excess distributions” (including constructive distributions) received on the ordinary shares. Such U.S. holder could also be subject to a special interest charge with respect to any such gain or excess distribution.

We would be classified as a PFIC for U.S. federal income tax purposes in any taxable year in which either (i) at least 75% of our gross income is passive income or (ii) on average, the percentage of our assets that produce passive income or are held for the production of passive income is at least 50% (determined on an average gross value basis). We were not classified as a PFIC for fiscal year 2018 or in any prior taxable year. Whether we will, in fact, be classified as a PFIC for any subsequent taxable year depends on our assets and income over the course of the relevant taxable year and, as a result, cannot be predicted with certainty. In particular, because the total value of our assets for purposes of the asset test will be calculated based upon the market price of our ordinary shares, a significant and sustained decline in the market price of our ordinary shares and corresponding market capitalization relative to our passive assets could result in our being classified as a PFIC. There can be no assurance that we will not be classified as a PFIC in the future or the Internal Revenue Service will not challenge our determination concerning PFIC status for any prior period.

WE MUST ATTRACT, RETAIN AND MOTIVATE KEY EMPLOYEES

We depend on highly skilled personnel to support our business operations. If we are unable to retain and motivate our current personnel or attract additional qualified personnel, our ability to develop and successfully market our products could be harmed.

We believe our future success will depend in large part upon our ability to attract and retain highly skilled managerial, engineering, sales and marketing personnel. The competition for qualified technical personnel with significant experience in the design, development, manufacturing, marketing and sales of integrated circuits is intense, both in the Silicon Valley where our U.S. operations are based and in global markets in which we operate. Our inability to attract and retain qualified personnel, including hardware and software engineers and sales and marketing personnel, could delay the development and introduction of, and harm our ability to sell, our products. Our ability to attract and retain qualified personnel also depends on how well we maintain a strong workplace culture that is attractive to employees. Changes to United States immigration policies that restrict our ability to attract and retain technical personnel may negatively affect our research and development efforts.

We typically do not enter into employment agreements with any of our key technical personnel and the loss of such personnel could harm our business, as their knowledge of our business and industry would be extremely difficult to replace. The impact on employee morale experienced in connection with our restructuring efforts in fiscal 2017 and 2018 and in connection with our recent acquisitions and divestiture, could make it more difficult for us to add to our workforce when needed due to speculation regarding our future restructuring activities. In addition, as a result of our acquisitions and divestiture, our current and prospective employees may experience uncertainty about their futures that may impair our ability to retain, recruit or motivate key management, engineering, technical and other personnel.

Beginning in fiscal 2017, we made several changes to our senior leadership team, including to our Chief Executive Officer, Chief Financial Officer, and Chief Operations Officer, among others. In May 2019, our Chief Technology Officer retired from the Company. Our EVP Worldwide Sales and Marketing left the Company in fiscal 2020 and in his place we have a new Senior Vice President of Worldwide Sales. The effectiveness of the new leaders in these roles, impact on employee morale, and any further transition as a result of these changes, could have a significant impact on our results of operations.

WE ARE SUBJECT TO IP RISKS AND RISKS ASSOCIATED WITH LITIGATION AND REGULATORY PROCEEDINGS

Our indemnification obligations and limitations of our director and officer liability insurance may have a material adverse effect on our financial condition, results of operations and cash flows.

Under Bermuda law, our articles of association and bye-laws and certain indemnification agreements to which we are a party, we have an obligation to indemnify, or we have otherwise agreed to indemnify, certain of our current and former directors and officers with respect to past, current and future investigations and litigation. For example, we incurred significant indemnification expenses in connection with the Audit Committee's independent investigation completed in March 2016 and related shareholder litigation and government investigations. In connection with some of these matters, we were required to, or we otherwise agreed to, advance, and have advanced, legal fees and related expenses to certain of our current and former directors and officers. Further, in the event the directors and officers are ultimately determined not to be entitled to indemnification, we may not be able to recover any amounts we previously advanced to them.

We cannot provide any assurances that future indemnification claims, including the cost of fees, penalties or other expenses, will not exceed the limits of our insurance policies, that such claims are covered by the terms of our insurance policies or that our insurance carrier will be able to cover our claims. Additionally, to the extent there is coverage of these claims, the insurers also may seek to deny or limit coverage in some or all of these matters. Furthermore, the insurers could become insolvent and unable to fulfill their obligation to defend, pay or reimburse us for insured claims. Accordingly, we cannot be sure that claims will not arise that are in excess of the limits of our insurance or that are not covered by the terms of our insurance policy. Due to these coverage limitations, we may incur significant unreimbursed costs to satisfy our indemnification obligations, which may have a material adverse effect on our financial condition, results of operations or cash flows.

We may be unable to protect our intellectual property, which would negatively affect our ability to compete.

We believe one of our key competitive advantages results from the collection of proprietary technologies we have developed and acquired since our inception, and the protection of our intellectual property rights is, and will continue to be, important to the success of our business. If we fail to protect these intellectual property rights, competitors could sell products based on technology that we have developed, which could harm our competitive position and decrease our revenue.

We rely on a combination of patents, copyrights, trademarks, trade secrets, contractual provisions, confidentiality agreements, licenses and other methods, to protect our proprietary technologies. We also enter into confidentiality or license agreements with our employees, consultants and business partners, and control access to and distribution of our documentation and other proprietary information. Notwithstanding these agreements, we have experienced disputes with employees regarding ownership of intellectual property in the past. To the extent that any third party has a claim to ownership of any relevant technologies used in our products, we may not be able to recognize the full revenue stream from such relevant technologies.

We have been issued a significant number of U.S. and foreign patents and have a significant number of pending U.S. and foreign patent applications. However, a patent may not be issued as a result of any applications or, if issued, claims allowed may not be sufficiently broad to protect our technology. In addition, it is possible that existing or future patents may be challenged, invalidated or circumvented. We may also be required to license some of our patents to others including competitors as a result of our participation in and contribution to development of industry standards. Despite our efforts, unauthorized parties may attempt to copy or otherwise obtain and use our products or proprietary technology. Monitoring unauthorized use of our technology is difficult, and the steps that we have taken may not prevent unauthorized use of our technology, particularly in jurisdictions where the laws may not protect our proprietary rights as fully as in the United States or other developed countries. If our patents do not adequately protect our technology, our competitors may be able to offer products similar to ours, which would adversely impact our business and results of operations. We have implemented security systems with the intent of maintaining the physical security of our facilities and protecting our confidential information including our intellectual property. Despite our efforts, we may be subject to breach of these security systems and controls which may result in unauthorized access to our facilities and labs and/or unauthorized use or theft of the confidential information and intellectual property we are trying to protect. If we fail to protect these intellectual property rights, competitors could sell products based on technology that we have developed, which could harm our competitive position and decrease our revenue.

Certain of our software, as well as that of our customers, may be derived from so-called “open source” software that is generally made available to the public by its authors and/or other third parties. Open source software is made available under licenses that impose certain obligations on us in the event we were to distribute derivative works of the open source software. These obligations may require us to make source code for the derivative works available to the public and/or license such derivative works under a particular type of license, rather than the forms of license we customarily use to protect our intellectual property. While we believe we have complied with our obligations under the various applicable licenses for open source software, in the event that the copyright holder of any open source software were to successfully establish in court that we had not complied with the terms of a license for a particular work, we could be required to release the source code of that work to the public and/or stop distribution of that work if the license is terminated which could adversely impact our business and results of operations.

We must comply with a variety of existing and future laws and regulations that could impose substantial costs on us and may adversely affect our business.

We are subject to laws and regulations worldwide, which may differ among jurisdictions, affecting our operations in areas including, but not limited to: intellectual property ownership and infringement; tax; import and export requirements; anti-corruption; foreign exchange controls and cash repatriation restrictions; data privacy requirements; competition; advertising; employment; product regulations; environment, health and safety requirements; and consumer laws. For example, government export regulations apply to the encryption or other features contained in some of our products. If we fail to continue to receive licenses or otherwise comply with these regulations, we may be unable to manufacture the affected products at foreign foundries or ship these products to certain customers, or we may incur penalties or fines. In addition, we are subject to various industry requirements restricting the presence of certain substances in electronic products. Although our management systems are designed to maintain compliance, we cannot assure you that we have been or will be at all times in compliance with such laws and regulations. If we violate or fail to comply with any of them, a range of consequences could result, including fines, import/export restrictions, sales limitations, criminal and civil liabilities or other sanctions. The costs of complying with these laws (including the costs of any investigations, auditing and monitoring) could adversely affect our current or future business.

Our product or manufacturing standards could also be impacted by new or revised environmental rules and regulations or other social initiatives. For instance, the SEC requires disclosures relating to the sourcing of certain minerals from the Democratic Republic of Congo and adjoining countries. Those rules, or similar rules that may be adopted in other jurisdictions, could adversely affect our costs, the availability of minerals used in our products and our relationships with customers and suppliers.

In connection with some of our acquisitions, we have been subject to regulatory conditions imposed by the Committee on Foreign Investment in the United States (CFIUS) where we have agreed to implement certain cyber security, physical security and training measures and supply agreements to protect national security. A portion of the business we acquired in the Avera acquisition requires facility security clearances under the National Industrial Security Program. The National Industrial Security Program requires that a corporation maintaining a facility security clearance be effectively insulated from foreign ownership, control or influence (“FOCI”). Because we are organized in Bermuda, we have entered into agreements with the U.S. Department of Defense with respect to FOCI mitigation arrangements that relate to our operation of the portion of the Avera business involving facility clearances. These measures and arrangements may materially and adversely affect our operating results due to the increased cost of compliance with these measures. If we fail to comply with our obligations under these agreements, our ability to operate our business may be adversely affected.

Primarily as a result of our acquisition of Avera, we are now a party to certain contracts with the U.S. government. Our contracts with government entities are subject to various procurement regulations and other requirements relating to their formation, administration and performance. We may be subject to audits and investigations relating to our government contracts, and any violations could result in various civil and criminal penalties and administrative sanctions, including termination of contracts, refunding or suspending of payments, forfeiture of profits, payment of fines, and suspension or debarment from future government business. In addition, such contracts may provide for termination by the government at any time, without cause. Any of these risks related to contracting with governmental entities could adversely impact our future sales and operating results.

We have been named as a party to several legal proceedings and may be named in additional ones in the future, including litigation involving our patents and other intellectual property, which could subject us to liability, require us to indemnify our customers, require us to obtain or renew licenses, require us to stop selling our products or force us to redesign our products.

We are currently, and have been in the past, named as a party to several lawsuits, government inquiries or investigations and other legal proceedings (referred to as “litigation”), and we may be named in additional ones in the future. Please see “*Note 13 - Commitments and Contingencies*” of our Notes to the Consolidated Financial Statements set forth in Part II, Item 8 of this Annual Report on Form 10-K for a more detailed description of material litigation matters in which we may be currently engaged. In particular, litigation involving patents and other intellectual property is widespread in the high-technology industry and is particularly prevalent in the semiconductor industry, where a number of companies and other entities aggressively bring numerous infringement claims to assert their patent portfolios. The amount of damages alleged in intellectual property infringement claims can often be very significant. See also, “*We may be unable to protect our intellectual property, which would negatively affect our ability to compete.*”

From time to time, our subsidiaries and customers receive, and may continue to receive in the future, standards-based or other types of infringement claims, as well as claims against us and our subsidiaries' proprietary technologies. These claims could result in litigation and/or claims for indemnification, which, in turn, could subject us to significant liability for damages, attorneys' fees and costs. Any potential intellectual property litigation also could force us to do one or more of the following:

- stop selling, offering for sale, making, having made or exporting products or using technology that contains the allegedly infringing intellectual property;
- limit or restrict the type of work that employees involved in such litigation may perform for us;
- pay substantial damages and/or license fees and/or royalties to the party claiming infringement or other license violations that could adversely impact our liquidity or operating results;
- attempt to obtain or renew licenses to the relevant intellectual property, which licenses may not be available on reasonable terms or at all; and
- attempt to redesign those products that contain the allegedly infringing intellectual property.

Under certain circumstances, we have contractual and other legal obligations to indemnify and to incur legal expenses for current and former directors and officers. See also, *"Our indemnification obligations and limitations of our director and officer liability insurance may have a material adverse effect on our financial condition, results of operations and cash flows."* Additionally, from time to time, we have agreed to indemnify select customers for claims alleging infringement of third-party intellectual property rights, including, but not limited to, patents, registered trademarks and/or copyrights. If we are required to make a significant payment under any of our indemnification obligations, our results of operations may be harmed.

The ultimate outcome of litigation could have a material adverse effect on our business and the trading price for our securities. Litigation may be time consuming, expensive, and disruptive to normal business operations, and the outcome of litigation is difficult to predict. Litigation, regardless of the outcome, may result in significant expenditures, diversion of our management's time and attention from the operation of our business and damage to our reputation or relationship with third parties, which could materially and adversely affect our business, financial condition, results of operations, cash flows and stock price.

WE ARE SUBJECT TO RISKS RELATED TO OUR DEBT OBLIGATIONS

Our indebtedness could adversely affect our financial condition and our ability to raise additional capital to fund our operations and limit our ability to react to changes in the economy or our industry.

On September 17, 2019, in connection with our acquisition of Aquantia, we drew down \$350 million on our Revolving Credit Facility. As of December 11, 2019, the Company repaid the entire amount of the Revolver Loan. See "Note 12 - Debt" for discussion of the debt financing in the Notes to Consolidated Financial Statements set forth in Part II, Item 8 of the Annual Report on Form 10-K.

On November 4, 2019, in connection with our acquisition of Avera, we incurred substantial indebtedness pursuant to a Credit Agreement. The Credit Agreement provided for a bridge loan of \$600 million. As of December 11, 2019, the Company repaid the entire amount of the Bridge Loan. See "Note 12 - Debt" for discussion of the debt financing in the Notes to Consolidated Financial Statements set forth in Part II, Item 8 of the Annual Report on Form 10-K.

On July 6, 2018, in connection with our acquisition of Cavium, we incurred substantial indebtedness pursuant to a Credit Agreement. The Credit Agreement provides for a \$900 million Term Loan. The Term Loan will mature on July 6, 2021. As of February 1, 2020, the outstanding principal balance of the Term Loan amounted to \$450 million. See "Note 12 - Debt" for discussion of the debt financing in the Notes to Consolidated Financial Statements set forth in Part II, Item 8 of the Annual Report on Form 10-K.

In addition to the loans under the credit agreements, on June 22, 2018, we completed a public offering of (i) \$500.0 million aggregate principal amount of the Company's 4.200% Senior Notes due 2023 (the "2023 Notes") and (ii) \$500.0 million aggregate principal amount of the Company's 4.875% Senior Notes due 2028 (the "2028 Notes" and, together with the 2023 Notes, the "Senior Notes"). We are obligated to pay interest on the Senior Notes on June 22 and December 22 of each year, beginning on December 22, 2018. The 2023 Notes will mature on June 22, 2023 and the 2028 Notes will mature on June 22, 2028.

Our indebtedness could have important consequences to us including:

- increasing our vulnerability to adverse general economic and industry conditions;
- 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 working capital, capital expenditures, research and development efforts, execution of our business strategy, acquisitions and other general corporate purposes;
- 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;
- exposing us to interest rate risk to the extent of our variable rate indebtedness; and
- making it more difficult to borrow additional funds in the future to fund growth, acquisitions, working capital, capital expenditures and other purposes.

Although the credit agreements contain restrictions on our ability to incur additional indebtedness and the indenture under which the Senior Notes were issued contains restrictions on creating liens and entering into certain sale-leaseback transactions, these restrictions are subject to a number of qualifications and exceptions, and the additional indebtedness, liens or sale-leaseback transactions incurred in compliance with these restrictions could be substantial.

The credit agreements and the Senior Notes contain customary events of default upon the occurrence of which, after any applicable grace period, the lenders would have the ability to immediately declare the loans due and payable in whole or in part. 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 and adversely affect our financial condition and results of operations.

We may not be able to access cash or to incur additional indebtedness if the Novel Coronavirus (COVID-19) causes the closure of banks for an extended period of time or if there is a sudden increase in requests for indebtedness at one time by many potential borrowers which could overwhelm the banking industry.

Adverse changes to our debt ratings could negatively affect our ability to raise additional capital.

We receive debt ratings from the major credit rating agencies in the United States. 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. The applicable margins with respect to the Term Loan will vary based on the applicable public ratings assigned to the collateralized, long-term indebtedness for borrowed money by Moody's Investors Service, Inc., Standard & Poor's Financial Services LLC, Fitch's and any successor to each such rating agency business. A ratings downgrade could adversely impact our ability to access debt markets in the future and increase the cost of current or future debt and may adversely affect our share price.

The Credit Agreements and the indenture under which the Senior Notes were issued impose restrictions on our business.

The credit agreements and the indenture for the Senior Notes each contains a number of covenants imposing restrictions on our business. These restrictions may affect our ability to operate our business and may limit our ability to take advantage of potential business opportunities as they arise. The restrictions, among other things, restrict our ability and our subsidiaries' ability to create or incur certain liens, incur or guarantee additional indebtedness, merge or consolidate with other companies, pay dividends, transfer or sell assets and make restricted payments. These restrictions are subject to a number of limitations and exceptions set forth in the credit agreements and the indenture for the Senior Notes. Our ability to meet the liquidity covenant or the leverage ratio set forth in the credit agreements may be affected by events beyond our control.

The foregoing restrictions could limit our ability to plan for, or react to, changes in market conditions or our capital needs. We do not know whether we will be granted waivers under, or amendments to, our credit agreements or to the Senior Notes if for any reason we are unable to meet these requirements, or whether we will be able to refinance our indebtedness on terms acceptable to us, or at all.

We may be unable to generate the cash flow to service our debt obligations.

We may not be able to generate sufficient cash flow to enable us to service our indebtedness, including the Senior Notes, or to make anticipated capital expenditures. Our ability to pay our expenses and satisfy our debt obligations, refinance our debt obligations and fund planned capital expenditures will depend on our future performance, which will be affected by general economic, financial competitive, legislative, regulatory and other factors beyond our control. If we are unable to generate sufficient cash flow from operations or to borrow sufficient funds in the future to service our debt, we may be required to sell assets, reduce capital expenditures, refinance all or a portion of our existing debt (including the Senior Notes) or obtain additional financing. We cannot assure you that we will be able to refinance our debt, sell assets or borrow more money on terms acceptable to us, if at all. If we cannot make scheduled payments on our debt, we will be in default and holders of our debt could declare all outstanding principal and interest to be due and payable, and we could be forced into bankruptcy or liquidation. In addition, a material default on our indebtedness could suspend our eligibility to register securities using certain registration statement forms under SEC guidelines that permit incorporation by reference of substantial information regarding us, potentially hindering our ability to raise capital through the issuance of our securities and increasing our costs of registration.

We may, under certain circumstances, be required to repurchase the Senior Notes at the option of the holder.

We will be required to repurchase the Senior Notes at the option of each holder upon the occurrence of a change of control repurchase event as defined in the indenture for the Senior Notes. However, we may not have sufficient funds to repurchase the notes in cash at the time of any change of control repurchase event. Our failure to repurchase the Senior Notes upon a change of control repurchase event would be an event of default under the indenture for the Senior Notes and could cause a cross-default or acceleration under certain future agreements governing our other indebtedness. The repayment obligations under the Senior Notes may have the effect of discouraging, delaying or preventing a takeover of our company. If we were required to pay the Senior Notes prior to their scheduled maturity, it could have a significant negative impact on our cash and liquidity and could impact our ability to invest financial resources in other strategic initiatives.

WE ARE SUBJECT TO CYBERSECURITY RISKS

Cybersecurity risks could adversely affect our business and disrupt our operations.

We depend heavily on our technology infrastructure and maintain and rely upon certain critical information systems for the effective operation of our business. We routinely collect and store sensitive data in our information systems, including intellectual property and other proprietary information about our business and that of our customers, suppliers and business partners. These information technology systems are subject to damage or interruption from a number of potential sources, including, but not limited to, natural disasters, destructive or inadequate code, malware, power failures, cyber-attacks, internal malfeasance or other events. Cyber-attacks on us may include viruses and worms, phishing attacks, and denial-of-service attacks. In addition, we may be the target of email scams that attempt to acquire personal information or company assets.

We have implemented processes for systems under our control intended to mitigate risks; however, we can provide no guarantee that those risk mitigation measures will be effective. While we have historically been successful in defending against cyber-attacks and breaches, given the frequency of cyber-attacks and resulting breaches reported by other businesses and governments, it is likely we will experience one or more breaches of some extent in the future. We have incurred and may in the future incur significant costs in order to implement, maintain and/or update security systems we feel are necessary to protect our information systems, or we may miscalculate the level of investment necessary to protect our systems adequately. Since the techniques used to obtain unauthorized access or to sabotage systems change frequently and are often not recognized until launched against a target, we may be unable to anticipate these techniques or to implement adequate preventive measures.

The Company's business also requires it to share confidential information with suppliers and other third parties. Although the Company takes steps to secure confidential information that is provided to third parties, such measures may not always be effective and data breaches, losses or other unauthorized access to or releases of confidential information may occur and could materially adversely affect the Company's reputation, financial condition and operating results and could result in liability or penalties under data privacy laws.

To the extent that any system failure, accident or security breach results in material disruptions or interruptions to our operations or the theft, loss or disclosure of, or damage to our data or confidential information, including our intellectual property, our reputation, business, results of operations and/or financial condition could be materially adversely affected.

WE ARE SUBJECT TO RISKS RELATED TO OUR ASSETS

We are exposed to potential impairment charges on certain assets.

We had approximately \$5.3 billion of goodwill and \$2.8 billion of acquired intangible assets on our consolidated balance sheet as of February 1, 2020. Under generally accepted accounting principles in the United States, we are required to review our intangible assets including goodwill for impairment whenever events or changes in circumstances indicate that the carrying value of these assets may not be recoverable. We perform an assessment of goodwill for impairment annually on the last business day of our fiscal fourth quarter and whenever events or changes in circumstances indicate the carrying amount of goodwill may not be recoverable. When testing goodwill for impairment, we first assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value or we may determine to proceed directly to the quantitative impairment test.

Factors we consider important in the qualitative assessment which could trigger a goodwill impairment review include: significant underperformance relative to historical or projected future operating results; significant changes in the manner of our use of the acquired assets or the strategy for our overall business; significant negative industry or economic trends; a significant decline in our stock price for a sustained period; and a significant change in our market capitalization relative to our net book value.

We assess the impairment of intangible assets whenever events or changes in circumstances indicate that the carrying value of such assets may not be recoverable. Circumstances which could trigger a review include, but are not limited to the following: significant decreases in the market price of the asset; significant adverse changes in the business climate or legal factors; accumulation of costs significantly in excess of the amount originally expected for the acquisition or construction of the asset; current period cash flow or operating losses combined with a history of losses or a forecast of continuing losses associated with the use of the asset; and current expectation that the asset will more likely than not be sold or disposed of significantly before the end of its estimated useful life.

We have determined that our business operates as a single operating segment with two primary components (Storage and Networking), which we have concluded can be aggregated into a single reporting unit for purposes of testing goodwill impairment. The fair value of the reporting unit is determined by taking our market capitalization as determined through quoted market prices and as adjusted for a control premium and other relevant factors. If our fair value declines to below our carrying value, we could incur significant goodwill impairment charges, which could negatively impact our financial results. If in the future a change in our organizational structure results in more than one reporting unit, we will be required to allocate our goodwill and perform an assessment of goodwill for impairment in each reporting unit. As a result, we could have an impairment of goodwill in one or more of such future reporting units.

In addition, from time to time, we have made investments in private companies. If the companies that we invest in are unable to execute their plans and succeed in their respective markets, we may not benefit from such investments, and we could potentially lose the amounts we invest. We evaluate our investment portfolio on a regular basis to determine if impairments have occurred. If the operations of any businesses that we have acquired declines significantly, we could incur significant intangible asset impairment charges. Impairment charges could have a material impact on our results of operations in any period.

As we carry only limited insurance coverage, any incurred liability resulting from uncovered claims could adversely affect our financial condition and results of operations.

Our insurance policies may not be adequate to fully offset losses from covered incidents, and we do not have coverage for certain losses. For example, there is very limited coverage available with respect to the services provided by our third-party foundries and assembly and test subcontractors. In the event of a natural disaster (such as an earthquake or tsunami), political or military turmoil, widespread public health emergencies including pandemics or other significant disruptions to their operations, insurance may not adequately protect us from this exposure. We believe our existing insurance coverage is consistent with common practice, economic considerations and availability considerations. If our insurance coverage is insufficient to protect us against unforeseen catastrophic losses, any uncovered losses could adversely affect our financial condition and results of operations.

We are subject to the risks of owning real property.

Our buildings in Santa Clara, California and Shanghai, China subject us to the risks of owning real property, which include, but are not limited to:

- the possibility of environmental contamination and the costs associated with remediating any environmental problems;
- adverse changes in the value of these properties due to interest rate changes, changes in the neighborhood in which the property is located, or other factors;
- the possible need for structural improvements in order to comply with zoning, seismic and other legal or regulatory requirements;
- the potential disruption of our business and operations arising from or connected with a relocation due to moving to or renovating the facility;
- increased cash commitments for improvements to the buildings or the property, or both;
- increased operating expenses for the buildings or the property, or both;
- possible disputes with third parties related to the buildings or the property, or both;
- failure to achieve expected cost savings due to extended non-occupancy of a vacated property intended to be leased; and
- the risk of financial loss in excess of amounts covered by insurance, or uninsured risks, such as the loss caused by damage to the buildings as a result of earthquakes, floods and/or other natural disasters.

WE MAY HAVE FLUCTUATIONS IN THE AMOUNT OR PAYMENT OF OUR DIVIDENDS OR IN THE AMOUNT OR FREQUENCY OF OUR STOCK REPURCHASES

There can be no assurance that we will continue to declare cash dividends or effect share repurchases in any particular amount or at all, and statutory requirements under Bermuda Law may require us to defer payment of declared dividends or suspend share repurchases.

In May 2012, we declared our first quarterly cash dividend and in October 2018, we announced that our board of directors had authorized a \$700 million addition to our previously existing \$1 billion share repurchase program. An aggregate of \$1.1 billion of shares have been repurchased under that program as of February 1, 2020. Future payment of a regular quarterly cash dividend on our common shares and future share repurchases will be subject to, among other things: the best interests of our company and our shareholders; our results of operations, cash balances and future cash requirements; financial condition; developments in ongoing litigation; statutory requirements under Bermuda law; market conditions; and other factors that our Board of Directors may deem relevant. Our dividend payments or share repurchases may change from time to time, and we cannot provide assurance that we will continue to declare dividends or repurchase shares in any particular amounts or at all. A reduction in, a delay of, or elimination of our dividend payments or share repurchases could have a negative effect on our share price. As of February 1, 2020, there was \$590 million remaining available for future share repurchases.

1B. Unresolved Staff Comments

None.

Item 2. Properties

The following table presents the approximate square footage of our significant owned and leased facilities as of February 1, 2020:

Locations	Primary Use	(Square feet)	
		Owned Facilities	Leased Facilities (1)
United States	Research and design, sales and marketing, administration and operations	983,000	530,000
India	Research and design	—	445,000
Israel	Research and design	—	212,000
China	Research and design, and sales and marketing	83,000	46,000
Taiwan	Storage and operations	—	71,000
Singapore	Operations, and research and design	—	55,000
Total		1,066,000	1,359,000

(1) Lease terms expire in various years from 2020 through 2027, provided, however, that we have the option to extend certain leases past the current lease term. The square footage of leased facilities does not include leased facilities that have been impacted by our restructuring actions and we have ceased use. Leased facilities impacted by our restructuring actions and we have ceased use include approximately 463,898 square feet of leased facilities in the United States, and 12,500 square feet of leased facilities in India.

We also lease smaller facilities in Denmark, Germany, India, Spain, Japan, South Korea, the Netherlands and Vietnam, which are occupied by administrative, sales, design and field application personnel. Based upon our estimates of future hiring, we believe that our current facilities in most locations will be adequate to meet our requirements at least through the next fiscal year.

Item 3. Legal Proceedings

The information set forth under “Note 13 - Commitments and Contingencies” in our Notes to the Consolidated Financial Statements set forth in Part II, Item 8 of this Annual Report on Form 10-K is incorporated herein by reference. For a discussion of certain risks associated with legal proceedings, please see Part I, Item 1A, “Risk Factors” above.

Item 4. Mine Safety Disclosures

Not Applicable.

PART II

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

Market Information

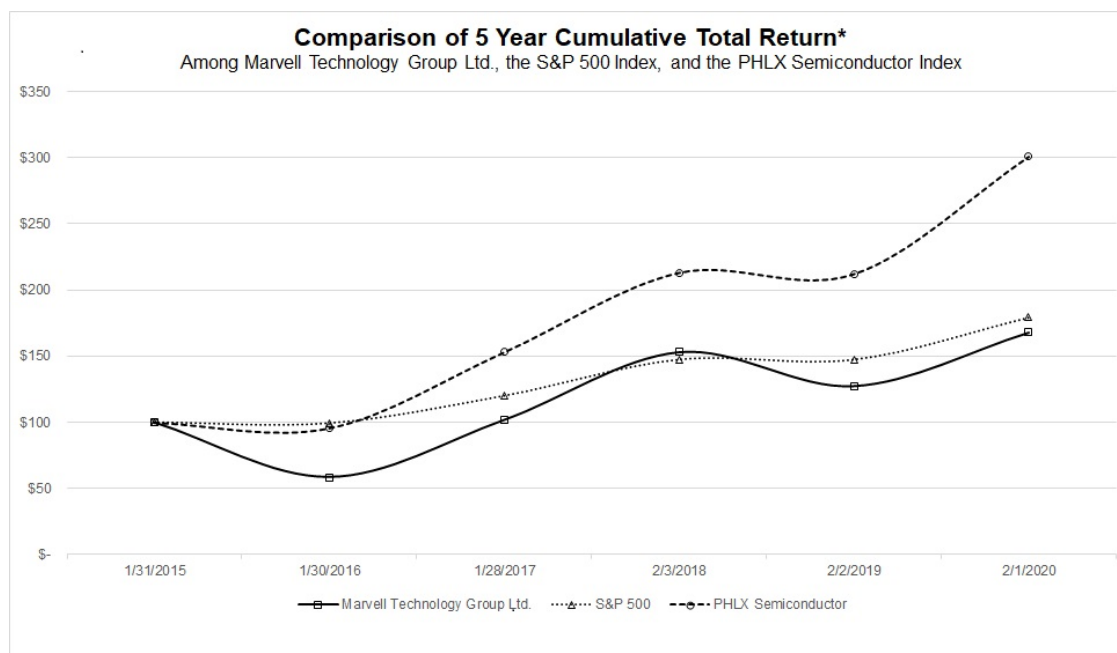
Our common shares are traded on the Nasdaq Global Select Market under the symbol "MRVL." Our common shares began trading on June 27, 2000, upon completion of our initial public offering.

As of March 16, 2020, the approximate number of record holders of our common shares was 511 (not including beneficial owners of stock held in street name).

Stock Price Performance Graph

This performance graph shall not be deemed "filed" for purposes of Section 18 of the Exchange Act or incorporated by reference into any filings under the Securities Act or the Exchange Act, except as shall be expressly set forth by specific reference in such filing.

The graph below compares the cumulative total shareholder return of our common shares with the cumulative total return of the S&P 500 Index and the Philadelphia Semiconductor Index since January 31, 2015 through February 1, 2020. The graph compares a \$100 investment on January 31, 2015 in our common shares with a \$100 investment on January 31, 2015 in each index and assumes that any dividends were reinvested. Shareholder returns over the indicated periods should not be considered indicative of future stock prices or shareholder returns.



	1/31/2015	1/30/2016	1/28/2017	2/3/2018	2/2/2019	2/1/2020
Marvell Technology Group Ltd.	100.00	58.38	101.65	153.16	127.35	168.00
S&P 500	100.00	99.33	120.06	147.48	147.40	179.17
PHLX Semiconductor	100.00	95.73	153.05	213.14	212.21	300.82

Dividends

Our board of directors declared quarterly cash dividends of \$0.06 per share payable to holders of our common shares in each quarter of fiscal 2020, 2019, and 2018. As a result, we paid total cash dividends of \$159.6 million in fiscal 2020, \$148.1 million in fiscal 2019, and \$119.3 million in fiscal 2018.

Future payment of a regular quarterly cash dividend on the Company's common shares will be subject to, among other things, the best interests of the Company and its shareholders, the Company's results of operations, cash balances and future cash requirements, financial condition, developments in ongoing litigation, statutory requirements under Bermuda law and other factors that our Board of Directors may deem relevant. The Company's dividend payments may change from time to time, and we cannot provide assurance that we will continue to declare dividends at all or in any particular amounts.

Recent Sales of Unregistered Securities

None.

Issuer Purchases of Equity Securities

The following table presents details of our share repurchases during the three months ended February 1, 2020 (in thousands, except per share data):

Period (1)	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (2)
November 3 – November 30, 2019	—	\$ —	—	\$ 889,710
December 1 – December 28, 2019	5,361	\$ 25.18	5,361	\$ 754,710
December 29 – February 1, 2020	6,139	\$ 26.88	6,139	\$ 589,710
Total	11,500	\$ 26.09	11,500	\$ 589,710

- (1) The monthly periods presented above for the three months ended February 1, 2020, are based on our fiscal accounting periods which follow a quarterly 4-4-5 week fiscal accounting period.
- (2) On November 17, 2016, we announced that our Board of Directors had authorized a \$1 billion share repurchase plan. On October 16, 2018, we announced that our Board of Directors authorized a \$700 million addition to the balance of our existing share repurchase plan. Our existing share repurchase program had approximately \$304 million of repurchase authority remaining as of October 16, 2018 prior to the approved addition. We intend to effect share repurchases in accordance with the conditions of Rule 10b-18 under the Exchange Act, but may also make repurchases in the open market outside of Rule 10b-18 or in privately negotiated transactions. The share repurchase program will be subject to market conditions and other factors and does not obligate us to repurchase any dollar amount or number of our common shares and the repurchase program may be extended, modified, suspended or discontinued at any time.

From August 2010 when our Board of Directors initially authorized a share repurchase program through February 1, 2020, a total of 306.9 million shares have been repurchased under the Company's share repurchase program for a total \$4.2 billion in cash and \$589.7 million remains available for future share repurchases.

Item 6. Selected Financial Data

The following selected consolidated financial data should be read together with Part II, Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and Part II, Item 8, “Financial Statements and Supplementary Data” contained elsewhere in this Annual Report on Form 10-K. We have retrospectively recast our consolidated statements of operations and balance sheets for all periods presented to reflect discontinued operations relating to divestitures during fiscal 2018.

	February 1, 2020 (1)	February 2, 2019 (2)	February 3, 2018 (3)	January 28, 2017 (4)	January 30, 2016 (5)
(in thousands, except per share amounts and number of employees)					
Consolidated Statements of Operations Data:					
Net revenue	\$ 2,699,161	\$ 2,865,791	\$ 2,409,170	\$ 2,300,992	\$ 2,602,497
Cost of goods sold	\$ 1,342,220	\$ 1,407,399	\$ 947,230	\$ 1,017,564	\$ 1,406,121
Research and development	\$ 1,080,391	\$ 914,009	\$ 714,444	\$ 805,029	\$ 954,653
Operating income (loss) from continuing operations	\$ (243,358)	\$ 43,270	\$ 429,695	\$ 130,407	\$ (745,410)
Income (loss) from continuing operations, net of tax	\$ 1,584,391	\$ (179,094)	\$ 433,142	\$ 74,821	\$ (738,441)
Income (loss) from discontinued operations, net of tax	\$ —	\$ —	\$ 87,689	\$ (53,670)	\$ (72,959)
Net income (loss)	\$ 1,584,391	\$ (179,094)	\$ 520,831	\$ 21,151	\$ (811,400)
Income (loss) from continuing operations per share:					
Basic	\$ 2.38	\$ (0.30)	\$ 0.87	\$ 0.15	\$ (1.45)
Diluted	\$ 2.34	\$ (0.30)	\$ 0.85	\$ 0.14	\$ (1.45)
Income (loss) from discontinued operations per share:					
Basic	\$ —	\$ —	\$ 0.18	\$ (0.11)	\$ (0.14)
Diluted	\$ —	\$ —	\$ 0.17	\$ (0.10)	\$ (0.14)
Net income (loss) per share:					
Basic	\$ 2.38	\$ (0.30)	\$ 1.05	\$ 0.04	\$ (1.59)
Diluted	\$ 2.34	\$ (0.30)	\$ 1.02	\$ 0.04	\$ (1.59)
Weighted-average shares:					
Basic	664,709	591,232	498,008	509,738	510,945
Diluted	676,094	591,232	509,667	517,513	510,945
Consolidated Balance Sheet Data:					
Cash, cash equivalents and short-term investments	\$ 647,604	\$ 582,410	\$ 1,841,272	\$ 1,668,360	\$ 2,282,749
Working capital	\$ 827,331	\$ 758,462	\$ 1,942,813	\$ 1,794,018	\$ 1,751,295
Total assets	\$ 11,133,235	\$ 10,016,752	\$ 4,708,287	\$ 4,648,650	\$ 5,442,127
Long-term debt	\$ 1,439,024	\$ 1,732,699	\$ —	\$ —	\$ —
Total shareholders’ equity	\$ 8,678,580	\$ 7,306,410	\$ 4,141,413	\$ 4,027,651	\$ 4,140,123
Other Data:					
Cash dividends declared per share	\$ 0.24	\$ 0.24	\$ 0.24	\$ 0.24	\$ 0.24
Number of employees	5,633	5,275	3,749	4,617	5,437

- (1) Fiscal 2020 financial data includes the effect of the adoption of the new lease accounting standard, restructuring related charges from our December 2019 restructuring plan, and from the acquisitions of Aquantia and Avera, as well as the divestiture of the Wi-Fi connectivity business, including the effects on income taxes. Refer to “Note 7 - Leases,” “Note 6 - Restructuring and Other Related Charges,” “Note 3 - Business Combinations,” and “Note 16 - Income Taxes” respectively, in our Notes to the Consolidated Financial Statements set forth in Part II, Item 8 of this Annual Report on Form 10-K for further details.
- (2) Fiscal 2019 includes the effect of the adoption of the new revenue recognition standard, restructuring related charges from our July 2018 restructuring plan, and from the acquisition of Cavium, including its effect on income taxes.
- (3) Fiscal 2018 includes a \$74.4 million charge related to the Luna litigation settlement and related costs.

- (4) Fiscal 2017 includes \$96.8 million of restructuring and other related charges that include \$52.6 million for impairment of a nonrefundable deposit due to the non-utilization of the related contract and for impairment of certain equipment and technology licenses. Fiscal 2017 also included \$68.0 million of tax expense related to restructuring actions taken.
- (5) Fiscal 2016 includes \$750 million legal settlement with CMU. In addition, fiscal 2016 included \$63.5 million of restructuring and other related charges that include \$8.0 million for impairment of certain equipment and technology licenses, and \$8.0 million for the write down of inventory due to the restructuring of the mobile platform business, a charge for a cash payment authorized by our Board of Directors of \$15.4 million to our former CEO Dr. Sehat Sutardja and \$11.4 million of costs for the surety bonds related to the CMU legal matter.

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

The following discussion of our financial condition and results of operations should be read in conjunction with the financial statements and related notes included in this Annual Report on Form 10-K. This discussion may contain forward-looking statements based upon current expectations that involve risks and uncertainties, including those discussed under Part I, Item 1A, "Risk Factors." These risks and uncertainties may cause actual results to differ materially from those discussed in the forward-looking statements.

Overview

We are a leading supplier of infrastructure semiconductor solutions, spanning the data center core to network edge. We are a fabless semiconductor supplier of high-performance standard and semi-custom products with core strengths in developing and scaling complex System-on-a-Chip architectures integrating analog, mixed-signal and digital signal processing functionality. Leveraging leading intellectual property and deep system-level expertise as well as highly innovative security firmware, our solutions are empowering the data economy and enabling communications across 5G, cloud, automotive, industrial and artificial intelligence applications.

On September 19, 2019, we completed the acquisition of Aquantia Corp. ("Aquantia"). Aquantia is a manufacturer of high-speed transceivers which includes copper and optical physical layer products. The unaudited condensed consolidated financial statements include the operating results of Aquantia for the period from the date of acquisition to the Company's year ended February 1, 2020. See "Note 3 - Business Combinations" in the Notes to the Consolidated Financial Statements for more information.

On November 5, 2019, we completed the acquisition of Avera Semiconductor ("Avera"), the Application Specific Integrated Circuit ("ASIC") business of GlobalFoundries. Avera is a leading provider of ASIC semiconductor solutions. The unaudited condensed consolidated financial statements include the operating results of Avera for the period from the date of acquisition to our year ended February 1, 2020. See "Note 3 - Business Combinations" in the Notes to the Consolidated Financial Statements for more information.

On December 6, 2019, we completed the sale of our Wi-Fi Connectivity business to NXP. The divestiture encompasses our Wi-Fi and Wi-Fi/Bluetooth technology portfolios and related assets. See "Note 1 - Basis of Presentation" in the Notes to the Consolidated Financial Statements for more information.

On December 31, 2019, we completed an intra-entity transfer of the majority of our intellectual property to a subsidiary in Singapore. The transfer aligns the global economic ownership of our intellectual property rights with our current and future business operations. The income tax benefit of \$763.0 million in fiscal 2020 is primarily due to the recognition of a deferred tax asset of \$659.0 million from the Singapore tax basis in the intellectual property. In addition, we recognized \$104.0 million of income tax benefit from the reversal of deferred tax liabilities primarily related to previously acquired intangible assets. See "Note 16 - Income Taxes" for additional information.

Net revenue in fiscal 2020 was \$2.7 billion and was 6% lower than net revenue of \$2.9 billion in fiscal 2019. The decrease was primarily due to a 17% decrease in sales of our storage products, partially offset by a 5% increase in sales of our networking products and a 5% increase in sales of our other products.

We expect that the U.S. government's export restrictions on certain Chinese customers will continue to impact our revenue in fiscal year 2021.

Our fiscal year is the 52- or 53-week period ending on the Saturday closest to January 31. Accordingly, every fifth or sixth fiscal year will have a 53-week period. The additional week in a 53-week year is added to the fourth quarter, making such quarter consist of 14 weeks. Fiscal 2019 had a 52-week period. Fiscal 2020 is a 52-week period.

Restructuring. We continuously evaluate our existing operations to increase operational efficiency, decrease costs and increase profitability. In July 2018, as part of the integration of the acquired Cavium business, we initiated a restructuring plan intended to achieve these goals. As part of this restructuring plan, revenue from our former Networking and Connectivity product groups were combined into one group named Networking. In December 2019, as part of the integration of the acquired Avera business, we initiated a restructuring plan intended to further achieve the aforementioned goals.

During fiscal 2020, we recorded restructuring and other related charges of \$55.3 million. See “Note 6 - Restructuring and Other Related Charges” in the Notes to the Consolidated Financial Statements for further information.

In November 2016, we announced a restructuring plan intended to refocus our research and development, increase operational efficiency and improve profitability. In connection with this restructuring plan, we divested three businesses during fiscal 2018. These businesses are classified as discontinued operations for all periods presented in our accompanying consolidated financial statements. See “Note 6 - Restructuring and Other Related Charges” and “Note 5 - Discontinued Operations” in the Notes to the Consolidated Financial Statements for further information. Unless noted otherwise, our discussion under Part II, Item 7, Management’s Discussion and Analysis of Financial Condition and Results of Operations refers to our continuing operations.

Capital Return Program. We remain committed to delivering shareholder value through our share repurchase and dividend programs. On October 16, 2018, we announced that our Board of Directors authorized a \$700 million addition to the balance of our existing share repurchase plan. Under the program authorized by our Board of Directors, we may repurchase shares in the open-market or through privately negotiated transactions. The extent to which we repurchase our shares and the timing of such repurchases will depend upon market conditions and other corporate considerations, as determined by our management team. The repurchase program may be suspended or discontinued at any time. As of February 1, 2020, there was \$589.7 million remaining available for future share repurchases. See “Note 14 - Shareholder’s Equity” in the Notes to the Consolidated Financial Statements for further information.

We returned \$523.9 million to stockholders in fiscal 2020, including \$364.3 million through repurchases of common stock and \$159.6 million of cash dividends.

Cash and Short-Term Investments. Our cash, cash equivalents and short-term investments were \$647.6 million at February 1, 2020. We had cash flow provided by operations of \$360.3 million during fiscal 2020.

Sales and Customer Composition.

Historically, a relatively small number of customers have accounted for a significant portion of our net revenue. See the table in our discussion of “Customers, Sales and Marketing” in Item 1 of this Annual Report on Form 10-K for further information. We continuously monitor the creditworthiness of our distributors and believe these distributors’ sales to diverse end customers and geographies further serve to mitigate our exposure to credit risk.

Most of our sales are made to customers located outside of the United States, primarily in Asia, and majority of our products are manufactured outside the United States. Sales shipped to customers with operations in Asia represented approximately 82% of our net revenues in fiscal 2020 and 85% of our net revenue in fiscal 2019 and 95% of our net revenue in fiscal 2018. Because many manufacturers and manufacturing subcontractors of our customers are located in Asia, we expect that most of our net revenue will continue to be represented by sales to our customers in that region. For risks related to our global operations, see Part I, Item 1A, “Risk Factors,” including but not limited to the risk detailed under the caption “*We face additional risks due to the extent of our global operations since a majority of our products, and those of our customers, are manufactured and sold outside of the United States. The occurrence of any or a combination of the additional risks described below would significantly and negatively impact our business and results of operations.*”

Historically, a relatively large portion of our sales have been made on the basis of purchase orders rather than long-term agreements. Customers can generally cancel or defer purchase orders on short notice without incurring a significant penalty. In addition, the development process for our products is long, which may cause us to experience a delay between the time we incur expenses and the time revenue is generated from these expenditures. We anticipate that the rate of new orders may vary significantly from quarter to quarter. For risks related to our sales cycle, see Part I, Item 1A, “Risk Factors,” including but not limited to the risk detailed under the caption, “*We are subject to order and shipment uncertainties. If we are unable to accurately predict customer demand, we may hold excess or obsolete inventory, which would reduce our gross margin. Conversely, we may have insufficient inventory, which would result in lost revenue opportunities and potential loss of market share as well as damaged customer relationships.*”

Critical Accounting Policies and Estimates

The preparation of consolidated financial statements in conformity with generally accepted accounting principles in the United States (“GAAP”) requires management to make estimates, judgments and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. On an ongoing basis, we evaluate our estimates, including those related to revenue recognition, income taxes, goodwill and other intangible assets, and business combinations. We base our estimates of the carrying value of certain assets and liabilities on historical experience and on various other assumptions that are believed to be reasonable under the circumstances when these carrying values are not readily available from other sources. Actual results could differ from these estimates, and such differences could affect the results of operations reported in future periods. We believe the following critical accounting policies affect our more significant judgments and estimates used in the preparation of our consolidated financial statements. For further information on our significant accounting policies, see “Note 2 - Significant Accounting Policies” in the Notes to Consolidated Financial Statements.

Revenue Recognition. We recognize revenue upon transfer of control of promised products or services to customers in an amount that reflects the consideration we expect to receive in exchange for those products or services. Under the revenue recognition standard, we apply the following five step approach: (1) identify the contract with a customer, (2) identify the performance obligations in the contract, (3) determine the transaction price, (4) allocate the transaction price to the performance obligations in the contract, and (5) recognize revenue when a performance obligation is satisfied.

We enter into contracts that may include various combinations of products and services that are capable of being distinct and accounted for as separate performance obligations. To date, the majority of the revenue has been generated by sales associated with storage and networking products. Revenue from services has been insignificant. Performance obligations associated with product sales transactions are generally satisfied when control passes to customers upon shipment. Accordingly, product revenue is recognized at a point in time when control of the asset is transferred to the customer. We recognize revenue when we satisfy a performance obligation by transferring control of a product to a customer in an amount that reflects the consideration to which we expect to be entitled in exchange for those goods or services. For product revenue, the performance obligation is deemed to be the delivery of the product and therefore, the revenue is generally recognized upon shipment to customers, net of accruals for estimated sales returns and rebates. These estimates are based on historical returns, analysis of credit memo data and other known factors. Actual returns could differ from these estimates. We account for rebates by recording reductions to revenue for rebates in the same period that the related revenue is recorded. The amount of these reductions is based upon the terms agreed to with the customer. Some of our sales are made to distributors under agreements allowing for price protection, price discounts and limited rights of stock rotation on products unsold by the distributors. Control passes to the distributor upon shipment, and terms and payment by our distributors is not contingent on resale of the product. Product revenue on sales made to distributors with price protection and stock rotation rights is recognized upon shipment to distributors, with an accrual for the variable consideration aspect of sales to distributors, estimated based on historical experience, including estimates for price discounts, price protection, rebates, and stock rotation programs. Actual variable consideration could differ from these estimates.

A portion of our net revenue is derived from sales through third-party logistics providers who maintain warehouses in close proximity to our customer’s facilities. Revenue from sales through these third-party logistics providers is not recognized until the product is pulled from stock by the customer.

Our products are generally subject to warranty, which provides for the estimated future costs of replacement upon shipment of the product. Our products carry a standard one-year warranty, with certain exceptions in which the warranty period can extend to more than one year based on contractual agreements. The warranty accrual is estimated primarily based on historical claims compared to historical revenues and assumes that we will have to replace products subject to a claim. From time to time, we become aware of specific warranty situations, and we record specific accruals to cover these exposures. Warranty expenses were not material for the periods presented.

Accounting for Income Taxes. We estimate our income taxes in each of the jurisdictions in which we operate. This process involves estimating our actual tax exposure together with assessing temporary differences resulting from the differing treatment of certain items for tax return and financial statement purposes. These differences result in deferred tax assets and liabilities, which are included in our consolidated balance sheets.

We recognize income taxes using an asset and liability approach. This approach requires the recognition of taxes payable or refundable for the current year, and deferred tax liabilities and assets for the future tax consequences of events that have been recognized in our consolidated financial statements or tax returns. The measurement of current and deferred taxes is based on provisions of the enacted tax law and the effects of future changes in tax laws or rates are not anticipated.

Evaluating the need for an amount of a valuation allowance for deferred tax assets often requires judgment and analysis of all the positive and negative evidence available, including cumulative losses in recent years and projected future taxable income, to determine whether all or some portion of the deferred tax assets will not be realized. Using available evidence and judgment, we establish a valuation allowance for deferred tax assets, when it is determined that it is more likely than not that they will not be realized. Valuation allowances have been provided primarily against the U.S. research and development credits. Valuation allowances have also been provided against certain acquired operating losses and the deferred tax assets of foreign subsidiaries. A change in the assessment of the realization of deferred tax assets may materially impact our tax provision in the period in which a change of assessment occurs.

As a multinational corporation, we conduct our business in many countries and are subject to taxation in many jurisdictions. The taxation of our business is subject to the application of various and sometimes conflicting tax laws and regulations as well as multinational tax conventions. Our effective tax rate is highly dependent upon the geographic distribution of our worldwide earnings or losses, the tax regulations and tax holidays in each geographic region, the availability of tax credits and carryforwards, and the effectiveness of our tax planning strategies which includes our estimates of the fair value of our intellectual property. The application of tax laws and regulations is subject to legal and factual interpretation, judgment and uncertainty. Tax laws themselves are subject to change as a result of changes in fiscal policy, changes in legislation, and the evolution of regulations and court rulings. Consequently, taxing authorities may impose tax assessments or judgments against us that could materially impact our tax liability and/or our effective income tax rate.

We are subject to income tax audits by the respective tax authorities in all of the jurisdictions in which we operate. We recognize the effect of income tax positions only if these positions are more likely than not of being sustained. Recognized income tax positions are measured at the largest amount that is more than 50% likely of being realized. Changes in recognition or measurement are reflected in the period in which the change in judgment occurs. We record interest and penalties related to unrecognized tax benefits in income tax expense. The calculation of our tax liabilities involves the inherent uncertainty associated with complex tax laws. We believe we have adequately provided for in our financial statements additional taxes that we estimate may be required to be paid as a result of such examinations. While we believe that we have adequately provided for all tax positions, amounts asserted by tax authorities could be greater or less than our accrued position. These tax liabilities, including the interest and penalties, are released pursuant to a settlement with tax authorities, completion of audit or expiration of various statutes of limitation. The material jurisdictions in which we may be subject to potential examination by tax authorities throughout the world include China, India, Israel, Singapore, Switzerland and the United States.

The recognition and measurement of current taxes payable or refundable, and deferred tax assets and liabilities require that we make certain estimates and judgments. Changes to these estimates or a change in judgment may have a material impact on our tax provision in a future period.

Long-lived Assets and Intangible Assets. We assess the impairment of long-lived assets and intangible assets whenever events or changes in circumstances indicate that the carrying value of such assets may not be recoverable. Circumstances which could trigger a review include, but are not limited to the following:

- significant decreases in the market price of the asset;
- significant adverse changes in the business climate or legal factors;
- accumulation of costs significantly in excess of the amount originally expected for the acquisition or construction of the asset;
- current period cash flow or operating losses combined with a history of losses or a forecast of continuing losses associated with the use of the asset; and
- current expectation that the asset will more likely than not be sold or disposed of significantly before the end of its estimated useful life.

Whenever events or changes in circumstances suggest that the carrying amount of long-lived assets and intangible assets may not be recoverable, we estimate the future cash flows expected to be generated by the asset from its use or eventual disposition. If the sum of the expected future cash flows is less than the carrying amount of those assets, we recognize an impairment loss based on the excess of the carrying amount over the fair value of the assets. Significant management judgment is required in the forecasts of future operating results that are used in the discounted cash flow method of valuation. These significant judgments may include future expected revenue, expenses, capital expenditures and other costs, and discount rates.

Goodwill. We record goodwill when the consideration paid for a business acquisition exceeds the fair value of net tangible and intangible assets acquired. We review goodwill for impairment annually on the last business day of our fiscal fourth quarter, and more frequently, if an event occurs or circumstances change that indicate the fair value of the reporting unit may be below its carrying amount. We have identified that our business operates as a single operating segment which can further be divided into two components; Storage and Networking. Management concluded that goodwill is recoverable from these two components working jointly due to a fact pattern demonstrating significant sharing of assets, corporate resources, and benefits from common research and development. The two components also exhibit similar economic characteristics. Accordingly, management concluded that these two components should be aggregated into a single reporting unit for purposes of testing goodwill impairment.

When testing goodwill for impairment, we first assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value or we may determine to proceed directly to the quantitative impairment test.

Factors we consider important in the qualitative assessment which could trigger a goodwill impairment review include;

- significant underperformance relative to historical or projected future operating results;
- significant changes in the manner of our use of the acquired assets or the strategy for our overall business;
- significant negative industry or economic trends;
- a significant decline in our stock price for a sustained period; and
- a significant change in our market capitalization relative to our net book value.

If we assess qualitative factors and conclude that it is more likely than not that the fair value of a reporting unit is less than its carrying amount, or if we determine not to use qualitative assessment, then a quantitative impairment test is performed. The quantitative impairment test requires comparing the fair value of the reporting unit to its carrying value, including goodwill. An impairment exists if the fair value of the reporting unit is lower than its carrying value. We would record an impairment loss in the fiscal quarter in which an impairment determination is made. Determining the fair value of a reporting unit involves the use of significant estimates and assumptions.

As of the last day of the fourth quarter of fiscal 2020, we performed our annual impairment assessment for testing goodwill. A step one assessment was performed. Based on our assessment, we determined there was no goodwill impairment.

Business Combinations. We allocate the fair value of the purchase consideration of a business acquisition to the tangible assets, liabilities, and intangible assets acquired, including in-process research and development (“IPR&D”), based on their estimated fair values. The excess of the fair value of purchase consideration over the fair values of these identifiable assets and liabilities is recorded as goodwill. IPR&D is initially capitalized at fair value as an intangible asset with an indefinite life and assessed for impairment thereafter. When an IPR&D project is completed, the IPR&D is reclassified as an amortizable purchased intangible asset and amortized over the asset’s estimated useful life. Our valuation of acquired assets and assumed liabilities requires significant estimates, especially with respect to intangible assets. The valuation of intangible assets, in particular, requires that we use valuation techniques such as the income approach. The income approach includes the use of a discounted cash flow model, which includes discounted cash flow scenarios and requires the following significant estimates: future expected revenue, expenses, capital expenditures and other costs, and discount rates. We estimate the fair value based upon assumptions we believe to be reasonable, but which are inherently uncertain and unpredictable and, as a result, actual results may differ from estimates. Estimates associated with the accounting for acquisitions may change as additional information becomes available regarding the assets acquired and liabilities assumed. Acquisition-related expenses and related restructuring costs are recognized separately from the business combination and are expensed as incurred.

Results of Operations

Years Ended February 1, 2020 and February 2, 2019

The following table sets forth information derived from our consolidated statements of operations expressed as a percentage of net revenue:

	Year Ended	
	February 1, 2020	February 2, 2019
Net revenue	100.0 %	100.0 %
Cost of goods sold	49.7	49.1
Gross profit	50.3	50.9
Operating expenses:		
Research and development	40.0	31.9
Selling, general and administrative	17.3	14.8
Restructuring related charges	2.0	2.7
Total operating expenses	59.3	49.4
Operating income (loss)	(9.0)	1.5
Interest income	0.2	0.4
Interest expense	(3.2)	(2.1)
Other income, net	41.6	—
Income (loss) before income taxes	29.6	(0.2)
Provision (benefit) for income taxes	(29.0)	6.0
Income (loss), net of tax	58.6 %	(6.2)%

Net Revenue

	Year Ended		% Change in 2020
	February 1, 2020	February 2, 2019	
	(in thousands, except percentage)		
Net revenue	\$ 2,699,161	\$ 2,865,791	(5.8) %

At the beginning of fiscal 2019, we adopted the new revenue recognition standard using the modified retrospective method. Refer to “Note 8 - Revenue” in the Notes to the Consolidated Financial Statements set forth in Part II, Item 8 of this Annual Report on Form 10-K for further information.

Our net revenue for fiscal 2020 decreased by \$166.6 million compared to net revenue for fiscal 2019. This decrease was primarily due to a 17% decrease in sales of our storage products, partially offset by a 5% increase in sales of our networking products and a 5% increase in sales of our other products. Average selling prices increased 11% compared to fiscal 2019, and unit shipments were 19% lower compared to fiscal 2019, for an overall decrease in net revenue of 6%.

Cost of Goods Sold and Gross Profit

	Year Ended		% Change in 2020
	February 1, 2020	February 2, 2019	
	(in thousands, except percentages)		
Cost of goods sold	\$ 1,342,220	\$ 1,407,399	(4.6) %
% of net revenue	49.7 %	49.1 %	
Gross profit	\$ 1,356,941	\$ 1,458,392	(7.0) %
% of net revenue	50.3 %	50.9 %	

The cost of goods sold as a percentage of net revenue was higher for fiscal 2020 primarily due to increased costs from higher amortization of acquired intangible assets related to acquisitions and higher manufacturing costs, partially offset by decreased costs from amortization of inventory fair value adjustment associated with the Aquantia and Avera acquisitions compared to the costs associated with the Cavium acquisition in fiscal 2019. As a result, gross margin for fiscal 2020 decreased 0.6 percentage points compared to fiscal 2019.

Research and Development

	Year Ended		% Change in 2020
	February 1, 2020	February 2, 2019	
	(in thousands, except percentages)		
Research and development	\$ 1,080,391	\$ 914,009	18.2 %
% of net revenue	40.0 %	31.9 %	

Research and development expense increased by \$166.4 million in fiscal 2020 compared to fiscal 2019. The increase was due primarily to additional costs from our acquisitions of Cavium, Aquantia and Avera, including \$186.2 million of higher employee personnel-related costs, \$10.7 million of higher depreciation and amortization expense, \$10.5 million of higher engineering supplies expense and \$8.9 million of higher computer-aided design software related costs. The increase was partially offset by \$71.8 million of higher non-recurring engineering credits.

Selling, General and Administrative

	Year Ended		% Change in 2020
	February 1, 2020	February 2, 2019	
	(in thousands, except percentages)		
Selling, general and administrative	\$ 464,580	\$ 424,360	9.5 %
% of net revenue	17.3 %	14.8 %	

Selling, general and administrative expense increased by \$40.2 million in fiscal 2020 compared to fiscal 2019. The increase was due primarily to additional costs from our acquisition of Cavium, Aquantia and Avera, including \$39.4 million of higher intangibles amortization expense, \$7.0 million of higher employee personnel-related costs, \$5.5 million of higher depreciation and amortization expense, partially offset by \$8.1 million of lower integration costs.

Share-Based Compensation Expense

	Year Ended	
	February 1, 2020	February 2, 2019
	(in thousands)	
Cost of goods sold	\$ 13,759	\$ 12,024
Research and development	157,054	108,762
Selling, general and administrative	71,996	77,309
Total share-based compensation	\$ 242,809	\$ 198,095

Share-based compensation expense increased by \$44.7 million in fiscal 2020 compared to fiscal 2019. The increase was mainly due to additional equity awards assumed upon the Cavium and Aquantia acquisitions as described in "Note 3 - Business Combinations" in the Notes to the Consolidated Financial Statements. The increase was partially offset by the higher acceleration expense from the Cavium acquisition which occurred only in fiscal 2019 as well as forfeitures from the divestiture of the Wi-Fi Connectivity business in fiscal 2020.

Restructuring and Other Related Charges

	Year Ended	
	February 1, 2020	February 2, 2019
	(in thousands)	
Restructuring related charges	\$ 55,328	\$ 76,753

We recorded total restructuring charges and other related charges of \$55.3 million in fiscal 2020 as we integrate the newly acquired businesses and continue to evaluate our existing operations to increase operational efficiency, decrease costs and improve profitability. See “Note 6 - Restructuring and Other Related Charges” in the Notes to the Consolidated Financial Statements for further information.

Interest Income

	Year Ended		% Change in 2020
	February 1, 2020	February 2, 2019	
	(in thousands, except percentages)		
Interest income	\$ 4,816	\$ 11,926	(59.6)%
% of net revenue	0.2 %	0.4 %	

Interest income decreased by \$7.1 million in fiscal 2020 compared to fiscal 2019. The decrease in fiscal 2020 is primarily due to the sale of investments in fiscal 2019.

Interest Expense

	Year Ended		% Change in 2020
	February 1, 2020	February 2, 2019	
	(in thousands, except percentages)		
Interest expense	\$ (85,631)	\$ (60,362)	41.9 %
% of net revenue	(3.2)%	(2.1)%	

Interest expense increased by \$25.3 million in fiscal 2020 compared to fiscal 2019. The increase in fiscal 2020 is primarily due to interest expense incurred for a full year in fiscal 2020 resulting from the issuance of our 2023 Notes, 2028 Notes and amounts borrowed under our credit agreement.

Other Income, net

	Year Ended		% Change in 2020
	February 1, 2020	February 2, 2019	
	(in thousands, except percentages)		
Other income, net	\$ 1,122,555	\$ 519	*
% of net revenue	41.6 %	— %	

*Not meaningful

Other income increased by \$1.1 billion in fiscal 2020 compared to fiscal 2019. The increase in fiscal 2020 is primarily due to the gain on sale of the Wi-Fi Connectivity business in fiscal 2020.

Provision for Income Taxes

	Year Ended		% Change in 2020
	February 1, 2020	February 2, 2019	
	(in thousands, except percentage)		
Provision for income taxes	\$ (786,009)	\$ 174,447	(550.6)%

The income tax benefit for fiscal 2020 is primarily related to the recognition of a \$763.0 million tax benefit for the intra-entity transfer of the majority of our intellectual property to a subsidiary in Singapore. This resulted in the recognition of a deferred tax asset and tax benefit of \$659.0 million related to the Singapore tax basis in the intellectual property. In addition, we recognized \$104.0 million of income tax benefit from the reversal of deferred tax liabilities primarily related to previously acquired intangible assets. The income tax expense for fiscal 2019 was primarily the result of restructurings involving the transfer of certain assets and intellectual property used in the business among various subsidiaries and represented the estimated U.S. tax to be paid currently and in future years on income generated from the intellectual property transfer. These transactions align the global economic ownership of our intellectual property rights with our current and future business operations. We continue to evaluate potential changes to our legal entity structure in response to guidelines and requirements in various international tax jurisdictions where we conduct business.

Our provision for incomes taxes may be affected by changes in the geographic mix of earnings with different applicable tax rates, changes in the realizability of deferred tax assets and liabilities, accruals related to contingent tax liabilities and period-to-period changes in such accruals, the results of income tax audits, the expiration of statutes of limitations, the implementation of tax planning strategies, tax rulings, court decisions, settlements with tax authorities and changes in tax laws. Additionally, please see the information in “Item 1A: Risk Factors” under the caption “*Changes in existing taxation benefits, rules or practices may adversely affect our financial results.*”

Our Annual Report on Form 10-K for the year ended February 2, 2019 includes a discussion and analysis of our financial condition and results of operations for the year ended February 3, 2018 and year-to-year comparisons between the fiscal years ended February 2, 2019 and February 3, 2018 in Item 7 of Part II, “Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

Liquidity and Capital Resources

Our principal source of liquidity as of February 1, 2020 consisted of approximately \$648 million of cash and cash equivalents, of which approximately \$421 million was held by subsidiaries outside of Bermuda. We plan to use such amounts to fund various activities outside of Bermuda, including working capital requirements, capital expenditures for expansion, funding of future acquisitions or other financing activities.

In June 2018, we executed debt agreements to obtain a \$900 million term loan and \$1.0 billion of senior unsecured notes in order to fund the Cavium acquisition. In addition, we executed a debt agreement in June 2018 to obtain a \$500 million Revolving Credit Facility. On September 17, 2019, we drew down \$350 million of the Revolving Credit Facility to fund a portion of the cash consideration for the Aquantia acquisition. On November 4, 2019, we entered into a Term Credit Agreement with certain lenders which provides for borrowings of \$600 million in the form of a Bridge loan in order to fund the Avera acquisition.

On December 6, 2019, we completed the sale of our Wi-Fi Connectivity business to NXP. The divestiture encompasses our Wi-Fi and Wi-Fi/Bluetooth technology portfolios and related assets. See “Note 1 - Basis of Presentation” in the Notes to the Consolidated Financial Statements for more information. During the year ended February 1, 2020, we used a portion of the \$1.7 billion cash consideration to pay down the bridge loan of \$600 million, pay down the Revolving Credit Facility of \$350 million as mentioned above, as well as to pay down the term loan by \$250 million and to repurchase our common shares. As of February 1, 2020, our net carrying amount of debt was \$1.4 billion. See “Note 12 - Debt” and “Note 14 - Shareholders’ Equity” in the Notes to the Consolidated Financial Statements for further information.

We believe that our existing cash, cash equivalents, together with cash generated from operations, and funds from our Revolving Credit Facility will be sufficient to cover our working capital needs, capital expenditures, investment requirements and any declared dividends, repurchase of our common stock and commitments for at least the next twelve months. Our capital requirements will depend on many factors, including our rate of sales growth, market acceptance of our products, costs of securing access to adequate manufacturing capacity, the timing and extent of research and development projects and increases in operating expenses, which are all subject to uncertainty.

To the extent that our existing cash, cash equivalents and short-term investments together with cash generated by operations, and funds available under our Revolving Credit Facility are insufficient to fund our future activities, we may need to raise additional funds through public or private debt or equity financing. We may also acquire additional businesses, purchase assets or enter into other strategic arrangements in the future, which could also require us to seek debt or equity financing. Additional equity financing or convertible debt financing may be dilutive to our current shareholders. If we elect to raise additional funds, we may not be able to obtain such funds on a timely basis or on acceptable terms, if at all. In addition, the equity or debt securities that we issue may have rights, preferences or privileges senior to our common shares.

Future payment of a regular quarterly cash dividend on our common shares and our planned repurchases of common stock will be subject to, among other things, the best interests of the Company and our shareholders, our results of operations, cash balances and future cash requirements, financial condition, developments in ongoing litigation, statutory requirements under Bermuda law, market conditions and other factors that our board of directors may deem relevant. Our dividend payments and repurchases of common stock may change from time to time, and we cannot provide assurance that we will continue to declare dividends or repurchase shares at all or in any particular amounts.

Cash Flows from Operating Activities

Net cash provided by operating activities was \$360.3 million for fiscal 2020 compared to net cash provided by operating activities of \$596.7 million for fiscal 2019. The cash inflows from operations for fiscal 2020 were primarily due to \$1.6 billion of net income adjusted for \$1.0 billion of non-cash items and a net decrease from changes in working capital of \$190.8 million. The cash outflow from working capital for fiscal 2020 was primarily driven by a decrease in accrued liabilities and other non-current liabilities due to payment of interest, deal cost and severance.

The cash inflows from operations for fiscal 2019 were primarily due to \$179.1 million of net loss adjusted for \$850.3 million of non-cash items, offset by a net decrease from changes in working capital of \$74.4 million. The cash outflow from working capital for fiscal 2019 was primarily driven by an increase in accounts receivable, which was primarily due to an increase in the days sales outstanding.

Cash Flows from Investing Activities

Net cash provided by investing activities of \$558.8 million in fiscal year 2020 was primarily driven by the proceeds from sale of business of \$1.7 billion and maturities of available-for-sale securities of \$18.8 million, partially offset by net cash paid to acquire Aquantia and Avera of \$1.1 billion and purchases of property and equipment of \$81.9 million.

Net cash used in investing activities of \$1.8 billion in fiscal year 2019 was primarily driven by the net cash paid to acquire Cavium of \$2.6 billion and purchases of property and equipment of \$75.9 million, partially offset by sales and maturities of available-for-sale securities and time deposits of \$986.9 million.

Cash Flows from Financing Activities

Net cash used in financing activities of \$853.9 million in fiscal year 2020 was primarily attributable to \$1.3 billion repayment of debt principal, \$364.3 million payment for repurchases of our common stock and \$159.6 million payment for our quarterly dividends. This cash outflow was partially offset by \$1.0 billion proceeds from issuance of debt and \$49.0 million net proceeds from the issuance of our common shares under our share-based plans, less the tax withholding on behalf of employees for net share settlements.

Net cash provided by financing activities of \$849.7 million in fiscal year 2019 was primarily attributable to \$1.9 billion proceeds from issuance of debt and \$46.0 million net proceeds from the issuance of our common shares under our share-based plans, less the tax withholding on behalf of employees for net share settlements. This cash inflow was partially offset by \$756.1 million payment of debt principal, \$148.1 million payment for our quarterly dividends, and \$104.0 million payment for repurchases of our common stock.

Off-Balance Sheet Arrangements

As part of our ongoing business, we do not participate in transactions that generate relationships with unconsolidated entities of financial partnerships, such as entities often referred to as structured finance or special purpose entities, or variable interest entities, which would have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes. As of February 1, 2020, we did not have any off-balance sheet arrangements.

Contractual Obligations and Commitments

Under our manufacturing relationships with our foundry partners, cancellation of outstanding purchase orders is allowed but requires repayment of all expenses incurred through the date of cancellation. As of February 1, 2020, these foundries had incurred approximately \$163.7 million of manufacturing costs and expenses relating to our outstanding purchase orders.

The following table summarizes our contractual obligations as of February 1, 2020 and the effect that such obligations are expected to have on our liquidity and cash flow in future periods (in thousands):

	Payment Obligations by Fiscal Year						
	2021	2022	2023	2024	2025	Thereafter	Total
Contractual obligations:							
Principal payments on debt	\$ —	\$ 450,000	\$ —	\$ 500,000	\$ —	\$ 500,000	\$ 1,450,000
Interest obligations on debt	60,052	51,953	45,879	33,578	24,646	83,755	299,863
Facilities operating leases, net ⁽¹⁾	35,272	35,753	28,932	19,575	12,791	34,015	166,338
Purchase commitments to foundries	163,666	—	—	—	—	—	163,666
Capital purchase obligations	29,162	—	—	—	—	—	29,162
Technology license obligations ⁽²⁾	83,746	70,659	40,084	29,309	309	309	224,416
Other contractual commitments	—	157	111	80	11	2,860	3,219
Total contractual cash obligations	<u>\$ 371,898</u>	<u>\$ 608,522</u>	<u>\$ 115,006</u>	<u>\$ 582,542</u>	<u>\$ 37,757</u>	<u>\$ 620,939</u>	<u>\$ 2,336,664</u>

(1) Amounts exclude contractual sublease proceeds of \$26.4 million to be received through fiscal 2028. Refer to “Note 7 - Leases” in our Notes to the Consolidated Financial Statements set forth in Part II, Item 8 of this Annual Report on Form 10-K for more information.

(2) Amounts represent anticipated future cash payments, including anticipated interest payments not recorded in the consolidated balance sheet.

In addition to the above commitments and contingencies, as of February 1, 2020, we have \$20.3 million of unrecognized tax benefits as liabilities. We also have a liability for potential interest and penalties of \$12.4 million as of February 1, 2020. It is reasonably possible that the amount of unrecognized tax benefits could increase or decrease significantly due to changes in tax law in various jurisdictions, new tax audits and changes in the U.S. dollar as compared to foreign currencies within the next 12 months. Excluding these factors, uncertain tax positions may decrease by as much as \$15.2 million from the lapse of statutes of limitation in various jurisdictions during the next 12 months. Government tax authorities from several non-U.S. jurisdictions are also examining our tax returns. We believe that we have adequately provided for any reasonably foreseeable outcomes related to these tax audits and that any settlement will not have a material effect on our results at this time.

Recent Accounting Pronouncements

Please see “Note 2 - Significant Accounting Policies - Recent Accounting Pronouncements” in our Notes to the Consolidated Financial Statements set forth in Part II, Item 8 of this Annual Report on Form 10-K.

Related Party Transactions

None.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Interest Rate Risk. With our outstanding debt, we are exposed to various forms of market risk, including the potential losses arising from adverse changes in interest rates on our outstanding Term Loan, including changes that may result from implementation of new benchmark rates that replace LIBOR. See “Note 12 - Debt” for further information. A hypothetical increase or decrease in the interest rate by 1% would result in an increase or decrease in annual interest expense by approximately \$2.0 million to \$4.6 million.

We maintain an investment policy that requires minimum credit ratings, diversification of credit risk and limits the long-term interest rate risk by requiring effective maturities of generally less than five years. We invest our excess cash primarily in highly liquid debt instruments of the U.S. government and its agencies, money market mutual funds, corporate debt securities and municipal debt securities that are classified as available-for-sale and time deposits. These investments are recorded on our consolidated balance sheets at fair market value with their related unrealized gain or loss reflected as a component of accumulated other comprehensive income (loss) in the consolidated statement of shareholders’ equity. Investments in both fixed rate and floating rate interest earning securities carry a degree of interest rate risk. Fixed rate securities may have their fair market value adversely impacted due to a rise in interest rates, while floating rate securities may produce less income than predicted if interest rates fall. At February 1, 2020, our investment portfolio balance was \$0.

Foreign Currency Exchange Risk. All of our sales and the majority of our expenses are denominated in U.S. dollars. Since we operate in many countries, a percentage of our international operational expenses are denominated in foreign currencies and exchange volatility could positively or negatively impact those operating costs. Increases in the value of the U.S. dollar relative to other currencies could make our products more expensive, which could negatively impact our ability to compete. Conversely, decreases in the value of the U.S. dollar relative to other currencies could result in our suppliers raising their prices to continue doing business with us. Additionally, we may hold certain assets and liabilities, including potential tax liabilities, in local currency on our consolidated balance sheet. These tax liabilities would be settled in local currency. Therefore, foreign exchange gains and losses from remeasuring the tax liabilities are recorded to interest and other income, net. We do not believe that foreign exchange volatility has a material impact on our current business or results of operations. However, fluctuations in currency exchange rates could have a greater effect on our business or results of operations in the future to the extent our expenses increasingly become denominated in foreign currencies.

We may enter into foreign currency forward and option contracts with financial institutions to protect against foreign exchange risks associated with certain existing assets and liabilities, certain firmly committed transactions, forecasted future cash flows and net investments in foreign subsidiaries. However, we may choose not to hedge certain foreign exchange exposures for a variety of reasons, including, but not limited to, accounting considerations and the prohibitive economic cost of hedging particular exposures.

To provide an assessment of the foreign currency exchange risk associated with our foreign currency exposures within operating expense, we performed a sensitivity analysis to determine the impact that an adverse change in exchange rates would have on our financial statements. If the U.S. dollar weakened by 10%, our operating expense could increase by approximately 2%.

Item 8. Financial Statements and Supplementary Data

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of Marvell Technology Group Ltd.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Marvell Technology Group Ltd. and subsidiaries (the “Company”) as of February 1, 2020, and February 2, 2019, the related consolidated statements of operations, comprehensive income (loss), shareholders’ equity, and cash flows for each of the three years in the period ended February 1, 2020, and the related notes and the schedule listed in the Index at Item 15 (collectively referred to as the “financial statements”). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of February 1, 2020, and February 2, 2019, and the results of its operations and its cash flows for each of the three years in the period ended February 1, 2020, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company’s internal control over financial reporting as of February 1, 2020, based on criteria established in *Internal Control-Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated March 23, 2020, expressed an unqualified opinion on the Company’s internal control over financial reporting.

Basis for Opinion

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

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

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current-period audit of the financial statements that were communicated or required to be communicated to the audit committee and that (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Business Combinations – Refer to Note 3 to the consolidated financial statements

Description of the Matter

The Company completed the acquisitions of Aquantia and Avera for \$502.2 million and \$593.5 million, respectively, during the year ended February 1, 2020. The Company estimated the fair value of intangible assets acquired of \$193.0 million and \$379.0 million, respectively, and net tangible assets of \$81.6 million and \$85.1 million, respectively, with the excess purchase price over the fair value of total net assets acquired of \$227.6 million and \$129.4 million, respectively, recorded as goodwill.

The fair value determination of acquired intangible assets for these acquisitions required management to make significant estimates. These estimates included, among others, forecasted discounted cash flows which comprised significant assumptions for revenue growth rates and the selection of an appropriate discount rate, among others. There was a high degree of auditor judgment and subjectivity in determining the appropriate audit procedures and performing such procedures relating to the fair value measurement of acquired intangible assets due to the significant amount of management judgment in developing such estimates. Significant audit effort was required in performing procedures and evaluating the significant assumptions relating to these estimates. The audit effort also involved the use of professionals with specialized skills and knowledge to assist in evaluating the audit evidence obtained from these procedures.

How we Addressed the Matter in our Audit

Our audit procedures related to management's estimates for the fair value of acquired intangible assets included the following, among others:

- We tested the operating effectiveness of internal controls over business combinations, including internal controls over the modelling of future cash flows, the determination of the revenue growth rates and discount rate assumptions, and ultimately the determination of the fair value of the acquired intangible assets;
- We assessed the reasonableness of management's revenue growth rate assumptions by comparing the projections to the acquired companies' historical results and those of certain peer companies, as well as performing inquiries with certain members of management;
- With the assistance of our fair value specialists, we evaluated the reasonableness of (1) the valuation methodology and (2) discount rates, including testing the source information underlying the determination of the discount rates, testing the mathematical accuracy of the calculation, and developing a range of independent estimates and comparing those to the discount rates selected by management;
- We evaluated whether the audit evidence obtained through these procedures was consistent with evidence obtained in other areas of the audit.

Income Taxes — Refer to Note 16 to the consolidated financial statements

Description of the Matter

In connection with the Company's intra-entity transfer of its intellectual property rights to align the Company's legal entity structure with its current and future business operations, certain share exchange transactions were executed, and intellectual property rights were transferred between various legal entities. A failure to execute this transaction appropriately could significantly impact the amount of the Company's current and future tax expense or benefit.

The tax impact to the Company depended on the fair value determination of the intellectual property rights which required management to make significant estimates of forecasted discounted cash flows. Management estimates included significant assumptions for revenue growth rates and the selection of an appropriate discount rate, among others. Management also utilized external specialists to assist in the interpretation and application of complex tax regulations in multiple jurisdictions.

There was a high degree of auditor judgment and subjectivity in applying audit procedures relating to the fair value measurement of the intellectual property rights due to the significant amount of management judgment in developing such estimates. Additionally, the evaluation of management's tax positions involved the interpretation of complex tax regulations in multiple jurisdictions. Significant audit effort was required in performing procedures and evaluating the significant assumptions relating to the estimates and the interpretation of tax regulations. The audit effort also involved the use of professionals with specialized skills and knowledge to assist in evaluating the audit evidence obtained from these procedures.

How we Addressed the Matter in our Audit

Our audit procedures related to the intra-entity transfer of intellectual property rights included the following, among others:

- We tested the operating effectiveness of internal controls over the income tax treatment of the intra-entity transfer of intellectual property rights, including internal controls over the establishment of the legal entity structure, and the valuations of the intellectual property rights and related share exchanges;

- With the assistance of our income tax specialists, including our international tax and transfer pricing specialists, we evaluated the reasonableness of 1) the technical merits of the Company's tax position of the resulting legal entity structure with the relevant tax laws and legal rulings in multiple jurisdictions currently in effect, 2) the valuation methodologies for the intellectual property rights and related share exchanges, 3) the discount rates including testing the source information underlying the determination of the discount rates, and 4) the testing of the mathematical accuracy of the calculations used in the model;
- We assessed the reasonableness of management's revenue growth rate assumptions by comparing them to the Company's historical growth rates and industry forecasts as well as performing inquiries with certain members of management;
- We evaluated whether the audit evidence obtained through these procedures was consistent with evidence obtained in other areas of the audit.

/s/ DELOITTE & TOUCHE, LLP

San Jose, California
March 23, 2020

We have served as the Company's auditor since 2016.

MARVELL TECHNOLOGY GROUP LTD.
CONSOLIDATED BALANCE SHEETS
(In thousands, except par value per share)

	February 1, 2020	February 2, 2019
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 647,604	\$ 582,410
Accounts receivable, net	492,346	493,122
Inventories	322,980	276,005
Prepaid expenses and other current assets	74,567	43,721
Total current assets	1,537,497	1,395,258
Property and equipment, net	357,092	318,978
Goodwill	5,337,405	5,494,505
Acquired intangible assets, net	2,764,600	2,560,682
Deferred tax assets	639,791	12,460
Other non-current assets	496,850	234,869
Total assets	<u>\$ 11,133,235</u>	<u>\$ 10,016,752</u>
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 213,747	\$ 185,362
Accrued liabilities	346,639	335,509
Accrued employee compensation	149,780	115,925
Total current liabilities	710,166	636,796
Long-term debt	1,439,024	1,732,699
Deferred tax liabilities	31,233	246,252
Other non-current liabilities	274,232	94,595
Total liabilities	2,454,655	2,710,342
Commitments and contingencies (Note 13)		
Shareholders' equity:		
Preferred stock, \$0.002 par value; 8,000 shares authorized; no shares issued and outstanding	—	—
Common stock, \$0.002 par value; 992,000 shares authorized; 663,481 and 658,514 shares issued and outstanding in fiscal 2020 and 2019, respectively	1,328	1,317
Additional paid-in capital	6,135,939	6,188,598
Retained earnings	2,541,313	1,116,495
Total shareholders' equity	8,678,580	7,306,410
Total liabilities and shareholders' equity	<u>\$ 11,133,235</u>	<u>\$ 10,016,752</u>

See accompanying Notes to Consolidated Financial Statements.

MARVELL TECHNOLOGY GROUP LTD.

CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share amounts)

	Year Ended		
	February 1, 2020	February 2, 2019	February 3, 2018
Net revenue	\$ 2,699,161	\$ 2,865,791	\$ 2,409,170
Cost of goods sold	1,342,220	1,407,399	947,230
Gross profit	1,356,941	1,458,392	1,461,940
Operating expenses:			
Research and development	1,080,391	914,009	714,444
Selling, general and administrative	464,580	424,360	238,166
Litigation settlement	—	—	74,385
Restructuring related charges	55,328	76,753	5,250
Total operating expenses	1,600,299	1,415,122	1,032,245
Operating income (loss) from continuing operations	(243,358)	43,270	429,695
Interest income	4,816	11,926	17,381
Interest expense	(85,631)	(60,362)	(685)
Other income, net	1,122,555	519	4,813
Interest and other income (loss), net	1,041,740	(47,917)	21,509
Income (loss) from continuing operations before income taxes	798,382	(4,647)	451,204
Provision (benefit) for income taxes	(786,009)	174,447	18,062
Income (loss) from continuing operations, net of tax	\$ 1,584,391	\$ (179,094)	\$ 433,142
Income (loss) from discontinued operations, net of tax	—	—	87,689
Net income (loss)	\$ 1,584,391	\$ (179,094)	\$ 520,831
Net income (loss) per share - Basic:			
Continuing operations	\$ 2.38	\$ (0.30)	\$ 0.87
Discontinued operations	\$ —	\$ —	\$ 0.18
Net income (loss) per share - Basic	\$ 2.38	\$ (0.30)	\$ 1.05
Net income (loss) per share - Diluted:			
Continuing operations	\$ 2.34	\$ (0.30)	\$ 0.85
Discontinued operations	\$ —	\$ —	\$ 0.17
Net income (loss) per share - Diluted	\$ 2.34	\$ (0.30)	\$ 1.02
Weighted-average shares:			
Basic	664,709	591,232	498,008
Diluted	676,094	591,232	509,667

See accompanying Notes to Consolidated Financial Statements.

MARVELL TECHNOLOGY GROUP LTD.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(In thousands)

	Year Ended		
	February 1, 2020	February 2, 2019	February 3, 2018
Net income (loss)	\$ 1,584,391	\$ (179,094)	\$ 520,831
Other comprehensive income (loss), net of tax:			
Net change in unrealized gain (loss) on marketable securities	—	2,322	(1,521)
Net change in unrealized gain (loss) on cash flow hedges	—	—	(824)
Other comprehensive income (loss), net of tax	—	2,322	(2,345)
Comprehensive income (loss), net of tax	<u>\$ 1,584,391</u>	<u>\$ (176,772)</u>	<u>\$ 518,486</u>

See accompanying Notes to Consolidated Financial Statements.

MARVELL TECHNOLOGY GROUP LTD.

CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY
(In thousands, except per share amounts)

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings	Total
	Shares	Amount				
Balance at January 28, 2017	506,095	\$ 1,012	\$ 3,016,775	\$ 23	\$ 1,009,841	\$ 4,027,651
Issuance of ordinary shares in connection with equity incentive plans	21,278	42	180,260	—	—	180,302
Tax withholdings related to net share settlement of restricted stock units	—	—	(26,840)	—	—	(26,840)
Share-based compensation	—	—	87,140	—	—	87,140
Repurchase of common stock	(31,460)	(63)	(526,012)	—	—	(526,075)
Cash dividends declared and paid (cumulatively \$0.24 per share)	—	—	—	—	(119,251)	(119,251)
Cumulative effect of stock compensation accounting change - see Note 2	—	—	1,969	—	(1,969)	—
Net income	—	—	—	—	520,831	520,831
Other comprehensive income	—	—	—	(2,345)	—	(2,345)
Balance at February 3, 2018	495,913	991	2,733,292	(2,322)	1,409,452	4,141,413
Effect of revenue recognition accounting change	—	—	—	—	34,218	34,218
Issuance of ordinary shares in connection with equity incentive plans	14,164	29	101,140	—	—	101,169
Tax withholdings related to net share settlement of restricted stock units	—	—	(54,934)	—	—	(54,934)
Share-based compensation	—	—	184,956	—	—	184,956
Common stock issued to Cavium common stockholders	153,376	307	3,272,746	—	—	3,273,053
Stock consideration for Cavium accelerated awards	1,102	2	7,802	—	—	7,804
Equity related issuance cost	—	—	(2,927)	—	—	(2,927)
Replacement equity awards attributable to pre-acquisition service	—	—	50,485	—	—	50,485
Repurchase of common stock	(6,041)	(12)	(103,962)	—	—	(103,974)
Cash dividends declared and paid (cumulatively \$0.24 per share)	—	—	—	—	(148,081)	(148,081)
Net loss	—	—	—	—	(179,094)	(179,094)
Other comprehensive loss	—	—	—	2,322	—	2,322
Balance at February 2, 2019	658,514	1,317	6,188,598	—	1,116,495	7,306,410
Issuance of ordinary shares in connection with equity incentive plans	19,453	40	147,013	—	—	147,053
Tax withholdings related to net share settlement of restricted stock units	—	—	(98,293)	—	—	(98,293)
Share-based compensation	—	—	243,937	—	—	243,937
Issuance of warrant for common stock	—	—	3,407	—	—	3,407
Replacement equity awards attributable to pre-acquisition service	—	—	15,520	—	—	15,520
Repurchase of common stock	(14,486)	(29)	(364,243)	—	—	(364,272)
Cash dividends declared and paid (cumulatively \$0.24 per share)	—	—	—	—	(159,573)	(159,573)
Net income	—	—	—	—	1,584,391	1,584,391
Balance at February 1, 2020	663,481	\$ 1,328	\$ 6,135,939	\$ —	\$ 2,541,313	\$ 8,678,580

See accompanying Notes to Consolidated Financial Statements.

MARVELL TECHNOLOGY GROUP LTD.

CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Year Ended		
	February 1, 2020	February 2, 2019	February 3, 2018
Cash flows from operating activities:			
Net income (loss)	\$ 1,584,391	\$ (179,094)	\$ 520,831
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Depreciation and amortization	156,658	123,983	83,487
Share-based compensation	242,207	184,064	86,689
Amortization of acquired intangible assets	368,082	183,318	3,570
Amortization of inventory fair value adjustment associated with acquisitions	55,826	223,372	—
Amortization of deferred debt issuance costs and debt discounts	6,763	11,354	—
Restructuring related impairment charges (gain)	17,571	(200)	(4,561)
Deferred income taxes	(785,158)	118,647	19,825
Loss (gain) on sale of business and discontinued operations	(1,121,709)	1,592	(93,660)
Other expense (income), net	26,448	4,154	(925)
Changes in assets and liabilities:			
Accounts receivable	11,244	(99,044)	54,989
Inventories	12,759	4,348	(12,160)
Prepaid expenses and other assets	(54,138)	(11,685)	12,494
Accounts payable	1,658	(6,493)	(16,613)
Accrued liabilities and other non-current liabilities	(182,893)	85,027	(70,917)
Accrued employee compensation	20,588	(46,599)	(11,936)
Net cash provided by operating activities	360,297	596,744	571,113
Cash flows from investing activities:			
Purchases of available-for-sale securities	—	(14,956)	(835,494)
Sales of available-for-sale securities	18,832	623,896	306,822
Maturities of available-for-sale securities	—	187,985	426,341
Purchases of time deposits	—	(25,000)	(300,000)
Maturities of time deposits	—	175,000	300,000
Purchases of technology licenses	(4,712)	(11,540)	(6,587)
Purchases of property and equipment	(81,921)	(75,921)	(38,551)
Proceeds from sales of property and equipment	620	43,525	12,559
Cash payment for acquisitions, net of cash and cash equivalents acquired	(1,071,079)	(2,649,465)	—
Net proceeds from sale of discontinued operations	—	—	165,940
Net proceeds from sale of business	1,698,783	(3,352)	2,402
Other, net	(1,677)	(2,725)	6,089
Net cash provided by (used in) investing activities	558,846	(1,752,553)	39,521
Cash flows from financing activities:			
Repurchases of common stock	(364,272)	(103,974)	(527,574)
Proceeds from employee stock plans	147,276	100,961	180,302
Tax withholding paid on behalf of employees for net share settlement	(98,302)	(54,939)	(26,840)
Dividend payments to shareholders	(159,573)	(148,081)	(119,251)
Payments on technology license obligations	(72,266)	(69,157)	(28,503)
Proceeds from issuance of debt	950,000	1,892,605	—
Principal payments of debt	(1,250,000)	(756,128)	—
Payment of equity and debt financing costs	—	(11,550)	(14,378)
Other, net	(6,812)	—	—
Net cash provided by (used in) in financing activities	(853,949)	849,737	(536,244)
Net increase (decrease) in cash and cash equivalents	65,194	(306,072)	74,390
Cash and cash equivalents at beginning of the year	582,410	888,482	814,092
Cash and cash equivalents at end of the year	\$ 647,604	\$ 582,410	\$ 888,482

See accompanying Notes to Consolidated Financial Statements.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 1 — Basis of Presentation

The Company

Marvell Technology Group Ltd., a Bermuda exempted company, and its subsidiaries (the “Company”), is a fabless semiconductor provider of high-performance application-specific standard products. The Company’s core strength is the development of complex System-on-a-Chip devices, leveraging its extensive technology portfolio of intellectual property in the areas of analog, mixed-signal, digital signal processing, and embedded and standalone integrated circuits. The Company also develops platforms that it defines as integrated hardware along with software that incorporates digital computing technologies designed and configured to provide an optimized computing solution. The Company’s broad product portfolio includes devices for storage and networking.

Basis of Presentation

The Company’s fiscal year is the 52- or 53-week period ending on the Saturday closest to January 31. Accordingly, every fifth or sixth fiscal year will have a 53-week period. The additional week in a 53-week year is added to the fourth quarter, making such quarter consist of 14 weeks. Fiscal 2020 and fiscal 2019 each had a 52-week period, while fiscal 2018 had a 53-week period. Certain prior period amounts have been reclassified to conform to current year presentation.

On September 19, 2019, the Company completed the acquisition of Aquantia. On November 5, 2019, the Company completed the acquisition of Avera, the Application Specific Integrated Circuit (“ASIC”) business of GlobalFoundries. See “Note 3 - Business Combinations” for additional information.

On December 6, 2019, the Company completed the divestiture of the Wi-Fi Connectivity business to NXP USA, Inc, a subsidiary of NXP Semiconductors (“NXP”). Based on the terms of the agreement, the Company received sale consideration of \$1.7 billion in cash proceeds. The divestiture resulted in a pre-tax gain on sale of \$1.1 billion, which is included in other income, net in the Consolidated Statements of Operations for the year ended February 1, 2020.

On December 31, 2019, the Company completed an intra-entity transfer of the majority of its intellectual property to a subsidiary in Singapore. The transfer aligns the global economic ownership of the Company's intellectual property rights with its current and future business operations. The income tax benefit of \$763.0 million in fiscal 2020 is primarily due to the recognition of a deferred tax asset of \$659.0 million from the Singapore tax basis in the intellectual property. In addition, the Company recognized \$104.0 million of income tax benefit from the reversal of deferred tax liabilities primarily related to previously acquired intangible assets. See “Note 16 - Income Taxes” for additional information.

Note 2 — Significant Accounting Policies

Use of Estimates

The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States (“GAAP”) requires management to make estimates, judgments and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent liabilities. On an ongoing basis, the Company evaluates its estimates, including those related to performance-based compensation, revenue recognition, provisions for sales returns and allowances, inventory excess and obsolescence, investment fair values, goodwill and other intangible assets, restructuring, income taxes, litigation and other contingencies. Actual results could differ from these estimates, and such differences could affect the results of operations reported in future periods.

Principles of Consolidation

The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. All inter-company accounts and transactions have been eliminated. The functional currency of the Company and its subsidiaries is the U.S. dollar.

Discontinued Operations

In connection with the plan the Company announced in November 2016 to restructure its operations to refocus its research and development, increase operational efficiency and improve profitability, the Company also planned to divest certain businesses. As of February 1, 2020, three businesses were divested and are classified as discontinued operations (see “Note 5 - Discontinued Operations”). The Company has not segregated the cash flows of these businesses in the consolidated statements of cash flows. Unless noted otherwise, discussion in the Notes to Consolidated Financial Statements refers to the Company’s continuing operations.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Cash and Cash Equivalents

The Company considers all highly liquid investments with an original maturity of three months or less from the date of purchase to be cash equivalents. Cash and cash equivalents consist of cash on deposit with banks and time deposits.

Investments

The Company classifies debt securities as available-for-sale and reports such investments at fair value. The Company determines any realized gains or losses on the sale of available-for-sale securities on a specific identification method, and such gains and losses are recorded as a component of interest and other income (loss), net. Unrealized gains and losses of the available-for-sale securities are excluded from earnings and reported as a component of accumulated other comprehensive income. Time deposits with maturities greater than 90 days, but less than one year, are classified in short-term investments as held-to-maturity since the Company has both the intent and ability to hold them to maturity.

In general, investments with original maturities of greater than 90 days and remaining maturities of less than one year are classified as short-term investments. Investments with maturities beyond one year may also be classified as short-term based on their highly liquid nature and can be sold to fund current operations.

The Company also has equity investments in privately-held companies. If the Company has the ability to exercise significant influence over the investee, but not control, the Company accounts for the investment under the equity method. If the Company does not have the ability to exercise significant influence over the operations of the investee, the Company accounts for the investment under the measurement alternative method. Investments in privately-held companies are included in other non-current assets.

Impairment of Investments

The Company performs a periodic review of its available-for-sale securities to determine whether an other-than-temporary impairment has occurred. Generally, for an individual security that has been in an unrealized loss position for an extended period of time, the Company evaluates whether an impairment charge should be recognized. Its evaluation is based on specific facts and circumstances at the time of assessment, including general market conditions, and the duration and extent to which the fair value is below cost. If the fair value of a debt security is less than its amortized cost, then an other-than-temporary impairment for the difference is recognized if:

- the Company has the intent to sell the security;
- it is more likely than not that the Company will be required to sell the security before recovery of its amortized cost base; or
- a credit loss exists insofar as the Company does not expect to recover the entire recognized amortized cost of the security.

If a debt security's market value is below amortized cost and the Company either intends to sell the security or it is more likely than not that the Company will be required to sell the security before its anticipated recovery, the Company records an other-than-temporary impairment charge to interest and other income (loss), net in the consolidated statements of operations.

Investments in privately-held companies are subject to a periodic impairment review. Investments are considered impaired when the fair value is below the investment's cost basis. This assessment is based on a qualitative and quantitative analysis, including, but not limited to, the investee's revenue and earnings trends, available cash and liquidity, and the status of the investee's products and the related market for such products.

Concentration of Credit Risk and Significant Customers

Financial instruments that potentially subject the Company to a significant concentration of credit risk consist principally of cash equivalents and accounts receivable. Cash and cash equivalents are maintained with high-quality financial institutions, the composition and maturities of which are regularly monitored by management. The Company believes that the concentration of credit risk in its trade receivables is substantially mitigated by the Company's credit evaluation process, relatively short collection terms and the high level of credit worthiness of its customers. The Company performs ongoing credit evaluations of its customers' financial conditions and limits the amount of credit extended when deemed necessary based upon payment history and the customer's current credit worthiness, but generally requires no collateral. The Company regularly reviews the allowance for bad debt and doubtful accounts by considering factors such as historical experience, credit quality, age of the accounts receivable balances and current economic conditions that may affect a customer's ability to pay.

The Company's accounts receivable was concentrated with four customers at February 1, 2020, who comprise a total of 38% of gross accounts receivable, compared with four customers at February 2, 2019, who represented 39% of gross accounts receivable, respectively. This presentation is at the customer consolidated level.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Historically, a relatively small number of customers have accounted for a significant portion of our net revenue. During fiscal 2020, there was no net revenue attributable to one customer, other than one distributor, whose revenue was 10% or greater of total net revenues. Net revenue attributable to significant customers whose revenues as a percentage of net revenue was 10% or greater of total net revenues is presented in the following table:

	Year Ended		
	February 1, 2020	February 2, 2019	February 3, 2018
Customer:			
Western Digital	*	12 %	20 %
Toshiba **	*	11 %	14 %
Seagate	*	10 %	11 %
Distributor:			
Wintech	12 %	*	10 %

* Less than 10% of net

** The percentage of net revenue reported for Toshiba for fiscal year 2019 excludes net revenue of Toshiba Memory Corporation after Toshiba divested Toshiba Memory Corporation during fiscal year 2019.

The Company continuously monitors the creditworthiness of its distributors and believes these distributors' sales to diverse end customers and to diverse geographies further serve to mitigate the Company's exposure to credit risk.

Inventories

Inventory is stated at the lower of cost or net realizable value, cost being determined under the first-in, first-out method. The total carrying value of the Company's inventory is reduced for any difference between cost and estimated net realizable value of inventory that is determined to be excess, obsolete or unsellable inventory based upon assumptions about future demand and market conditions. If actual future demand for the Company's products is less than currently forecasted, the Company may be required to write inventory down below the current carrying value. Once the carrying value of inventory is reduced, it is maintained until the product to which it relates to is sold or otherwise disposed of. Inventoriable shipping and handling costs are classified as a component of cost of goods sold in the consolidated statements of operations.

Property and Equipment, Net

Property and equipment, net, are stated at cost less accumulated depreciation. Depreciation is computed using the straight-line method over the estimated useful lives of the assets, which ranges from 2 to 7 years for machinery and equipment, and 3 to 4 years for computer software, and furniture and fixtures. Buildings are depreciated over an estimated useful life of 30 years and building improvements are depreciated over estimated useful lives of 15 years. Leasehold improvements are depreciated over the shorter of the remaining lease term or the estimated useful life of the asset.

Goodwill

Goodwill is recorded when the consideration paid for a business acquisition exceeds the fair value of net tangible and intangible assets acquired. Goodwill is measured and tested for impairment annually on the last business day of the fiscal fourth quarter and whenever events or changes in circumstances indicate the carrying amount of goodwill may not be recoverable. The Company first assesses qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount or the Company may determine to proceed directly to the quantitative impairment test.

If the Company assesses qualitative factors and concludes that it is more likely than not that the fair value of a reporting unit is less than its carrying amount or if the Company determines not to use the qualitative assessment, then a quantitative impairment test is performed. The quantitative impairment test requires comparing the fair value of the reporting unit to its carrying value, including goodwill. The Company has identified that its business operates as a single operating segment with two components (Storage and Networking), which it has concluded can be aggregated into a single reporting unit for purposes of testing goodwill impairment. An impairment exists if the fair value of the reporting unit is lower than its carrying value. If the fair value of the reporting unit is lower than its carrying value, the Company would record an impairment loss in the fiscal quarter in which the determination is made.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Long-Lived Assets and Intangible Assets

The Company assesses the impairment of long-lived assets and intangible assets whenever events or changes in circumstances indicate that the carrying amount of long-lived assets may not be recoverable. The Company estimates the future cash flows, undiscounted and without interest charges, expected to be generated by the assets from its use or eventual disposition. If the sum of the expected undiscounted future cash flows is less than the carrying amount of those assets, the Company recognizes an impairment loss based on the excess of the carrying amount over the fair value of the assets. Please see “Note 4 - Goodwill and Acquired Intangible Assets, Net” for further details regarding impairment of acquisition-related identified intangible assets.

Acquisition-related identified intangible assets are amortized on a straight-line basis over their estimated economic lives, except for certain customer contracts and related relationships, which are amortized using an accelerated method of amortization over the expected customer lives. In-process research and development (“IPR&D”) is not amortized until the completion of the related development.

Leases

The Company determines if an arrangement is a lease at inception. Operating lease right-of-use (“ROU”) assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. Operating lease ROU assets also include any initial direct costs and prepayments less lease incentives. Lease terms may include options to extend or terminate the lease when it is reasonably certain that the Company will exercise such options. As the Company's leases do not provide an implicit rate, the Company uses its collateralized incremental borrowing rate based on the information available at the lease commencement date, including lease term, in determining the present value of lease payments. Lease expense for these leases is recognized on a straight line basis over the lease term.

Foreign Currency Transactions

The functional currency of all of the Company's non-United States (“U.S.”) operations is the U.S. dollar. Monetary accounts maintained in currencies other than the U.S. dollar are re-measured using the foreign exchange rate at the balance sheet date. Operational accounts and nonmonetary balance sheet accounts are measured and recorded at the exchange rate in effect at the date of the transaction. The effects of foreign currency re-measurement are reported in current operations.

Revenue Recognition

Prior to February 4, 2018, the Company recognized revenue in accordance with ASC 605. As a result of the adoption of the new revenue standard on February 4, 2018, at the beginning of the first quarter of fiscal year 2019, the Company revised its revenue recognition policy.

Product revenue is recognized at a point in time when control of the asset is transferred to the customer. Substantially all of the Company's revenue is derived from product sales. The Company recognizes revenue when it satisfies a performance obligation by transferring control of a product to a customer in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. For product revenue, the performance obligation is deemed to be the delivery of the product and therefore, the revenue is generally recognized upon shipment to customers, net of accruals for estimated sales returns and rebates. These estimates are based on historical returns analysis and other known factors. The Company accounts for rebates by recording reductions to revenue for rebates in the same period that the related revenue is recorded. The amount of these reductions is based upon the terms agreed to with the customer. Product revenue on sales made to distributors with price protection, price discounts and stock rotation rights is recognized upon shipment to distributors, with an accrual for the variable consideration aspect of sales to distributors, estimated based on historical experience, including estimates for price discounts, price protection, rebates, and stock rotation programs.

A portion of the Company's net revenue is derived from sales through third-party logistics providers who maintain warehouses in close proximity to our customer's facilities. Revenue from sales through these third-party logistics providers is not recognized until the product is pulled from stock by the customer.

The Company's products are generally subject to warranty, which provides for the estimated future costs of replacement upon shipment of the product. The Company's products carry a standard one-year warranty, with certain exceptions in which the warranty period can extend to more than one year based on contractual agreements. The warranty accrual is estimated primarily based on historical claims compared to historical revenues and assumes that the Company will have to replace products subject to a claim. From time to time, the Company becomes aware of specific warranty situations, and it records specific accruals to cover these exposures. Warranty expenses were not material for the periods presented.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Business Combinations

The Company allocates the fair value of the purchase consideration of its acquisitions to the tangible assets, liabilities, and intangible assets acquired, including IPR&D, based on their estimated fair values. The excess of the fair value of purchase consideration over the fair values of these identifiable assets and liabilities is recorded as goodwill. IPR&D is initially capitalized at fair value as an intangible asset with an indefinite life and assessed for impairment thereafter. When an IPR&D project is completed, the IPR&D is reclassified as an amortizable purchased intangible asset and amortized over the asset's estimated useful life. Acquisition-related expenses and related restructuring costs are recognized separately from the business combination and are expensed as incurred.

Advertising Expense

Advertising costs are expensed as incurred. The Company recorded \$0.8 million, \$0.2 million and \$0.2 million of advertising costs for fiscal 2020, 2019 and 2018, respectively, included in selling, general and administrative expenses in the consolidated statements of operations.

Share-Based Compensation

Share-based compensation is measured at the grant date, based on the fair value of the award, and is recognized as expense over the requisite service vesting period. The Company amortizes share-based compensation expense for time-based awards under the straight-line attribution method over the vesting period. Share-based compensation expense for performance-based awards is recognized when it becomes probable that the performance conditions will be met. The Company amortizes share-based compensation expense for performance-based awards using the accelerated method.

The fair value of each restricted stock unit is estimated based on the market price of the Company's common shares on the date of grant less the expected dividend yield.

The Company estimates the fair value of stock purchase awards on the date of grant using the Black Scholes option-pricing model. The fair value of performance-based awards based on total shareholder return ("TSR") and value creation ("VCA") awards are estimated on the date of grant using a Monte Carlo simulation model.

Forfeitures are recorded when they occur. Previously recognized expense is reversed for the portion of awards forfeited prior to vesting as and when forfeitures occur.

Comprehensive Income (Loss)

Comprehensive income (loss), net of tax is comprised of net income and net change in unrealized gains and losses, on available-for-sale securities and cash flow hedges.

Accounting for Income Taxes

The Company estimates its income taxes in each of the jurisdictions in which it operates. This process involves estimating the Company's actual tax exposure together with assessing temporary differences resulting from the differing treatment of certain items for tax return and financial statement purposes. These differences result in deferred tax assets and liabilities, which are included in the Company's consolidated balance sheets.

The Company recognizes income taxes using an asset and liability approach. This approach requires the recognition of taxes payable or refundable for the current year, and deferred tax liabilities and assets for the future tax consequences of events that have been recognized in the Company's consolidated financial statements or tax returns. The measurement of current and deferred taxes is based on provisions of the enacted tax law and the effects of future changes in tax laws or rates are not anticipated.

Evaluating the need for an amount of a valuation allowance for deferred tax assets often requires judgment and analysis of all the positive and negative evidence available, including cumulative losses in recent years and projected future taxable income, to determine whether all or some portion of the deferred tax assets will not be realized. Using available evidence and judgment, the Company establishes a valuation allowance for deferred tax assets, when it is determined that it is more likely than not that they will not be realized. Valuation allowances have been provided primarily against the U.S. research and development credits. Valuation allowances have also been provided against certain acquired operating losses and the deferred tax assets of foreign subsidiaries. A change in the assessment of the realization of deferred tax assets may materially impact the Company's tax provision in the period in which a change of assessment occurs.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

As a multinational corporation, the Company conducts its business in many countries and is subject to taxation in many jurisdictions. The taxation of the business is subject to the application of various and sometimes conflicting tax laws and regulations as well as multinational tax conventions. The Company's effective tax rate is highly dependent upon the geographic distribution of the Company's worldwide earnings or losses, the tax regulations and tax holidays in each geographic region, the availability of tax credits and carryforwards, and the effectiveness of the Company's tax planning strategies which includes its estimates of the fair value of its intellectual property. The application of tax laws and regulations is subject to legal and factual interpretation, judgment and uncertainty. Tax laws themselves are subject to change as a result of changes in fiscal policy, changes in legislation, and the evolution of regulations and court rulings. Consequently, taxing authorities may impose tax assessments or judgments against us that could materially impact the Company's tax liability and/or effective income tax rate.

The Company is subject to income tax audits by the respective tax authorities in all of the jurisdictions in which it operates. The Company recognizes the effect of income tax positions only if these positions are more likely than not of being sustained. Recognized income tax positions are measured at the largest amount that is more than 50% likely of being realized. Changes in recognition or measurement are reflected in the period in which the change in judgment occurs. The Company records interest and penalties related to unrecognized tax benefits in income tax expense. The calculation of the Company's tax liabilities involves the inherent uncertainty associated with complex tax laws. The Company believes it has adequately provided for in its financial statements additional taxes that it estimates may be required to be paid as a result of such examinations. While the Company believes that it has adequately provided for all tax positions, amounts asserted by tax authorities could be greater or less than its accrued position. These tax liabilities, including the interest and penalties, are released pursuant to a settlement with tax authorities, completion of audit or expiration of various statutes of limitation. The material jurisdictions in which the Company may be subject to potential examination by tax authorities throughout the world include China, India, Israel, Singapore, Switzerland and the United States.

The recognition and measurement of current taxes payable or refundable, and deferred tax assets and liabilities require that the Company make certain estimates and judgments. Changes to these estimates or a change in judgment may have a material impact on the Company's tax provision in a future period.

Recent Accounting Pronouncements

Accounting Pronouncements Recently Adopted

In February 2016, the FASB issued a new standard on the accounting for leases, which amends the existing guidance to require lessees to recognize assets and liabilities on the balance sheet for the rights and obligation created by long-term leases and to disclose additional quantitative and qualitative information about leasing arrangements. The Company adopted the new lease accounting standard on February 3, 2019, using the modified retrospective approach by applying the new standard to leases existing at the date of initial application and not restating comparative periods. See "Note 7 - Leases" for additional information.

Accounting Pronouncements Not Yet Effective

In June 2016, the FASB issued a new standard requiring financial assets measured at amortized cost be presented at the net amount expected to be collected, through an allowance for credit losses that is deducted from the amortized cost basis. The standard eliminates the threshold for initial recognition in current GAAP and reflects an entity's current estimate of all expected credit losses. The measurement of expected credit losses is based on historical experience, current conditions, and reasonable and supportable forecasts that affect the collectability of the financial assets. The standard is effective for the Company beginning in the first quarter of fiscal year 2021. The adoption of this guidance did not have a material effect on the Company's consolidated financial statements.

In August 2018, the FASB issued an accounting standards update to align the requirements for capitalizing implementation costs incurred in a software hosting arrangement that is a service contract and costs to develop or obtain internal-use software. The guidance is effective for the Company beginning in the first quarter of fiscal year 2021, with early adoption permitted. The adoption of this guidance did not have an effect on the Company's consolidated financial statements.

In August 2018, the FASB issued an accounting standards update that modifies the disclosure requirements on fair value measurements. The new guidance adds, modifies and removes certain fair value measurement disclosure requirements. The guidance is effective for the Company beginning in the first quarter of fiscal year 2021, with early adoption permitted. The adoption of this guidance did not have a material effect on the Company's consolidated financial statements.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

In November 2018, the FASB issued an accounting standards update that clarifies when transactions between participants in a collaborative arrangement are within the scope of the new revenue recognition standard that the Company adopted at the beginning of fiscal 2019. The guidance is effective for the Company beginning in the first quarter of fiscal year 2021, with early adoption permitted. The guidance must be applied retrospectively as of the date of initial application of the revenue recognition standard. In addition, entities may elect to apply the guidance to all collaborative arrangements or only to collaborative arrangements that are not completed as of the date of initial application of the aforementioned revenue recognition standard. The adoption of this guidance did not have an effect on the Company's consolidated financial statements.

In December 2019, the FASB issued an accounting standards update that simplifies the accounting for income taxes by eliminating certain exceptions related to the approach for intraperiod tax allocation and modified the methodology for calculating income taxes in an interim period. It also clarifies and simplifies other aspects of the accounting for income taxes. The guidance is effective for the Company beginning in the first quarter of fiscal year 2022, with early adoption permitted. The Company is evaluating the effect this new guidance will have on its consolidated financial statements.

Note 3 — Business Combinations

Avera

On November 5, 2019, the Company completed the acquisition of Avera, the ASIC business of GlobalFoundries. Avera is a leading provider of ASIC semiconductor solutions. The Company acquired Avera to expand its ASIC design capabilities. Total purchase consideration consisted of cash consideration paid to GlobalFoundries of \$593.5 million, net of working capital and other adjustments. The purchase consideration was funded with new debt financing. See "Note 12 - Debt" for additional information. An additional \$90 million in cash will be paid to acquire additional assets if certain conditions are satisfied within the next 10 months.

The purchase consideration allocation set forth herein is preliminary and may be revised as additional information becomes available during the measurement period of up to 12 months from the closing date of the acquisition. Any such revisions or changes may be material.

The factors contributing to the recognition of goodwill were based upon the Company's conclusion that there are strategic and synergistic benefits that are expected to be realized from the acquisition. A portion of the goodwill recorded for the Avera acquisition is deductible for tax purposes.

The purchase price allocation is as follows (in thousands):

Inventories	\$	106,465
Prepaid expenses and other current assets		17,495
Property and equipment, net		25,677
Acquired intangible assets, net		379,000
Other non-current assets		6,870
Goodwill		129,392
Accrued liabilities		(64,155)
Deferred tax liabilities		(6,594)
Other non-current liabilities		(650)
	<u>\$</u>	<u>593,500</u>

The Company incurred total acquisition related costs of \$5.7 million which were recorded in selling, general and administrative expense in the Consolidated Statements of Operations.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Aquantia Corp.

On September 19, 2019, the Company completed the acquisition of Aquantia. Aquantia is a manufacturer of high-speed transceivers which includes copper and optical physical layer products. The Company acquired Aquantia to further its position in automotive in-vehicle networking and strengthen its multi-gig ethernet PHY portfolio for enterprise infrastructure, data center and access applications. In accordance with the terms of the Agreement and Plan of Merger dated May 6, 2019, by and among the Company and Aquantia (the “Aquantia merger agreement”), the Company acquired all outstanding shares of common stock of Aquantia (the “Aquantia shares”) for \$13.25 per share in cash. The merger consideration was funded with a combination of cash on hand and funds from the Company's revolving line of credit (“Revolving Credit Facility”). See “Note 12 - Debt” for additional information.

The following table summarizes the total merger consideration (in thousands):

Cash consideration to Aquantia common stockholders	\$	479,547
Cash consideration - director, employee & consultant grant accelerations and payout for employee stock purchase plan		7,122
Stock consideration for replacement equity awards attributable to pre-combination service		15,520
Total merger consideration	\$	502,189

The merger consideration allocation set forth herein is preliminary and may be revised with adjustment to goodwill as additional information becomes available during the measurement period of up to 12 months from the closing date of the acquisition to finalize such preliminary estimates. Any such revisions or changes may be material.

The factors contributing to the recognition of goodwill were based upon the Company's conclusion that there are strategic and synergistic benefits that are expected to be realized from the acquisition. Goodwill recorded for the Aquantia acquisition is not expected to be deductible for tax purposes.

The purchase price allocation is as follows (in thousands):

Cash and short-term investments	\$	27,914
Inventory		33,900
Goodwill		227,594
Acquired intangible assets		193,000
Other non-current assets		35,123
Accrued liabilities		(21,813)
Other, net		6,471
	\$	502,189

The Company incurred total acquisition related costs of \$5.3 million which were recorded in selling, general and administrative expense in the unaudited condensed consolidated statements of operations.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Cavium Inc

On July 6, 2018, the Company completed the acquisition of Cavium (the “Cavium acquisition”). Cavium is a provider of highly integrated semiconductor processors that enable intelligent processing for wired and wireless infrastructure and cloud for networking, communications, storage and security applications. The Cavium acquisition was primarily intended to create an opportunity for the combined company to emerge as a leader in infrastructure solutions. In accordance with the terms of the Agreement and Plan of Merger, dated as of November 19, 2017, by and among the Company and Cavium (the “Cavium merger agreement”), the Company acquired all outstanding shares of common stock of Cavium (the “Cavium shares”) for \$40.00 per share in cash and 2.1757 shares of the Company's common stock exchanged for each share of Cavium stock. The Company also made cash payments for the fractional shares that resulted from conversion as specified in the Cavium merger agreement. The merger consideration was funded with a combination of cash on hand, new debt financing and issuance of the Company’s common shares. See “Note 12 - Debt” for discussion of the debt financing.

The following table summarizes the total merger consideration (in thousands, except share and per share data):

Cash consideration to Cavium common stockholders	\$	2,819,812
Common stock (153,376,408 shares of the Company's common stock at \$21.34 per share)		3,273,053
Cash consideration for intrinsic value of vested director stock options and employee accelerated awards attributable to pre-acquisition service		10,642
Stock consideration for employee accelerated awards attributable to pre-acquisition service		7,804
Fair value of the replacement equity awards attributable to pre-acquisition service		50,485
Total merger consideration	\$	6,161,796

The factors contributing to the recognition of goodwill were based upon the Company's conclusion that there are strategic and synergistic benefits that are expected to be realized from the acquisition. Goodwill of \$3.5 billion recorded for the Cavium acquisition is not expected to be deductible for tax purposes.

The purchase price allocation is as follows (in thousands):

Cash and cash equivalents	\$	180,989
Accounts receivable		112,270
Inventories		330,778
Prepaid expense and other current assets		19,890
Assets held for sale		483
Property and equipment		115,428
Acquired intangible assets		2,744,000
Other non-current assets		89,139
Goodwill		3,498,196
Accounts payable		(52,383)
Accrued liabilities		(126,007)
Accrued employee compensation		(34,813)
Deferred income		(2,466)
Current portion of long-term debt		(6,123)
Liabilities held for sale		(3,032)
Long-term debt		(600,005)
Non-current income taxes payable		(8,454)
Deferred tax liabilities		(79,995)
Other non-current liabilities		(16,099)
Total merger consideration	\$	6,161,796

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

In fiscal year 2019, the Company incurred total acquisition related costs of \$53.7 million which were recorded in selling, general and administrative expense in the consolidated statements of operations. The Company also incurred \$22.8 million of debt financing costs. Additionally, the Company incurred \$2.9 million of equity issuance costs, which were recorded in additional paid-in capital in the consolidated balance sheet.

Unaudited Supplemental Pro Forma Information

The unaudited supplemental pro forma financial information presented below is for illustrative purposes only and is not necessarily indicative of the financial position or results of operations that would have been realized if the acquisitions had been completed on the date indicated, does not reflect synergies that might have been achieved, nor is it indicative of future operating results or financial position. The pro forma adjustments are based upon currently available information and certain assumptions the Company believe are reasonable under the circumstances.

The following unaudited supplemental pro forma information presents the combined results of operations for each of the periods presented, as if Avera and Aquantia had been acquired as of the beginning of fiscal year 2019 and Cavium had been acquired as of the beginning of fiscal year 2018. The unaudited supplemental pro forma information includes adjustments to amortization and depreciation for acquired intangible assets and property and equipment, adjustments to share-based compensation expense, the purchase accounting effect on inventories acquired, interest expense, and transaction costs. For fiscal year 2019, nonrecurring pro forma adjustments directly attributable to the Avera and Aquantia acquisitions included (i) the purchase accounting effect of inventories acquired of \$73.1 million for Avera and Aquantia (ii) transaction costs of \$18.6 million for Avera and Aquantia and (iii) share-based compensation expense of \$3.5 million for Aquantia. The unaudited supplemental pro forma information presented below is for informational purposes only and is not necessarily indicative of our consolidated results of operations of the combined business had the Avera and Aquantia acquisitions actually occurred at the beginning of fiscal year 2019 and the Cavium acquisition actually occurred at the beginning of fiscal year 2018 or of the results of our future operations of the combined business.

The unaudited supplemental pro forma financial information for the periods presented is as follows (in thousands):

	Year Ended	
	February 1, 2020	February 2, 2019
Pro forma net revenue	\$ 3,011,550	\$ 3,638,086
Pro forma net income	\$ 1,532,594	\$ (334,133)

Note 4 — Goodwill and Acquired Intangible Assets, Net

Goodwill

Goodwill represents the excess of the purchase price over the fair value of the net tangible and identifiable intangible assets acquired in a business combination. In connection with the completion of the Wi-Fi business divestiture on December 6, 2019, the Company allocated goodwill of \$511.1 million on a relative fair value basis to the divested business. See “Note 1 - Basis of Presentation” for further discussion of the divestiture. In connection with the Aquantia and Avera acquisitions on September 19, 2019 and November 5, 2019, respectively, the Company recorded goodwill of \$357.0 million. In connection with the Cavium acquisition on July 6, 2018, the Company recorded goodwill of \$3.5 billion during fiscal 2019 and reduced goodwill by \$3.0 million during fiscal 2020 in connection with measurement period adjustments, which were primarily related to changes in estimates related to finalizing Cavium’s 2018 U.S. tax return. See “Note 3 - Business Combinations” for further discussion of the acquisitions.

The Company has identified that its business operates as a single operating segment with two components that it has concluded can be aggregated into a single reporting unit. The Company’s annual test for goodwill impairment as of the last day of the fourth quarter of fiscal 2020 did not result in any impairment charge.

There was no activity from acquisitions or divestitures recorded to goodwill in fiscal 2020 and 2019 other than those described above.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Acquired Intangible Assets, Net

During the year ended February 1, 2020 the Company acquired \$572.0 million of intangible assets associated with the Aquantia and Avera acquisitions as follows (in thousands, except for weighted-average useful life as of acquisition date):

	Preliminary Estimated Fair Value	Weighted-Average Useful Life (Years)
Developed technology	\$ 353,000	5.58
IPR&D	41,000	7.39
Customer contracts and related relationships	178,000	5.21
	<u>\$ 572,000</u>	

As of February 1, 2020, net carrying amounts are as follows (in thousands, except for weighted-average remaining amortization period):

	February 1, 2020			
	Gross Carrying Amounts	Accumulated Amortization and Write-Offs	Net Carrying Amounts	Weighted -average remaining amortization period (years)
Developed technologies	\$ 2,511,000	\$ (413,735)	\$ 2,097,265	6.41
Customer contracts and related relationships	643,000	(128,939)	514,061	6.61
Trade names	23,000	(8,726)	14,274	2.96
Total acquired amortizable intangible assets	<u>3,177,000</u>	<u>(551,400)</u>	<u>2,625,600</u>	<u>6.43</u>
IPR&D	139,000	—	139,000	n/a
Total acquired intangible assets	<u>\$ 3,316,000</u>	<u>\$ (551,400)</u>	<u>\$ 2,764,600</u>	

During the year ended February 2, 2019, in connection with the Cavium acquisition, the Company acquired \$2.7 billion of intangible assets. As of February 2, 2019, net carrying amounts are as follows (in thousands, except for weighted-average remaining amortization period):

	February 2, 2019			
	Gross Carrying Amounts	Accumulated Amortization and Write-Offs	Net Carrying Amounts	Weighted-average remaining amortization period (years)
Developed technologies	\$ 1,743,000	\$ (134,167)	\$ 1,608,833	7.10
Customer contracts and related relationships	465,000	(45,939)	419,061	8.42
Trade names	23,000	(3,212)	19,788	3.85
Total acquired amortizable intangible assets	<u>2,231,000</u>	<u>(183,318)</u>	<u>2,047,682</u>	<u>7.34</u>
IPR&D	513,000	—	513,000	n/a
Total acquired intangible assets	<u>\$ 2,744,000</u>	<u>\$ (183,318)</u>	<u>\$ 2,560,682</u>	

The intangible assets are amortized on a straight-line basis over the estimated useful lives, except for certain Cavium customer contracts and related relationships, which are amortized using an accelerated method of amortization over the expected customer lives in order to more closely align with the pattern of realization of economic benefits expected to be obtained. The IPR&D will be accounted for as an indefinite-lived intangible asset and will not be amortized until the underlying projects reach technological feasibility and commercial production at which point the IPR&D will be amortized over the estimated useful life. Useful lives for these IPR&D projects are expected to range between 3 to 10 years. In the event the IPR&D is abandoned, the related assets will be written off.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Amortization for acquired intangible assets was \$368.1 million, \$183.3 million and \$3.6 million during the years ended February 1, 2020, February 2, 2019 and February 3, 2018 respectively. The following table presents the estimated future amortization expense of acquired amortizable intangible assets as of February 1, 2020 (in thousands):

Fiscal Year	Amount
2021	\$ 451,686
2022	441,969
2023	428,891
2024	399,920
2025	354,012
Thereafter	549,122
	<u>\$ 2,625,600</u>

Note 5 — Discontinued Operations

In November 2016, the Company announced a plan to restructure its operations to refocus its research and development, increase operational efficiency and improve profitability. As part of these actions, the Company began an active program to locate buyers for several businesses. The Company concluded that the divestitures of these businesses in the aggregate represented a strategic shift that had a major effect on the Company's operations and financial results. These businesses were deemed not to align with the Company's core business. The Company classified these businesses as discontinued operations for all periods presented in its consolidated financial statements.

In February 2017, the Company entered into an agreement to sell the assets of one of these businesses, the Broadband operations. The transaction closed on April 4, 2017. Based on the terms of the agreement, the Company received sale consideration of \$23.0 million in cash proceeds. The divestiture resulted in a pre-tax gain on sale of \$8.2 million, which is included in income from discontinued operations in the consolidated statements of operations.

In May 2017, the Company sold the assets of a second business, the LTE thin-modem operations. The transaction closed on May 18, 2017. Based on the terms of the agreement, the Company received sale consideration of \$52.9 million. The sale consideration included \$3.6 million related to the Company's tax withholding liability paid by the buyer to tax authorities. The divestiture resulted in a pre-tax gain on sale of \$34.0 million, which is included in income from discontinued operations in the consolidated statements of operations.

In June 2017, the Company entered into an agreement to sell the assets of a third business, the Multimedia operations. The transaction closed on September 8, 2017. Based on the terms of the agreement, the Company received sale consideration of \$93.7 million in cash proceeds. The divestiture resulted in a pre-tax gain on sale of \$46.2 million which is included in income from discontinued operations in the consolidated statements of operations.

There were no carrying amounts of assets and liabilities pertaining to discontinued operations in the consolidated balance sheet as of February 1, 2020 and February 2, 2019. There were no other assets held for sale as of February 1, 2020.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The following table presents a reconciliation of the major financial lines constituting the results of operations for discontinued operations to the net income (loss) from discontinued operations presented separately in the consolidated statements of operations (in thousands):

	Year Ended
	February 3, 2018
Net revenue	\$ 94,137
Cost of goods sold	47,499
Gross Profit	46,638
Operating expenses:	
Research and development	34,530
Selling, general and administrative	6,925
Total operating expenses	41,455
Income from discontinued operations before income taxes	5,183
Gain from sale of discontinued operations	88,406
Provision for income taxes	5,900
Net income from discontinued operations	\$ 87,689

The Company had no discontinued operations for the years ended February 1, 2020 and February 2, 2019. Non-cash operating amounts reported for discontinued operations include share-based compensation expense of \$1.6 million in fiscal 2018. Depreciation, amortization and capital expenditures are not material. The proceeds from sale of the Multimedia business of \$93.7 million, proceeds from sale of the LTE thin-modem business of \$49.2 million and proceeds from sale of the Broadband business of \$23.0 million are classified in investing activities for fiscal 2018, and the gain on sale of such business is presented in operating activities in the consolidated statements of cash flows. Due to the Company's transfer pricing arrangements, the Company generates income in most jurisdictions in which it operates, regardless of a loss that may exist on a consolidated basis. In addition, the Company recognized a tax expense of \$0.5 million on the sale of its Multimedia business for fiscal 2018, and a tax expense of \$4.5 million on the sale of its LTE thin-modem business for fiscal 2018. As such, the Company has reflected a tax expense of \$5.9 million for fiscal 2018, attributable to discontinued operations.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Note 6 — Restructuring and Other Related Charges

The following table presents details related to the restructuring related charges as presented in the Consolidated Statements of Operations (in thousands):

	Year Ended		
	February 1, 2020	February 2, 2019	February 3, 2018
Severance and related costs	\$ 31,685	\$ 40,345	\$ 8,247
Facilities and related costs	3,938	35,831	1,692
Other exit-related costs	3,621	2,050	2,082
	<u>39,244</u>	<u>78,226</u>	<u>12,021</u>
Release of reserves:			
Severance	(480)	(1,273)	(1,612)
Facilities and related costs	(893)	—	(258)
Other exit-related costs	(138)	—	(340)
Impairment and write-off of assets & restructuring (gain):			
Right-of-use asset amortization and impairment	18,356	—	—
Release of facility lease liability	(1,394)	—	—
Technology licenses	—	6,523	174
Equipment and other	633	5,503	(489)
Building sale	—	(12,226)	(4,246)
	<u>\$ 55,328</u>	<u>\$ 76,753</u>	<u>\$ 5,250</u>

Fiscal 2020. The Company recorded \$55.3 million of restructuring and other related charges in connection with the acquisitions as described in “Note 3 - Business Combinations.” Following the acquisition of Avera, the Company reviewed its financial position and operating results against the Company's strategic objectives, long-term operating targets and other operational priorities and initiated a restructuring plan in an effort to increase operational efficiency, decrease costs and increase profitability. The charges include \$15.4 million recorded in connection with the Avera acquisition and \$39.9 million recorded in connection with the other acquisitions. The Company expects to complete these restructuring actions by the end of fiscal 2021.

The charges include approximately \$31.2 million in severance and related costs, \$18.4 million in right-of-use asset amortization and impairment costs associated with restructured facility leases, \$3.5 million in other exit-related costs, \$3.0 million in facilities and related costs, \$0.6 million for the impairment of equipment and other, offset by a gain of \$1.4 million from the release of facility lease liability. The severance costs primarily relate to the employee separation costs in connection with the acquisitions. The facility and related costs primarily relate to the remaining payments under lease obligations upon vacating certain worldwide office locations, and ongoing operating expenses of vacated facilities.

Fiscal 2019. The Company recorded \$76.8 million of restructuring and other related charges in fiscal 2019 in connection with the Cavium acquisition as described in “Note 3 - Business Combinations.” The charges include approximately \$39.1 million in severance and related costs, \$35.8 million in facilities and related costs, \$2.0 million in other exit-related costs, \$12.0 million for the impairment of equipment and technology licenses, offset by a gain of \$12.2 million from the sale of a building in Singapore.

Fiscal 2018. The Company recorded \$5.3 million of restructuring and other related charges in fiscal 2018 in continuation of the restructuring plan announced in November 2016 as described in “Note 5 - Discontinued Operations”. As of February 2, 2019, the Company has completed its restructuring actions that were contemplated in the original November 2016 announcement. Total cumulative charges recorded related to this restructuring action were \$95.6 million.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The following table sets forth a reconciliation of the beginning and ending restructuring liability balances by each major type of costs associated with the restructuring charges (in thousands):

	November 2016 and Other Restructuring			July 2018 Restructuring			November 2019 Restructuring			Total
	Severance and related costs	Facilities and related costs	Other exit-related costs	Severance and related costs	Facilities and related costs	Other exit-related costs	Severance and related costs	Facilities and related costs	Other exit-related costs	
Balance at February 3, 2018	\$ 654	\$ 462	\$ 555	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 1,671
Restructuring charges	—	—	—	40,345	35,831	2,050	—	—	—	78,226
Net cash payments	(654)	(462)	(555)	(26,614)	(8,927)	(1,001)	—	—	—	(38,213)
Release of reserves	—	—	—	(1,273)	—	—	—	—	—	(1,273)
Exchange rate adjustment	—	—	—	(55)	—	—	—	—	—	(55)
Balance at February 2, 2019	—	—	—	12,403	26,904	1,049	—	—	—	40,356
Restructuring charges	—	—	—	16,698	3,713	3,429	14,987	225	192	39,244
Net cash payments	—	—	—	(27,706)	(3,374)	(3,804)	(2,674)	(29)	(181)	(37,768)
Release of reserve	—	—	—	(479)	(893)	(138)	(1)	—	—	(1,511)
Effect of adoption of new lease standard	—	—	—	—	(25,893)	—	—	—	—	(25,893)
Balance at February 1, 2020	—	—	—	916	457	536	12,312	196	11	14,428
Less: non-current portion	—	—	—	—	126	—	—	—	—	126
Current portion	\$ —	\$ —	\$ —	\$ 916	\$ 331	\$ 536	\$ 12,312	\$ 196	\$ 11	\$ 14,302

Upon adoption of the new lease accounting standard (see “Note 7 - Leases”), certain restructuring liabilities were required to be recognized as a reduction of the ROU asset.

The balance at February 1, 2020 for facility and related costs includes remaining payments under lease obligations related to vacated space that are expected to be paid through fiscal 2023. The remaining accrued severance and related costs and the other exit-related costs are expected to be paid in fiscal 2021.

Note 7 — Leases

Effect of the Adoption of the New Lease Standard

Effective February 3, 2019, the Company adopted the new lease accounting standard using the modified retrospective approach. The Company elected the package of practical expedients permitted under the transition guidance within the new standard, which among other things, allows the Company to carry forward the historical lease classification. The Company elected to apply the short-term lease measurement and recognition exemption in which ROU assets and lease liabilities are not recognized for short-term leases. Adoption of this standard resulted in the recording of net operating lease ROU assets and corresponding operating lease liabilities of \$125 million and \$149 million, respectively. The net ROU asset includes the effect of reclassifying a portion of facilities-related restructuring reserves as an offset in accordance with the transition guidance. The standard did not materially affect the condensed consolidated statements of operations and had no impact on cash flows.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The Company's leases include facility leases and data center leases, which are all classified as operating leases. For data center leases, the Company elected the practical expedient to account for the lease and non-lease component as a single lease component.

Lease expense and supplemental cash flow information are as follows (in thousands):

	Year Ended February 1, 2020
Operating lease expense	\$ 49,679
Cash paid for amounts included in the measurement of operating lease liabilities	\$ 33,161
Right-of-use assets obtained in exchange for lease obligation	\$ 28,928

The effect of operating lease right-of-use asset amortization of \$20.4 million is included in changes in Other expense(income), net in the cash provided by operating activities section on the Statement of Cash Flows for the fiscal year ended February 1, 2020.

Supplemental balance sheet information related to leases are as follows (in thousands):

	Classification on the Condensed Consolidated Balance Sheet	February 1, 2020
Right-of-use assets	Other non-current assets	\$ 110,907
Current portion of lease liabilities	Accrued liabilities	28,662
Non-current portion of lease liabilities	Other non-current liabilities	115,778
Total lease liabilities		<u>\$ 144,440</u>

The aggregate future lease payments for operating leases as of February 1, 2020 are as follows (in thousands):

Fiscal Year	Operating Leases	Sublease Income
2021	\$ 35,272	\$ (3,420)
2022	35,753	(3,253)
2023	28,932	(3,350)
2024	19,575	(3,451)
2025	12,791	(3,554)
Thereafter	34,015	(9,364)
Total lease payments	<u>166,338</u>	<u>(26,392)</u>
Less: imputed interest	21,898	
Present value of lease liabilities	<u>\$ 144,440</u>	

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

As previously disclosed in our Annual Report on Form 10-K for the year ended February 2, 2019 and under the previous lease accounting standard, the aggregate future non-cancelable minimum rental payments of our operating leases, as of February 2, 2019, are as follows (in thousands):

Fiscal Year	Operating Leases	
2020	\$	43,286
2021		29,866
2022		26,612
2023		21,272
2024		13,690
Thereafter		40,100
Total	\$	174,826

Average lease terms and discount rates were as follows:

	Year Ended February 1, 2020
Weighted-average remaining lease term (years)	5.52
Weighted-average discount rate	3.85%

Note 8 — Revenue

Disaggregation of Revenue

The majority of the Company's revenue is generated from sales of the Company's products.

The following table summarizes net revenue disaggregated by product group (in thousands, except percentages):

	Year Ended February 1, 2020	% of Total	Year Ended February 2, 2019	% of Total	Year Ended February 3, 2018	% of Total
Net revenue by product group:						
Networking (1)	\$ 1,377,635	51 %	\$ 1,313,439	46 %	\$ 961,497	40 %
Storage (2)	1,137,766	42 %	1,376,697	48 %	1,254,365	52 %
Other (3)	183,760	7 %	175,655	6 %	193,308	8 %
	<u>\$ 2,699,161</u>		<u>\$ 2,865,791</u>		<u>\$ 2,409,170</u>	

- 1) Networking products are comprised primarily of Ethernet Solutions, Embedded Processors and Custom ASICs.
- 2) Storage products are comprised primarily of Storage Controllers and Fibre Channel Adapters.
- 3) Other products are comprised primarily of Printer Solutions, Application Processors and others.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The following table summarizes net revenue disaggregated by primary geographical market based on destination of shipment (in thousands, except percentages):

	Year Ended February 1, 2020	% of Total	Year Ended February 2, 2019	% of Total	Year Ended February 3, 2018	% of Total
Net revenue based on destination of shipment:						
China	\$ 1,071,028	40 %	\$ 1,189,928	42 %	\$ 1,205,202	50 %
United States	258,827	10 %	251,905	9 %	42,560	2 %
Thailand	230,218	9 %	165,923	6 %	137,662	6 %
Malaysia	226,358	8 %	372,817	13 %	388,469	16 %
Philippines	221,566	8 %	235,921	8 %	270,101	11 %
Others	691,164	25 %	649,297	22 %	365,176	15 %
	<u>\$ 2,699,161</u>		<u>\$ 2,865,791</u>		<u>\$ 2,409,170</u>	

These destinations of shipment are not necessarily indicative of the geographic location of the Company's end customers or the country in which the Company's end customers sell devices containing the Company's products.

The following table summarizes net revenue disaggregated by customer type (in thousands, except percentages):

	Year Ended February 1, 2020	% of Total	Year Ended February 2, 2019	% of Total	Year Ended February 3, 2018	% of Total
Net revenue by customer type:						
Direct customers	\$ 2,041,089	76 %	\$ 2,197,209	77 %	\$ 1,888,108	78 %
Distributors	658,072	24 %	668,582	23 %	521,062	22 %
	<u>\$ 2,699,161</u>		<u>\$ 2,865,791</u>		<u>\$ 2,409,170</u>	

Contract Liabilities

Contract liabilities consist of the Company's obligation to transfer goods or services to a customer for which the Company has received consideration or the amount is due from the customer. As of February 1, 2020, contract liability balances are comprised of variable consideration estimated based on a portfolio basis using the expected value methodology based on analysis of historical data, current economic conditions, and contractual terms. Variable consideration estimates consist of the estimated returns, price discounts, price protection, rebates, and stock rotation programs. As of the end of a reporting period, some of the performance obligations associated with contracts will have been unsatisfied or only partially satisfied. In accordance with the practical expedients available in the guidance, the Company does not disclose the value of unsatisfied performance obligations for contracts with an original expected duration of one year or less. Contract liabilities are included in accrued liabilities in the consolidated balance sheets.

The opening balance of contract liabilities at the beginning of fiscal year 2020 was \$142.4 million. During the year ended February 1, 2020, contract liabilities increased by \$666.5 million associated with variable consideration estimates, offset by \$697.4 million decrease in such reserves primarily due to credit memos issued to customers. The ending balance of contract liabilities at the end of fiscal year 2020 was \$111.5 million. The amount of revenue recognized during the year ended February 1, 2020 that was included in the contract liabilities balance at February 2, 2019 was not material.

Sales Commissions

The Company has elected to apply the practical expedient to expense commissions when incurred as the amortization period is typically one year or less. These costs are recorded in selling, general and administrative expenses in the consolidated statements of operations.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Note 9 — Supplemental Financial Information (in thousands)

Consolidated Balance Sheets

	February 1, 2020	February 2, 2019
Cash and cash equivalents:		
Cash	\$ 513,072	\$ 491,646
Cash equivalents:		
Money market funds	46,355	16,829
Time deposits	88,177	73,935
Cash and cash equivalents	<u>\$ 647,604</u>	<u>\$ 582,410</u>

	February 1, 2020	February 2, 2019
Accounts receivable, net:		
Doubtful accounts	\$ 2,126	\$ 2,637

The allowance for doubtful accounts continues to be included within the accounts receivable, net balance on the consolidated balance sheets.

	February 1, 2020	February 2, 2019
Inventories:		
Work-in-process	\$ 216,496	\$ 162,384
Finished goods	106,484	113,621
Inventories	<u>\$ 322,980</u>	<u>\$ 276,005</u>

	February 1, 2020	February 2, 2019
Property and equipment, net:		
Machinery and equipment	\$ 686,351	\$ 615,329
Land, buildings, and leasehold improvements	285,084	287,047
Computer software	100,613	105,539
Furniture and fixtures	24,582	23,924
	1,096,630	1,031,839
Less: Accumulated depreciation	(739,538)	(712,861)
Property and equipment, net	<u>\$ 357,092</u>	<u>\$ 318,978</u>

The Company recorded depreciation expense of \$83.4 million, \$64.5 million and \$49.2 million for fiscal 2020, 2019 and 2018, respectively.

	February 1, 2020	February 2, 2019
Other non-current assets:		
Technology and other licenses	\$ 277,634	\$ 125,278
Operating right-of-use assets	110,907	—
Prepaid ship and debit (1)	75,362	75,079
Other	32,947	34,512
Other non-current assets	<u>\$ 496,850</u>	<u>\$ 234,869</u>

(1) Prepaid ship and debit of \$75.4 million and \$75.1 million as of February 1, 2020 and February 2, 2019, respectively, relate to certain prepaid distributor arrangements for ship and debit claims. Amortization of technology and other licenses was \$70.4 million, \$57.0 million and \$34.3 million in fiscal 2020, 2019 and 2018, respectively.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

	February 1, 2020	February 2, 2019
Accrued liabilities:		
Contract liabilities	\$ 111,486	\$ 142,378
Technology license obligations	71,623	48,018
Deferred non-recurring engineering credits	51,109	13,440
Lease liabilities - current	28,662	—
Accrued restructuring	14,302	26,702
Accrued royalty	10,927	11,438
Accrued income tax payable	6,133	47,079
Other	52,397	46,454
Accrued liabilities	<u>\$ 346,639</u>	<u>\$ 335,509</u>

	February 1, 2020	February 2, 2019
Other non-current liabilities:		
Lease liabilities - non current	\$ 115,778	\$ —
Technology license obligations	107,893	6,716
Non-current income taxes payable	37,983	59,221
Long-term restructuring liabilities	126	13,654
Other	12,452	15,004
Other non-current liabilities	<u>\$ 274,232</u>	<u>\$ 94,595</u>

Accumulated other comprehensive income (loss):

The changes in accumulated other comprehensive income (loss) by components are presented in the following tables (in thousands):

	Unrealized Gain (Loss) on Marketable Securities (1)	Unrealized Gain (Loss) on Cash Flow Hedges (2)	Total
Balance at February 3, 2018	\$ (2,322)	\$ —	\$ (2,322)
Other comprehensive income (loss) before reclassifications	(733)	—	(733)
Amounts reclassified from accumulated other comprehensive income (loss)	3,055	—	3,055
Net current-period other comprehensive loss, net of tax	2,322	—	2,322
Balance at February 2, 2019	—	—	—
Other comprehensive loss before reclassifications	—	(37)	(37)
Amounts reclassified from accumulated other comprehensive income (loss)	—	37	37
Net current-period other comprehensive income, net of tax	—	—	—
Balance at February 1, 2020	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>

(1) The amounts of gains (losses) associated with the Company's marketable securities reclassified from accumulated other comprehensive income (loss) are recorded in other income, net in the consolidated statements of operations.

(2) The amounts of gains (losses) associated with the Company's derivative financial instruments reclassified from accumulated other comprehensive income (loss) are recorded in operating expenses in the consolidated statements of operations.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Consolidated Statements of Operations

	Year Ended		
	February 1, 2020	February 2, 2019	February 3, 2018
Other income, net:			
Gain on sale of business (1)	\$ 1,121,709	\$ —	\$ 5,254
Net realized loss on investments	—	(3,066)	(2,777)
Currency remeasurement loss	(2,817)	(2,625)	(28)
Other income	3,663	6,210	2,364
Other Income, net	<u>\$ 1,122,555</u>	<u>\$ 519</u>	<u>\$ 4,813</u>

(1) The Company recognized a pre-tax gain on sale of \$1.1 billion in conjunction with the divestiture of the Wi-Fi Connectivity business. See “Note 1 - Basis of Presentation” for additional information.

Consolidated Statements of Cash Flows

	Year Ended		
	February 1, 2020	February 2, 2019	February 3, 2018
Supplemental cash flow information:			
Cash paid for interest	\$ 76,506	\$ 39,156	\$ 746
Cash paid for income taxes, net	<u>\$ 117,529</u>	<u>\$ 8,143</u>	<u>\$ 11,401</u>
Non-Cash Investing and Financing Activities:			
Non-cash consideration paid for the acquisition	\$ 15,520	\$ 3,331,342	\$ —
Purchase of software and intellectual property under license obligations	\$ 193,149	\$ 4,221	\$ 59,803
Unsettled trade payable of available-for-sale securities	\$ —	\$ —	\$ 4,497
Unpaid purchase of property and equipment at end of year	\$ 23,015	\$ 8,837	\$ 5,595
Unpaid equity and debt financing costs	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 3,244</u>

Note 10 — Investments

As of February 1, 2020, and February 2, 2019, the Company has no investments on hand.

Short-term, highly liquid investments of \$134.5 million and \$90.8 million as of February 1, 2020 and February 2, 2019, respectively, included in cash and cash equivalents on the accompanying consolidated balance sheets are not considered as investments because the gross unrealized gains and losses were immaterial as the carrying values approximate fair value because of the short-term maturity of such investments.

Gross realized gains and gross realized losses on sales of available-for-sale securities are presented in the following table (in thousands):

	Year Ended		
	February 1, 2020	February 2, 2019	February 3, 2018
Gross realized gains	\$ 14	\$ 371	\$ 186
Gross realized losses	(6)	(3,437)	(2,963)
Total net realized gains (losses)	<u>\$ 8</u>	<u>\$ (3,066)</u>	<u>\$ (2,777)</u>

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Note 11 — Fair Value Measurements

Fair value is an exit price representing the amount that would be received in the sale of an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or a liability. As a basis for considering such assumptions, the accounting guidance establishes a three-tier value hierarchy, which prioritizes the inputs used in the valuation methodologies in measuring fair value:

Level 1 — Observable inputs that reflect quoted prices for identical assets or liabilities in active markets.

Level 2 — Other inputs that are directly or indirectly observable in the marketplace.

Level 3 — Unobservable inputs that are supported by little or no market activity.

The fair value hierarchy also requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value.

The Company's Level 1 assets include institutional money-market funds that are classified as cash equivalents and marketable investments in U.S. government and agency debt, which are valued primarily using quoted market prices. The Company's Level 2 assets include its marketable investments in time deposits, as the market inputs used to value these instruments consist of market yield. In addition, forward contracts, and the severance pay fund are classified as Level 2 assets as the valuation inputs are based on quoted prices and market observable data of similar instruments.

The tables below set forth, by level, the Company's assets and liabilities that are measured at fair value on a recurring basis. The tables do not include assets and liabilities that are measured at historical cost or any basis other than fair value (in thousands):

Fair Value Measurements at February 1, 2020				
	Level 1	Level 2	Level 3	Total
Items measured at fair value on a recurring basis:				
Assets				
Cash equivalents:				
Money market funds	\$ 46,355	\$ —	\$ —	\$ 46,355
Time deposits	—	88,177	—	88,177
Other non-current assets:				
Severance pay fund	—	693	—	693
Total assets	\$ 46,355	\$ 88,870	\$ —	\$ 135,225

Fair Value Measurements at February 2, 2019				
	Level 1	Level 2	Level 3	Total
Items measured at fair value on a recurring basis:				
Assets				
Cash equivalents:				
Money market funds	\$ 16,829	\$ —	\$ —	\$ 16,829
Time deposits	—	73,935	—	73,935
Other non-current assets:				
Severance pay fund	—	727	—	727
Total assets	\$ 16,829	\$ 74,662	\$ —	\$ 91,491

There were no transfers of assets between levels in either fiscal 2020 or 2019.

Fair Value of Debt

The Company classified the Term Loan, the 2023 Notes and 2028 Notes under Level 2 of the fair value measurement hierarchy. The carrying value of the Term Loan approximates its fair value as the Term Loan is carried at a market observable interest rate that resets periodically. At February 1, 2020, the estimated aggregate fair value of the 2023 Notes and 2028 Notes was \$1.1 billion and were classified as Level 2 as there are quoted prices from less active markets for the notes.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Note 12 — Debt

In connection with the Cavium Acquisition (see “Note 3 - Business Combinations”), the Company executed debt agreements in June 2018 to obtain a \$900 million term loan, a \$500 million revolving credit facility and \$1.0 billion of senior unsecured notes. Upon completion of the offering of the senior unsecured notes in June 2018, the Company terminated an \$850 million bridge loan commitment. This bridge loan commitment was provided by the underwriting bankers at the time the Merger Agreement was executed in November 2017 and was never drawn upon.

Bridge Loan

On November 4, 2019, the Company entered into a term credit agreement (“Term Credit Agreement”) with certain lenders. The Term Credit Agreement provides for borrowings of \$600 million in the form of a bridge loan (“Bridge Loan”). The proceeds of the Bridge Loan were used to fund the purchase consideration for the Avera acquisition that closed on November 5, 2019. The Bridge Loan had a 90-day term with a maturity date on February 3, 2020 and had a stated floating interest rate which equates to reserve-adjusted LIBOR + 90.0 bps. The Bridge Loan does not require any scheduled principal payments prior to final maturity but does permit the Company to make early principal payments without premium or penalty. On December 11, 2019, the Company repaid the Bridge Loan in full.

Term Loan and Revolving Credit Facility

On June 13, 2018, the Company entered into a credit agreement (“Credit Agreement”) with certain lenders. The Credit Agreement provides for borrowings of: (i) up to \$500 million in the form of a revolving line of credit (“Revolving Credit Facility”) and (ii) \$900 million in the form of a term loan (“Term Loan”). The proceeds of the Term Loan were used to fund a portion of the cash consideration for the Cavium acquisition, repay Cavium’s debt, and pay transaction expenses in connection with the Cavium acquisition. The proceeds of the Revolving Credit Facility are intended for general corporate purposes of the Company and its subsidiaries, which may include, among other things, the financing of acquisitions, the refinancing of other indebtedness and the payment of transaction expenses related to the foregoing. On September 17, 2019, the Company drew down \$350 million on its Revolving Credit Facility to fund a portion of the cash consideration for the Aquantia acquisition. The outstanding balance of the Revolving Credit Facility was repaid on December 11, 2019. Following is further detail of the terms of the various debt agreements.

The Term Loan has a three-year term which matures on July 6, 2021 and has a stated floating interest rate which equates to reserve-adjusted LIBOR + 137.5 bps. The effective interest rate for the Term Loan was 4.060% as of February 1, 2020. The Term Loan does not require any scheduled principal payments prior to final maturity but does permit the Company to make early principal payments without premium or penalty. During the year ended February 1, 2020 the Company repaid \$300 million of the principal outstanding, and wrote off \$2.1 million of associated unamortized debt issuance costs. As of February 1, 2020, the Term Loan has \$450 million principal unpaid and outstanding. The Revolving Credit Facility has a five-year term and has a stated floating interest rate which equates to reserve-adjusted LIBOR + 150.0 bps. As of February 1, 2020, the full amount of the Revolving Credit Facility of \$500 million was undrawn and will be available for draw down through June 13, 2023. An unused commitment fee is payable quarterly based on unused balances at a rate that is based on the ratings of the Company's senior unsecured long-term indebtedness. This rate was 0.175% at February 1, 2020.

The Company currently carries debt that rely on the LIBOR as the benchmark rate. LIBOR is expected to be phased out as a benchmark rate by the end of 2021. The Company expects its debt to continue to use LIBOR until the rate is no longer available or a relevant governmental authority makes a public statement that LIBOR will no longer be available after a certain date. To the extent LIBOR ceases to exist, the Company will need to amend its credit agreements that utilize LIBOR as a factor in determining the interest rate. Currently, there is not a firm timeframe for this change. This update currently has no foreseeable impact on the Company's unaudited condensed consolidated financial statements; however, it may have an effect in the future.

The Credit Agreement requires that the Company and its subsidiaries comply, subject to certain exceptions, with covenants relating to customary matters such as creating or permitting certain liens, entering into sale and leaseback transactions, consolidating, merging, liquidating or dissolving, and entering into restrictive agreements. It also prohibits subsidiaries of the Company from incurring additional indebtedness and requires the Company to comply with a leverage ratio financial covenant as of the end of any fiscal quarter. As of February 1, 2020, the Company was in compliance with all of its debt covenants.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Senior Unsecured Notes

On June 22, 2018, the Company completed a public offering of (i) \$500.0 million aggregate principal amount of the Company's 4.200% Senior Notes due 2023 (the "2023 Notes") and (ii) \$500.0 million aggregate principal amount of the Company's 4.875% Senior Notes due 2028 (the "2028 Notes" and, together with the 2023 Notes, the "Senior Notes").

The 2023 Notes mature on June 22, 2023 and the 2028 Notes mature on June 22, 2028. The stated and effective interest rates for the 2023 Notes are 4.200% and 4.420%, respectively. The stated and effective interest rates for the 2028 Notes are 4.875% and 5.010%, respectively. The Company may redeem the Senior Notes, in whole or in part, at any time prior to their maturity at the redemption prices set forth in Senior Notes. In addition, upon the occurrence of a change of control repurchase event (which involves the occurrence of both a change of control and a ratings event involving the Senior Notes being rated below investment grade), the Company will be required to make an offer to repurchase the Senior Notes at a price equal to 101% of the principal amount of the notes, plus accrued and unpaid interest to, but excluding, the repurchase date. The indenture governing the Senior Notes also contains certain limited covenants restricting the Company's ability to incur certain liens, enter into certain sale and leaseback transactions and merge or consolidate with any other entity or convey, transfer or lease all or substantially all of the Company's properties or assets to another person, which, in each case, are subject to certain qualifications and exceptions.

Summary of Borrowings and Outstanding Debt

The following table summarizes the Company's outstanding debt at February 1, 2020 (in thousands):

	February 1, 2020	February 2, 2019
Face Value Outstanding:		
Term Loan	\$ 450,000	\$ 750,000
2023 Notes	500,000	500,000
2028 Notes	500,000	500,000
Total borrowings	1,450,000	1,750,000
Less: Unamortized debt discount and issuance cost	(10,976)	(17,301)
Net carrying amount of debt	1,439,024	1,732,699
Less: Current portion	—	—
Non-current portion	\$ 1,439,024	\$ 1,732,699

During fiscal 2020 and fiscal 2019, the Company recognized \$79.8 million and \$50.1 million of interest expense, respectively, in its consolidated statements of operations related to interest, amortization of debt issuance costs and accretion of discount associated with the outstanding Term Loan and Senior Notes.

As of February 1, 2020, the aggregate future contractual maturities of the Company's outstanding debt, at face value, were as follows (in thousands):

Fiscal Year	Amount
2021	\$ —
2022	450,000
2023	—
2024	500,000
2025	—
Thereafter	500,000
Total	\$ 1,450,000

Repayment of Debt and Termination of Credit Facility of Cavium

On July 6, 2018, concurrent with completing the acquisition of Cavium as further described in "Note 3 - Business Combinations," the Company assumed and paid all of Cavium's outstanding debt and accrued interest of \$606.6 million. Cavium's debt was governed under a credit agreement dated August 16, 2016, which was terminated following the repayment.

MARVELL TECHNOLOGY GROUP LTD.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Note 13 — Commitments and Contingencies

Warranty Obligations

The Company's products carry a standard one-year warranty with certain exceptions in which the warranty period can extend to more than one year based on contractual agreements. The Company's warranty expense has not been significant in the periods presented.

Technology License Commitments

The Company purchases certain intellectual property under technology license obligations. Future payments under technology license obligations as of February 1, 2020, are presented in the following tables (in thousands):

Fiscal Year	Technology License Obligations
2021	\$ 83,746
2022	70,659
2023	40,084
2024	29,309
2025	309
Thereafter	309
Total future minimum payments	224,416
Less: amount representing interest	(8,843)
Present value of future minimum payments	215,573
Less: current portion	(71,623)
Non-current portion	\$ 143,950

Technology license obligations include the liabilities under agreements for technology licenses between the Company and various vendors.

Purchase Commitments

Under the Company's manufacturing relationships with its foundry partners, cancellation of all outstanding purchase orders is allowed but requires payment of all costs and expenses incurred through the date of cancellation. As of February 1, 2020, these foundries had incurred approximately \$163.7 million of manufacturing costs and expenses relating to the Company's outstanding purchase orders.

Contingencies and Legal Proceedings

The Company currently is, and may from time to time become, a party to claims, lawsuits, governmental inquiries, inspections or investigations and other legal proceedings (collectively, "Legal Matters") arising in the course of its business. Such Legal Matters, even if not meritorious, could result in the expenditure of significant financial and managerial resources.

The Company is currently unable to predict the final outcome of its pending Legal Matters and therefore cannot determine the likelihood of loss or estimate a range of possible loss, except with respect to amounts where it has determined a loss is both probable and estimable and has made an accrual. The Company evaluates, at least on a quarterly basis, developments in its Legal Matters that could affect the amount of any accrual, as well as any developments that would result in a loss contingency to become both probable and reasonably estimable. The ultimate outcome of any Legal Matter involves judgments, estimates and inherent uncertainties. An unfavorable outcome in a Legal Matter, particularly in a patent dispute, could require the Company to pay damages or could prevent the Company from selling some of its products in certain jurisdictions. While the Company cannot predict with certainty the results of the Legal Matters in which it is currently involved, the Company does not expect that the ultimate costs to resolve these Legal Matters will individually or in the aggregate have a material adverse effect on its financial condition, however, there can be no assurance that the current or any future Legal Matters will be resolved in a manner that is not adverse to the Company's business, financial condition, results of operations or cash flows.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Indemnities, Commitments and Guarantees

During its normal course of business, the Company has made certain indemnities, commitments and guarantees under which it may be required to make payments in relation to certain transactions. These indemnities may include indemnities for general commercial obligations, indemnities to various lessors in connection with facility leases for certain claims arising from such facility or lease, and indemnities to directors and officers of the Company to the maximum extent permitted under the laws of Bermuda. In addition, the Company has contractual commitments to various customers, which could require the Company to incur costs to repair an epidemic defect with respect to its products outside of the normal warranty period if such defect were to occur. The duration of these indemnities, commitments and guarantees varies, and in certain cases, is indefinite. Some of these indemnities, commitments and guarantees do not provide for any limitation of the maximum potential future payments that the Company could be obligated to make. In general, the Company does not record any liability for these indemnities, commitments and guarantees in the accompanying consolidated balance sheets as the amounts cannot be reasonably estimated and are not considered probable. The Company does, however, accrue for losses for any known contingent liability, including those that may arise from indemnification provisions, when future payment is probable.

Intellectual Property Indemnification

In addition to the above indemnities, the Company has agreed to indemnify certain customers for claims made against the Company's products where such claims allege infringement of third-party intellectual property rights, including, but not limited to, patents, registered trademarks, and/or copyrights. Under the aforementioned indemnification clauses, the Company may be obligated to defend the customer and pay for the damages awarded against the customer as well as the attorneys' fees and costs under an infringement claim. The Company's indemnification obligations generally do not expire after termination or expiration of the agreement containing the indemnification obligation. Generally, there are limits on and exceptions to the Company's potential liability for indemnification. Although historically the Company has not made significant payments under these indemnification obligations, the Company cannot estimate the amount of potential future payments, if any, that it might be required to make as a result of these agreements. The maximum potential amount of any future payments that the Company could be required to make under these indemnification obligations could be significant.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Note 14 — Shareholders' Equity

Preferred and Common Stock

Under the terms of the Company's Articles of Association, the Board of Directors may determine the rights, preferences, and terms of the Company's authorized but unissued shares of preferred stock.

As of February 1, 2020, the Company is authorized to issue 8.0 million shares of \$0.002 par value preferred stock and 992.0 million shares of \$0.002 par value common stock. As of February 1, 2020, and February 2, 2019, no shares of preferred stock were outstanding.

In June 2019, the Company executed a funded research and development agreement with a business partner. In conjunction with the agreement, the Company issued a warrant to purchase 9.0 million of the Company's common shares, subject to certain vesting and exercise conditions.

Restricted Stock Unit Withholdings

For the years ended February 1, 2020 and February 2, 2019, the Company withheld approximately 4.0 million and 2.7 million shares, or \$98.3 million and \$54.9 million, of common stock, respectively, in settlement of employee tax withholding obligations due upon the vesting of restricted stock.

Cash Dividends on Shares of Common Stock

During fiscal 2020, the Company declared and paid cash dividends of \$0.24 per common share, or \$159.6 million, on the Company's outstanding common stock. During fiscal 2019, the Company declared and paid cash dividends of \$0.24 per common share, or \$148.1 million, on the Company's outstanding common stock.

Any future dividends will be subject to the approval of the Company's Board of Directors.

On March 12, 2020, the Company announced that its board of directors declared a cash dividend of \$0.06 per share payable on April 22, 2020 to shareholders of record as of April 3, 2020.

Stock Repurchase Program

On November 17, 2016, the Company announced that its Board of Directors authorized a \$1.0 billion share repurchase plan. The newly authorized stock repurchase program replaced in its entirety the prior \$3.25 billion stock repurchase program. On October 16, 2018, the Company announced that its Board of Directors authorized a \$700 million addition to the balance of its existing share repurchase plan. The Company intends to effect share repurchases in accordance with the conditions of Rule 10b-18 under the Exchange Act, but may also make repurchases in the open market outside of Rule 10b-18 or in privately negotiated transactions. The share repurchase program will be subject to market conditions and other factors, and does not obligate the Company to repurchase any dollar amount or number of its common shares and the repurchase program may be extended, modified, suspended or discontinued at any time.

The Company repurchased 14.5 million of its common shares for \$364.3 million, 6.0 million of its common shares for \$104.0 million and 31.5 million of its common shares for \$526.1 million in cash during fiscal 2020, 2019 and 2018, respectively. The repurchased shares were retired immediately after the repurchases were completed. The Company records all repurchases, as well as investment purchases and sales, based on their trade date. As of February 1, 2020, a total of 306.9 million shares have been repurchased to date under the Company's share repurchase program for a total \$4.2 billion in cash and there was \$589.7 million remaining available for future share repurchases.

Subsequent to the year ended February 1, 2020 through March 16, 2020, the Company purchased an additional 0.8 million of its common shares for \$17.2 million at an average price per share of \$21.14.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

A summary of the stock repurchase activity under the stock repurchase program, reported based on the trade date, is summarized as follows (in thousands, except per-share amounts):

	Shares Repurchased	Weighted- Average Price per Share	Amount Repurchased
Cumulative balance at January 28, 2017	254,904	\$ 12.75	\$ 3,250,481
Repurchase of common stock under the stock repurchase program (1)	31,460	\$ 16.72	526,075
Cumulative balance at February 3, 2018	286,365	\$ 13.19	3,776,557
Repurchase of common stock under the stock repurchase program (2)	6,041	\$ 17.21	103,974
Cumulative balance at February 2, 2019	292,406	\$ 13.27	3,880,531
Repurchase of common stock under the stock repurchase program (3)	14,486	\$ 25.15	364,272
Cumulative balance at February 1, 2020	306,892	\$ 13.83	\$ 4,244,803

(1) There were no stock repurchases pending settlement as of February 3, 2018.

(2) There were no stock repurchases pending settlement as of February 2, 2019.

(3) There were no stock repurchases pending settlement as of February 1, 2020.

Note 15 — Employee Benefit Plans

Employee Stock Compensation Plans

1995 Stock Option Plan

In April 1995, the Company adopted the 1995 Stock Option Plan (the “Option Plan”). The Option Plan, as amended from time to time, had 383.4 million common shares reserved for issuance thereunder as of February 1, 2020. Options granted under the Option Plan generally have a term of 10 years and generally must be issued at prices equal to the fair market value of the stock on the date of grant. The Company can also grant stock awards, which may be subject to vesting. Further, the Company can grant restricted stock unit (“RSU”) awards. RSU awards are denominated in shares of stock, but may be settled in cash or shares upon vesting, as determined by the Company at the time of grant. Awards under the Option Plan generally vest over 2 to 5 years.

As of February 1, 2020, approximately 82.7 million shares remained available for future grants under the Option Plan.

Equity awards granted under the Option Plan include time-based RSUs as well as RSUs that vest based on the achievement of performance-based criteria i.e. Company financial goals (“Financial Performance RSU”), or based on achievement of market-based goals i.e. relative total shareholder return (“TSR RSUs”), or stock price goals (“Value Creation Awards” or “VCA RSUs”).

Prior to fiscal year 2020, the Company granted Financial Performance RSUs to each of its executive officers when they joined the Company, and as an annual refresh grant to all executive officers and other Vice Presidents in April of each fiscal year. The Financial Performance RSUs had a three-year service requirement. The number of shares to be earned could be 0% to 200% of target and was based on the achievement of certain financial operating metrics to be measured as of the end of the second fiscal year of the three-year vesting term. Shares granted under these Financial Performance RSUs are reported in the table presented below as “Performance-Based” based on 100% expected achievement.

In addition, the Company grants TSR RSUs to its executive officers that newly join the Company, and as an annual refresh grant to all executive officers and other Vice Presidents, usually in April of each fiscal year. Prior to fiscal year 2020, TSR RSUs were measured based on stock performance as compared to that of companies on the Philadelphia Semiconductor Sector over a performance period defined in the award. The number of shares to be earned can be 0% to 150% of target and is based on the achievement of performance objectives relating to relative total shareholder return of the Company’s common shares. Beginning in fiscal year 2020, the S&P 500 Index serves as the benchmark index. The TSR RSUs have a three year service vesting requirement. The number of shares to be earned can be 0% to 200% of target and is based on the achievement of performance objectives relating to relative total shareholder return of the Company’s common shares. These TSR RSUs are reported in the table presented below as “Market-Based” awards based on 100% expected achievement.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

In fiscal year 2020, the Company issued Value Creation Awards that are based on achievement of the Company's stock price target over a specified performance period, also referred to as VCA RSUs. The VCA RSU will be earned if the Company's average closing trading stock price over 100-calendar days equals or exceeds a certain target price. 100% of the award will vest on the 1-year anniversary of the achievement. The grant will be forfeited if the market-based condition is not achieved. These VCA RSUs are reported in the table presented below as "Market-Based" awards based on 100% expected achievement.

In December 2017, the Company's Executive Compensation Committee approved a deferred stock program, whereby executives of the Company have the option, beginning in 2018, to defer the settlement of time-based and performance-based restricted stock units granted under the Option Plan to a future date. A deferral election is irrevocable after the annual submission deadline. The shares of common stock underlying the deferred grants will be distributed at the earliest of the employee's specified future settlement date, not to be earlier than 2023, or upon separation from service, a change in control, or death or disability. As of February 1, 2020, no executives had elected deferral.

Cavium Acquisition

Following the Cavium acquisition and in accordance with the Cavium merger agreement, certain outstanding options to purchase shares of Cavium common stock and certain restricted stock units with respect to Cavium common stock, each granted under Cavium 2016 Equity Incentive Plan ("Cavium 2016 EIP"), Cavium 2007 Equity Incentive Plan ("Cavium 2007 EIP") and QLogic 2005 Performance Incentive Plan, as assumed by Cavium effective August 16, 2016 ("QLogic 2005 Plan"), (and collectively, with the Cavium 2016 EIP and the Cavium 2007 EIP, the "Cavium Plans"), were assumed by the Company and converted into options to purchase common shares of the Company and restricted stock units with respect to common shares of the Company, respectively. The Company filed a registration statement on July 6, 2018 to register 15,824,555 common shares of the Company, issuable under the Cavium Plans, comprised of 2,535,940 common shares issuable pursuant to outstanding but unexercised options under the Cavium Plans and 13,288,615 common shares issuable pursuant to outstanding unvested restricted stock units under the Cavium Plans.

Cavium 2016 EIP

The Cavium 2016 EIP was adopted by Cavium on June 15, 2016 and was intended as the successor to and continuation of Cavium 2007 EIP. The Cavium 2016 EIP provided for the grant of incentive stock options, non-statutory stock options, stock appreciation rights, restricted stock awards, restricted stock unit awards, performance stock awards, performance cash awards and other stock awards, which may be granted to employees, directors and consultants. Awards under the Cavium 2016 EIP generally vest over four years and expire seven to ten years from the date of grant. Following the effective date, no additional awards were granted under the Cavium 2007 EIP.

Cavium 2007 EIP

Cavium adopted the Cavium 2007 EIP in May 2007 upon completion of its initial public offering. The Cavium 2007 EIP provided for the grant of incentive stock options, non-statutory stock options, restricted stock awards, restricted stock unit awards, stock appreciation rights, performance stock awards, and other forms of equity compensation and performance cash awards, all of which may be granted to employees (including officers), directors, and consultants or affiliates. Awards granted under the Cavium 2007 EIP vest at the rate specified by the plan administrator, for stock options, typically with 1/8th of the shares vesting six months after the date of grant and 1/48th of the shares vesting monthly thereafter over the next three and one half years and for restricted stock unit awards typically with quarterly vesting over four years. Awards expire seven to ten years from the date of grant.

QLogic 2005 Plan

The QLogic 2005 Plan was assumed and registered by Cavium upon its completion of acquisition of QLogic Corporation on August 16, 2016. The QLogic 2005 Plan provided for the issuance of restricted stock unit awards, incentive and non-qualified stock options, and other stock-based incentive awards. Restricted stock unit awards granted pursuant to the QLogic 2005 Plan to employees subject to a service condition generally vest over four years from the date of grant. Stock options granted pursuant to the QLogic 2005 Plan to employees have ten-year terms and generally vest over four years from the date of grant.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Cavium Acquisition-related Equity Awards

The awards under the Cavium Plans assumed by the Company in the Cavium acquisition were measured at the acquisition date based on the estimated fair value of \$357.1 million. A portion of that fair value, \$68.9 million, which represented the pre-acquisition service provided by employees to Cavium, was included in the total consideration transferred as part of the acquisition. As of the acquisition date, the remaining portion of the fair value of those awards was \$288.2 million, representing post-acquisition share-based compensation expense that will be recognized as these employees provide service over the remaining vesting periods.

Aquantia Plans Assumed

In accordance with the Aquantia merger agreement, certain outstanding options to purchase shares of Aquantia common stock and certain restricted stock units with respect to Aquantia common stock, each granted under Aquantia 2017 Equity Incentive Plan (“Aquantia 2017 EIP”), Aquantia 2015 Equity Incentive Plan (“Aquantia 2015 EIP”) and Aquantia 2004 Equity Incentive Plan (“Aquantia 2004 EIP”), the “Aquantia Plans” were assumed by the Company and converted into options to purchase common shares of the Company and restricted stock units with respect to common shares of the Company, respectively. The Company filed a registration statement on September 19, 2019 to register 2,128,823 common shares of the Company, issuable under the Aquantia plans, comprised of 805,965 common shares issuable pursuant to outstanding but unexercised options under the Aquantia Plans and 1,322,858 common shares issuable pursuant to outstanding unvested restricted stock units under the Aquantia Plans.

Aquantia Acquisition-related Equity Awards

The awards under the Aquantia Plans assumed by the Company in the Aquantia acquisition were measured at the acquisition date based on the estimated fair value of \$54.1 million. A portion of that fair value, \$21.5 million, which represented the pre-acquisition service provided by employees to Aquantia, was included in the total consideration transferred as part of the acquisition. As of the acquisition date, the remaining portion of the fair value of those awards was \$32.6 million, representing post-acquisition share-based compensation expense that will be recognized as these employees provide service over the remaining vesting periods.

Outside Director Equity Compensation Policy

In September 2016, the Company’s Board of Directors approved the termination of the 2007 Directors’ Stock Incentive Plan, (“2007 Director Plan”) that was initially adopted in October 2007, and it approved a new Outside Director Equity Compensation Policy that governs the grant of equity awards to non-employee directors under the Option Plan. At the annual general meeting of shareholders held in June 2015, the shareholders approved an amendment to the Option Plan to enable a full range of awards to be granted to non-employee directors. Under the newly amended Outside Director Compensation Policy, each outside director, upon appointment to fill a vacancy on the board or in connection with election at an annual meeting of shareholders, will be granted an RSU award under the Option Plan for a number of shares with an aggregate fair market value equal to \$235,000 on the grant date. In no event shall an outside director be awarded an annual RSU award for more than 20,000 shares. The RSU award vests 100% on the earlier of the date of the next annual general meeting of shareholders or the one-year anniversary of the date of grant.

Employee Stock Purchase Plan

Under the 2000 Employee Stock Purchase Plan, as amended and restated on October 31, 2011 (the “ESPP”), participants purchase the Company’s stock using payroll deductions, which may not exceed 15% of their total cash compensation. Pursuant to the terms of the current ESPP, the “look-back” period for the stock purchase price is 24 months. Offering and purchase periods begin on December 8 and June 8 of each year. Participants enrolled in a 24-month offering period will continue in that offering period until the earlier of the end of the offering period or the reset of the offering period. A reset occurs if the fair market value of the Company’s common shares on any purchase date is less than it was on the first day of the offering period. Participants in a 24-month offering period will be granted the right to purchase common shares at a price per share that is 85% of the lesser of the fair market value of the shares at (i) the participant’s entry date into the two-year offering period or (ii) the end of each six-month purchase period within the offering period.

Under the ESPP, a total of 5.2 million shares were issued in fiscal 2020 at a weighted-average price of \$13.25 per share, a total of 3.2 million shares were issued in fiscal 2019 at a weighted-average price of \$15.08 per share, and a total of 7.0 million shares were issued in fiscal 2018 at a weighted-average price of \$7.49 per share. As of February 1, 2020, there was \$28.1 million of unamortized compensation cost related to the ESPP.

As of February 1, 2020, approximately 29.5 million shares remained available for future issuance under the ESPP.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Summary of Share-Based Compensation Expense

The following table summarizes share-based compensation expense (in thousands):

	Year Ended		
	February 1, 2020	February 2, 2019	February 3, 2018
Continuing operations:			
Cost of goods sold	\$ 13,759	\$ 12,024	\$ 6,646
Research and development	157,054	108,762	52,127
Selling, general and administrative	71,996	77,309	26,349
Share-based compensation - continuing operations	\$ 242,809	\$ 198,095	\$ 85,122
Discontinued operations:			
Cost of goods sold	—	—	(11)
Research and development	—	—	1,458
Selling, general and administrative	—	—	120
Share-based compensation - discontinued operations	—	—	1,567
Total share-based compensation	\$ 242,809	\$ 198,095	\$ 86,689

Share-based compensation capitalized in inventory was \$4.1 million at February 1, 2020, \$2.8 million at February 2, 2019 and \$1.3 million at February 3, 2018.

Restricted Stock and Stock Unit Awards

A summary of restricted stock unit activity, which includes time-based and performance-based or market-based restricted stock units, is as follows (in thousands, except per-share amounts):

	Time-Based		Performance-Based		Market-Based		Total	
	Number of Shares	Weighted- Average Grant Date Fair Value	Number of Shares	Weighted- Average Grant Date Fair Value	Number of Shares	Weighted- Average Grant Date Fair Value	Number of Shares	Weighted- Average Grant Date Fair Value
Balance at January 28, 2017	9,925	\$ 10.52	313	\$ 13.91	559	\$ 11.80	10,797	\$ 10.69
Granted	8,154	\$ 15.33	406 [1]	\$ 14.49	409 [1]	\$ 15.14	8,969	\$ 15.28
Vested	(5,653)	\$ 10.86	—	\$ —	—	\$ —	(5,653)	\$ 10.86
Canceled/Forfeited	(2,137)	\$ 11.95	(47)	\$ 13.99	(47)	\$ 14.71	(2,231)	\$ 12.05
Balance at February 3, 2018	10,289	\$ 13.84	672	\$ 14.25	921	\$ 13.14	11,882	\$ 13.81
Assumed upon acquisition [4]	13,289	\$ 21.02	—	\$ —	—	\$ —	13,289	\$ 21.02
Granted	7,453	\$ 19.95	340 [1]	\$ 21.12	351 [1]	\$ 21.36	8,144	\$ 20.06
Vested	(8,827)	\$ 16.30	—	\$ —	(30)	\$ 13.08	(8,857)	\$ 16.28
Canceled/Forfeited	(3,159)	\$ 19.64	(64)	\$ 16.29	(64)	\$ 16.52	(3,287)	\$ 19.51
Balance at February 2, 2019	19,045	\$ 19.15	948	\$ 16.58	1,178	\$ 15.40	21,171	\$ 18.82
Assumed upon acquisition [4]	1,341	\$ 25.61	—	\$ —	—	\$ —	1,341	\$ 25.61
Granted	9,340	\$ 23.36	288 [2]	\$ 13.90	3,621 [3]	\$ 15.39	13,249	\$ 20.98
Vested	(10,781)	\$ 20.01	(576)	\$ 13.90	(713)	\$ 11.62	(12,070)	\$ 19.23
Canceled/Forfeited	(3,661)	\$ 20.57	(149)	\$ 17.86	(173)	\$ 21.12	(3,983)	\$ 20.49
Balance at February 1, 2020	15,284	\$ 21.34	511	\$ 17.71	3,913	\$ 15.83	19,708	\$ 20.15

[1] Amounts represent the target number of restricted stock units at grant date. For awards granted to our executive officers, up to 200% of the target restricted stock units may vest if the maximum level for performance goals is achieved.

[2] Amount represents the number of restricted stock unit goal shares.

[3] Amount represents the target number of restricted stock units at grant date, including 824 TSR RSU shares and 2,797 VCA RSU shares.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

[4] See “Note 3 - Business Combinations” for additional information.

The aggregate intrinsic value of restricted stock units expected to vest as of February 1, 2020 was \$473.8 million. The number of restricted stock units that are expected to vest is 19.7 million shares. The Company’s closing stock price of \$24.04 as reported on the Nasdaq Global Select Market as of February 1, 2020 was used to calculate the aggregate intrinsic value for the restricted stock units.

As of February 1, 2020, unamortized compensation expense related to restricted stock units was \$335.3 million. The unamortized compensation expense for restricted stock units will be amortized on a straight-line basis and is expected to be recognized over a weighted-average period of 1.93 years.

Stock Option Awards

Option Plan and Stock Award Activity

Stock option activity under the Company’s stock option and stock incentive plans is included in the following table (in thousands, except for per share amounts):

	Number of Shares	Weighted- Average Exercise Price
Balance at January 28, 2017	25,096	\$ 12.61
Granted	—	\$ —
Exercised	(10,305)	\$ 12.38
Canceled/Forfeited	(3,019)	\$ 14.33
Balance at February 3, 2018	11,772	\$ 12.36
Assumed upon acquisition*	3,026	\$ 11.85
Granted	—	\$ —
Exercised	(4,812)	\$ 10.93
Canceled/Forfeited	(362)	\$ 13.64
Balance at February 2, 2019	9,624	\$ 12.87
Assumed upon acquisition*	808	\$ 9.20
Granted	—	\$ —
Exercised	(6,178)	\$ 12.67
Canceled/Forfeited	(37)	\$ 13.57
Balance at February 1, 2020	4,217	\$ 12.44
Vested or expected to vest at February 1, 2020	4,217	

* See “Note 3 - Business Combinations” for more information.

For stock options vested and expected to vest at February 1, 2020, the aggregate intrinsic value was \$48.9 million. For stock options exercisable at February 1, 2020, the aggregate intrinsic value was \$47.5 million. The aggregate intrinsic value of stock options exercised during fiscal 2020, 2019 and 2018 was \$70.5 million, \$40.6 million and \$57.0 million, respectively. The Company’s closing stock price of \$24.04 as reported on the Nasdaq Global Select Market as of February 1, 2020 was used to calculate the aggregate intrinsic value for all in-the-money options.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Outstanding options and exercisable options information by range of exercise prices as of February 1, 2020 was as follows:

Outstanding Options					Exercisable Options		
Range of Exercise Prices		Number of Shares (in thousands)	Weighted-Average Remaining Contractual Term (in years)	Weighted-Average Exercise Price	Number of Shares (in thousands)	Weighted-Average Exercise Price	
\$ 3.89	\$ 10.31	678	5.26	\$ 8.06	654	\$ 8.03	
\$ 10.76	\$ 10.76	1,272	3.23	\$ 10.76	1,272	\$ 10.76	
\$ 10.89	\$ 14.35	1,145	5.10	\$ 13.65	1,062	\$ 13.65	
\$ 14.45	\$ 15.87	966	3.57	\$ 15.58	965	\$ 15.58	
\$ 15.91	\$ 22.27	156	4.20	\$ 16.99	129	\$ 16.91	
Total		4,217	4.18	\$ 12.44	4,082	\$ 12.41	

As of February 1, 2020, the unamortized compensation expense for stock options was \$1.4 million. The unamortized compensation expense for options will be amortized on a straight-line basis and is expected to be recognized over a weighted-average period of 1.19 years.

Valuation of Employee Share-Based Awards

The expected volatility for awards granted during fiscal 2020, 2019 and 2018 was based on historical stock price volatility.

The expected dividend yield is calculated by dividing the current annualized dividend by the closing stock price on the date of grant of the option.

There were no options granted in fiscal 2020, 2019 and 2018 except for the ones we assumed from the Cavium and Aquantia acquisitions as described above.

The following weighted-average assumptions were used for each respective period to calculate the fair value of common shares to be issued under the ESPP on the date of grant using the Black-Scholes option pricing model:

	Year Ended		
	February 1, 2020	February 2, 2019	February 3, 2018
Employee Stock Purchase Plan:			
Estimated fair value	\$ 7.06	\$ 4.91	\$ 6.03
Expected volatility	35 %	33 %	30 %
Expected term (in years)	1.2	1.2	1.2
Risk-free interest rate	1.8 %	2.6 %	1.6 %
Expected dividend yield	1.0 %	1.4 %	1.1 %

The following weighted-average assumptions were used for each respective period to calculate the fair value of common shares to be issued under Total Shareholder Return performance awards on the date of grant using the Monte Carlo pricing model:

	Year Ended		
	February 1, 2020	February 2, 2019	February 3, 2018
Total Shareholder Return Awards:			
Expected term (in years)	3.0	2.9	2.9
Expected volatility	32 %	35 %	35 %
Average correlation coefficient of peer companies	0.5	0.5	0.5
Risk-free interest rate	2.4 %	2.5 %	1.4 %
Expected dividend yield	1.0 %	1.1 %	1.6 %

The correlation coefficients are calculated based upon the price data used to calculate the historical volatilities and is used to model the way in which each entity tends to move in relation to its peers.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The following weighted-average assumptions were used for estimating the fair value of common shares to be issued under VCA RSUs on the date of grant using the Monte Carlo pricing model:

	Year Ended February 1, 2020
Value Creation Awards:	
Expected term (in years)	4.66
Expected volatility	35 %
Risk-free interest rate	1.8 %
Expected dividend yield	1.0 %

Employee 401(k) Plans

The Company sponsors a 401(k) savings and investment plan that allows eligible U.S. employees to participate by making pre-tax contributions to the 401(k) plan ranging from 1% to 50% of eligible earnings subject to a required annual limit. The Company currently matches 100% of the first 4% of the employee's contribution and 50% of the next 2%, up to a \$4,000 maximum contribution effective from January 1, 2018. The Company made matching contributions to employees of \$11.0 million in fiscal 2020, \$8.6 million in fiscal 2019 and \$4.6 million in fiscal 2018. As of February 1, 2020, the 401(k) plan offers a variety of investment alternatives, representing different asset classes. Employees may not invest in the Company's common shares through the 401(k) plan.

The Company also has voluntary defined contribution plans in various non-U.S. locations. In connection with these plans, the Company made contributions on behalf of employees totaling \$9.6 million, \$16.8 million and \$12.3 million during fiscal 2020, 2019 and 2018, respectively.

Note 16 — Income Taxes

The U.S. and non-U.S. components of income (loss) from continuing operations before income taxes consist of the following (in thousands):

	February 1, 2020	Year Ended February 2, 2019	February 3, 2018
U.S. operations	\$ (95,884)	\$ 666,508	\$ 24,377
Non-U.S. operations	894,267	(671,155)	426,827
	<u>\$ 798,383</u>	<u>\$ (4,647)</u>	<u>\$ 451,204</u>

The provision (benefit) for income taxes consists of the following (in thousands):

	February 1, 2020	Year Ended February 2, 2019	February 3, 2018
Current income tax provision (benefit):			
Federal	\$ 5,223	\$ 46,519	\$ 776
State	(1,937)	5,959	2
Foreign	(4,137)	3,322	(2,541)
Total current income tax provision (benefit)	<u>(851)</u>	<u>55,800</u>	<u>(1,763)</u>
Deferred income tax provision (benefit):			
Federal	(125,892)	134,336	10,136
State	(9,382)	(6,567)	83
Foreign	(649,884)	(9,122)	9,606
Total deferred income tax provision (benefit)	<u>(785,158)</u>	<u>118,647</u>	<u>19,825</u>
Total provision (benefit) for income taxes	<u>\$ (786,009)</u>	<u>\$ 174,447</u>	<u>\$ 18,062</u>

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The Company consists of a Bermuda parent holding company with various foreign and U.S. subsidiaries. The applicable statutory rate in Bermuda is zero for the Company for fiscal 2020, 2019, and 2018. For purposes of the reconciliation between the provision (benefit) for income taxes at the statutory rate and the effective tax rate, a U.S. statutory tax rate of 21% for fiscal years 2020 and 2019, and a notional rate of 33.7% for fiscal 2018 is applied as follows:

	Year Ended		
	February 1, 2020	February 2, 2019	February 3, 2018
Provision at U.S. statutory rate	\$ 167,660	\$ (976)	\$ 152,134
State taxes, net of federal benefit	(9,878)	(9,652)	—
Difference in U.S. and non-U.S. tax rates	(181,625)	46,988	(137,419)
Foreign income inclusion in U.S.	13,736	167,093	—
Non-deductible compensation	6,196	13,215	—
Intellectual property transaction	(762,933)	93,777	—
Federal research and development credits	(42,604)	(29,503)	(21,620)
Uncertain tax positions	(3,913)	4,238	—
Change in valuation allowance	26,971	(110,921)	21,339
Other	381	188	3,628
Income tax provision (benefit)	<u>\$ (786,009)</u>	<u>\$ 174,447</u>	<u>\$ 18,062</u>

The current year income tax benefit is primarily related to the recognition of a \$763.0 million tax benefit for the intra-entity transfer of the majority of our intellectual property to a subsidiary in Singapore. This resulted in the recognition of a deferred tax asset and tax benefit of \$659.0 million related to the Singapore tax basis in the intellectual property. In addition, the Company recognized \$104.0 million of income tax benefit from the reversal of deferred tax liabilities primarily related to previously acquired intangible assets. The income tax expense for fiscal 2019 was primarily the result of restructurings involving the transfer of certain assets and intellectual property used in the business among various subsidiaries and represented the estimated U.S. tax to be paid currently and in future years on income generated from the intellectual property transfer. These transactions align the global economic ownership of the Company's intellectual property rights with its current and future business operations. The Company continues to evaluate potential changes to its legal entity structure in response to guidelines and requirements in various international tax jurisdictions where it conducts business.

Deferred tax assets consist of the following (in thousands):

	February 1, 2020	February 2, 2019
Deferred tax assets:		
Net operating losses	\$ 105,925	\$ 134,598
Federal and California income tax credits	631,805	557,333
Intangible assets	632,537	—
Reserves and accruals	22,719	18,404
Share-based compensation	4,117	5,213
Lease liabilities	32,120	—
Gross deferred tax assets	1,429,223	715,548
Valuation allowance	(676,780)	(597,829)
Total deferred tax assets	752,443	117,719
Deferred tax liabilities:		
Intangible assets	(69,771)	(185,973)
Fixed assets	(27,540)	(13,370)
Unremitted earnings of non-U.S. subsidiaries	(21,284)	(52,828)
Royalty income	—	(99,340)
Right of use assets	(25,290)	—
Total deferred tax liabilities	(143,885)	(351,511)
Net deferred tax assets (liabilities)	<u>\$ 608,558</u>	<u>\$ (233,792)</u>

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The deferred tax assets and liabilities based on tax jurisdictions are presented on our Consolidated Balance Sheet as follows:

	February 1, 2020	February 2, 2019
Non-current deferred tax assets	\$ 639,791	\$ 12,460
Non-current deferred tax liabilities	(31,233)	(246,252)
Net deferred tax assets (liabilities)	\$ 608,558	\$ (233,792)

In assessing the realization of deferred tax assets across all jurisdictions, management considers whether it is more likely than not that some portion or all of the deferred assets will be realized. The ultimate realization of the deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. As of February 1, 2020, the Company recorded a valuation allowance of \$676.8 million which is an increase of \$79.0 million from fiscal 2019. The Company provided a full valuation allowance against its federal and state research and development and other tax credits. Based on the available objectively verifiable positive and negative evidence, the Company determined that it is more likely than not that these tax credits and a limited amount of net operating losses will not be realized in the future. The Company also provided a valuation allowance against the deferred tax assets of a portion of its operations in Israel, which has cumulative losses in recent years and is not projecting sufficient future taxable income to realize the benefit of its deferred tax assets.

As of February 1, 2020, the Company had net operating loss carryforwards available to offset future taxable income of approximately \$932.1 million, \$597.4 million and \$514.8 million for U.S. federal, state of California and foreign purposes, respectively. The federal carryforwards will begin to expire in fiscal year 2022, and the California carryforwards will begin to expire in fiscal year 2028, if not utilized before these years. The majority of the Company's foreign losses carry forward indefinitely. The Company also had federal research and other tax credit carryforwards of approximately \$310.7 million which will begin to expire in fiscal 2021. As of February 1, 2020, the Company also had California research tax credit carryforwards of approximately \$440.5 million, which can be carried forward indefinitely. The Company also has research and other tax credit carryforwards of approximately \$26.0 million in other U.S. states which will begin to expire in fiscal 2021 due to the statutes of limitation.

Utilization of the Company's U.S. federal and state net operating loss and credit carryforwards may be subject to annual limitations due to ownership change provisions by the Internal Revenue Code of 1986, as amended, and similar state provisions. The annual limitation may result in the expiration of net operating losses and credits before utilization. Future changes in the Company's stock ownership, some of which are outside of the Company's control, could result in an ownership change under Section 382 and result in a limitation on US tax attributes. As of February 1, 2020, the Company had approximately \$718.5 million and \$120.4 million of federal net operating loss and tax credit carryforwards, respectively, in the U.S. subject to an annual limitation. The Company does not expect these limitations to result in any permanent loss of its tax benefits.

The following table reflects changes in the unrecognized tax benefits (in thousands):

	Year Ended		
	February 1, 2020	February 2, 2019	February 3, 2018
Unrecognized tax benefits as of the beginning of the period	\$ 158,323	\$ 23,252	\$ 23,793
Increases related to acquired tax positions	9,215	131,631	—
Increases related to prior year tax positions	1,789	1,836	—
Decreases related to prior year tax positions	(6,747)	(6,259)	—
Increases related to current year tax positions	7,614	11,154	2,776
Settlements	(443)	—	—
Lapse in the statute of limitations	(4,044)	(3,198)	(3,341)
Foreign exchange (gain) loss	1,121	(93)	24
Gross amounts of unrecognized tax benefits as of the end of the period	\$ 166,828	\$ 158,323	\$ 23,252

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Included in the balances as of February 1, 2020 is \$127.3 million of unrecognized tax benefit that would affect the effective income tax rate if recognized. Also, \$146.6 million, \$135.6 million and \$8.6 million of the gross unrecognized tax benefits presented in the table above are offset against deferred tax assets in the consolidated balance sheets as of February 1, 2020, February 2, 2019 and February 3, 2018, respectively.

The amounts in the table above do not include the related interest and penalties. The amount of interest and penalties accrued was approximately \$12.4 million, \$15.1 million, and \$17.2 million as of February 1, 2020, February 2, 2019, and February 3, 2018, respectively. The Company's policy is to recognize these interest and penalties as a component of income tax expense. The consolidated statements of operations for fiscal 2020, 2019, and 2018 included \$1.4 million, \$2.7 million, and \$2.3 million, respectively, of interest and penalties related to the unrecognized tax benefits.

The Company's major tax jurisdictions are the United States, the states of California and Massachusetts, China, India, Israel, Singapore, and Switzerland. The Company is subject to income tax audits by the respective tax authorities in all of the jurisdictions in which it operates. The examination of tax liabilities in each of these jurisdictions requires the interpretation and application of complex and sometimes uncertain tax laws and regulations. As of February 1, 2020, the Company is currently under examination in material jurisdictions including China, India, Israel, Singapore, and the United States for fiscal years 2008 through 2018.

The Company will continue to review its tax positions and provide for or reverse unrecognized tax benefits as issues arise. During the next 12 months, it is reasonably possible that the amount of unrecognized tax benefits could increase or decrease significantly due to changes in tax law in various jurisdictions, new tax audits and changes in the U.S. dollar as compared to foreign currencies within the next 12 months. Excluding these factors, uncertain tax positions may decrease by as much as \$15.2 million from the lapse of the statutes of limitation in various jurisdictions during the next 12 months.

The Singapore Economic Development Board ("EDB") initially granted a 10-year Pioneer Status in July 1999 to the Company's Singapore subsidiary. In October 2004, the Company's subsidiary in Singapore was granted a second incentive known as the Develop and Expansion Incentive ("DEI"), and in June 2006, the EDB agreed to extend the Pioneer status for 15 years to June 2014. The Company renegotiated with the Singapore government and in fiscal 2015, they extended the DEI tax credits to the Company until June 2019. The Company renegotiated again with the Singapore government and during the second quarter of fiscal 2020, they extended the DEI tax credits to the Company until June 2024. In order to retain these tax benefits in Singapore, the Company must meet certain operating conditions relating to, among other things, maintenance of a regional headquarters function, and research and development activities in Singapore.

Under the Israeli Encouragement law of "approved or benefited enterprise," two branches of Marvell Israel (M.I.S.L) Ltd., the GTL branch and the cellular branch (formerly Marvell DSPC), are entitled to approved and benefited tax programs that include reduced tax rates and exemption of certain income, subject to various operating and other conditions. Income from the approved or benefited enterprises, with the exception of capital gains, is eligible up to fiscal 2027.

The Company's principal source of liquidity as of February 1, 2020 consisted of approximately \$648 million of cash, cash equivalents and short-term investments, of which approximately \$421 million was held by subsidiaries outside of Bermuda. The Company has not recognized a deferred tax liability on \$176 million of these assets as those amounts are deemed to be indefinitely reinvested. The Company plans to use such amounts to fund various activities outside of Bermuda, including working capital requirements, capital expenditures for expansion, funding of future acquisitions or other financing activities.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Note 17 — Net Income (Loss) Per Share

The Company reports both basic net income (loss) per share, which is based on the weighted-average number of common shares outstanding during the period, and diluted net income (loss) per share, which is based on the weighted-average number of common shares outstanding and potentially dilutive shares outstanding during the period. The computations of basic and diluted net income (loss) per share are presented in the following table (in thousands, except per share amounts):

	Year Ended		
	February 1, 2020	February 2, 2019	February 3, 2018
Numerator:			
Income (loss) from continuing operations, net of tax	\$ 1,584,391	\$ (179,094)	\$ 433,142
Income from discontinued operations, net of tax	—	—	87,689
Net income (loss)	<u>\$ 1,584,391</u>	<u>\$ (179,094)</u>	<u>\$ 520,831</u>
Denominator:			
Weighted-average shares — basic	664,709	591,232	498,008
Effect of dilutive securities:			
Share-based awards	11,385	—	11,659
Weighted-average shares — diluted	<u>676,094</u>	<u>591,232</u>	<u>509,667</u>
Income (loss) from continuing operations per share:			
Basic	\$ 2.38	\$ (0.30)	\$ 0.87
Diluted	\$ 2.34	\$ (0.30)	\$ 0.85
Income (loss) from discontinued operations per share:			
Basic	\$ —	\$ —	\$ 0.18
Diluted	\$ —	\$ —	\$ 0.17
Net income (loss) per share:			
Basic	\$ 2.38	\$ (0.30)	\$ 1.05
Diluted	\$ 2.34	\$ (0.30)	\$ 1.02

Potential dilutive securities include dilutive common shares from share-based awards attributable to the assumed exercise of stock options, restricted stock units and employee stock purchase plan shares using the treasury stock method. Under the treasury stock method, potential common shares outstanding are not included in the computation of diluted net income per share, if their effect is anti-dilutive.

Anti-dilutive potential shares are presented in the following table (in thousands):

	Year Ended		
	February 1, 2020	February 2, 2019	February 3, 2018
Weighted-average shares outstanding:			
Share-based awards	<u>1,124</u>	<u>20,435</u>	<u>412</u>

Anti-dilutive potential shares from share-based awards are excluded from the calculation of diluted earnings per share for all periods reported above because either their exercise price exceeded the average market price during the period or the share-based awards were determined to be anti-dilutive based on applying the treasury stock method. Anti-dilutive potential shares from share-based awards are also excluded from the calculation of diluted earnings per share for the year ended February 2, 2019 due to the net loss reported in that period.

MARVELL TECHNOLOGY GROUP LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Note 18 — Segment and Geographic Information

The Company operates in one reportable segment — the design, development and sale of integrated circuits. The chief executive officer was identified as the chief operating decision maker (“CODM”) and is ultimately responsible for and actively involved in the allocation of resources and the assessment of the Company’s performance. The fact that the Company operates in only one reportable segment is based on the following:

- The Company uses a highly-integrated approach in developing its products in that discrete technologies developed by the Company are frequently integrated across many of its products. Substantially all of the Company’s integrated circuits are manufactured under similar manufacturing processes.
- The Company’s organizational structure is based along functional lines. Each of the functional department heads reports directly to the CODM. Shared resources in the Company also report directly to the CODM or to a direct report of the CODM.
- The assessments of performance across the Company, including assessment of the Company’s incentive compensation plan, are based largely on operational performance and consolidated financial performance.
- The decisions on allocation of resources and other operational decisions are made by the CODM based on his direct involvement with the Company’s operations and product development.

The following table presents long-lived asset information based on the physical location of the assets by geographic region (in thousands):

	February 1, 2020	February 2, 2019
Property and equipment, net:		
United States	\$ 265,685	\$ 228,744
Singapore	37,717	21,929
India	20,815	15,322
Israel	15,808	18,754
China	11,979	9,950
Others	5,088	24,279
	<u>\$ 357,092</u>	<u>\$ 318,978</u>

SUPPLEMENTARY DATA

(Unaudited)

The following table presents the unaudited consolidated statements of operations data for each of the four quarters in the periods ended February 1, 2020 and February 1, 2019. On December 6, 2019, the Company completed the sale of its Wi-Fi Connectivity business to NXP. On November 5, 2019, the Company completed the acquisition of Avera. On September 19, 2019, the Company completed the acquisition of Aquantia. On July 6, 2018, the Company completed the acquisition of Cavium.

In management’s opinion, this information has been presented on the same basis as the audited consolidated financial statements included in a separate section of this Annual Report on Form 10-K, and all necessary adjustments, consisting only of normal recurring adjustments, have been included in the amounts below to fairly state the unaudited quarterly results when read in conjunction with the audited consolidated financial statements and related notes. The operating results for any period should not be considered indicative of results to be expected in any future period. The Company expects the quarterly operating results to fluctuate in future periods due to a variety of reasons, including those discussed in Part I, Item 1A, “Risk Factors.”

MARVELL TECHNOLOGY GROUP LTD.

	Fiscal 2020			
	First	Second	Third	Fourth
	Quarter (1)	Quarter (1)	Quarter (1) (3)	Quarter (1) (2) (3) (4)
	(In thousands, except per share amounts)			
Net revenue	\$ 662,452	\$ 656,568	\$ 662,470	\$ 717,671
Gross profit	\$ 361,428	\$ 350,702	\$ 340,067	\$ 304,744
Net income (loss)	\$ (48,450)	\$ (57,331)	\$ (82,501)	\$ 1,772,673
Net income (loss) per share:				
Basic	\$ (0.07)	\$ (0.09)	\$ (0.12)	\$ 2.66
Diluted	\$ (0.07)	\$ (0.09)	\$ (0.12)	\$ 2.62

	Fiscal 2019			
	First	Second	Third	Fourth
	Quarter (5)	Quarter (1) (5)	Quarter (1) (5)	Quarter (1) (5)
	(In thousands, except per share amounts)			
Net revenue	\$ 604,631	\$ 665,310	\$ 851,051	\$ 744,799
Gross profit	\$ 375,693	\$ 377,110	\$ 383,587	\$ 322,002
Net income (loss)	\$ 128,612	\$ 6,759	\$ (53,767)	\$ (260,698)
Net income (loss) per share:				
Basic	\$ 0.26	\$ 0.01	\$ (0.08)	\$ (0.40)
Diluted	\$ 0.25	\$ 0.01	\$ (0.08)	\$ (0.40)

- (1) Includes the effect of the acquisition of Cavium, including its effect on income taxes. Refer to “Note 3 - Business Combinations,” and “Note 16 - Income Taxes.”
- (2) Includes the effect of the acquisition of Avera, including its effect on income taxes. Refer to “Note 3 - Business Combinations,” and “Note 16 - Income Taxes.”
- (3) Includes the effect of the acquisition of Aquantia, including its effect on income taxes. Refer to “Note 3 - Business Combinations,” and “Note 16 - Income Taxes.”
- (4) Includes the effect of the divestiture of the Wi-Fi connectivity business, including its effect on income taxes. Refer to “Note 1 - Basis of Presentation,” and “Note 16 - Income Taxes.”
- (5) Includes the effect of the adoption of the new revenue recognition standard. Refer to “Note 8 - Revenue.”

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures**Management's Evaluation of Disclosure Controls and Procedures**

Management, with the participation of our principal executive officer and principal financial officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) of the Exchange Act) as of February 1, 2020. Disclosure controls and procedures are designed to ensure that information required to be disclosed in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC and that such information is accumulated and communicated to management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure. Based on this evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were effective as of February 1, 2020.

Management has concluded that the consolidated financial statements included in this Form 10-K present fairly, in all material respects, our financial position, results of operations and cash flows for the periods presented in conformity with accounting principles generally accepted in the United States.

Management's Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rule 13a-15(f) of the Exchange Act. Internal control over financial reporting consists of policies and procedures that: (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company; (2) are designed and operated to provide reasonable assurance regarding the reliability of our financial reporting and our process for the preparation of financial statements for external purposes in accordance with generally accepted accounting principles and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the financial statements.

Our internal control over financial reporting is designed by, and under the supervision of the principal executive officer and principal financial officer and effected by the Company's Board of Directors, management, and others. 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.

Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting as of February 1, 2020 using the criteria for effective internal control over financial reporting as described in "Internal Control-Integrated Framework," issued by the Committee of Sponsoring Organization of the Treadway Commission (2013 framework) (the COSO Criteria). Based on this assessment, management concluded that our internal control over financial reporting was effective as of February 1, 2020.

The effectiveness of our internal control over financial reporting as of February 1, 2020 has been audited by Deloitte & Touche LLP, our independent registered public accounting firm, as stated in its report that is included herein.

Inherent Limitations on Effectiveness of Controls

Our management, including our principal executive officer and our principal financial officer, does not expect that our disclosure controls or our internal control over financial reporting will prevent or detect all error and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. The design of a control system must reflect the fact that there are resource constraints and the benefits of controls must be considered relative to their costs. Further, because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, have been detected. The design of any system of controls is based in part on certain assumptions about the likelihood of future events and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Projections of any evaluation of the effectiveness of controls to future periods are subject to risks. Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with policies or procedures.

Changes to Internal Control over Financial Reporting

No change in the Company's internal control over financial reporting (as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934) occurred during the three months ended February 1, 2020 that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

Item 9B. Other Information

None

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of Marvell Technology Group Ltd.

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Marvell Technology Group Ltd. and subsidiaries (the “Company”) as of February 1, 2020, based on criteria established in *Internal Control-Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of February 1, 2020, based on criteria established in *Internal Control-Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended February 1, 2020, of the Company and our report dated March 23, 2020, expressed an unqualified opinion on those financial statements.

Basis for Opinion

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

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

Definition and Limitations of Internal Control over Financial Reporting

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

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

/s/ DELOITTE & TOUCHE LLP

San Jose, California
March 23, 2020

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required by Items 401 and 407(c)(3) of Regulation S-K with respect to our directors, director nominees, executive officers and corporate governance is incorporated by reference herein to the information set forth under the captions “Board of Directors and Committees of the Board” and “Information About Our Executive Officers” in our definitive proxy statement in connection with our 2020 annual general meeting of shareholders to be held June 25, 2020 (the “2020 Proxy Statement”), which will be filed with the SEC no later than 120 days after February 1, 2020.

Delinquent Section 16(a) Reports

The information required by Item 405 of Regulation S-K is incorporated by reference herein, as applicable, to the information set forth under the caption “Delinquent Section 16(a) Reports” in our 2020 Proxy Statement.

Code of Ethics

We have adopted a Code of Ethics and Business Conduct for Employees, Officers and Directors that applies to all of our directors, officers (including our Chief Executive Officer (our principal executive officer), Chief Financial Officer (our principal financial officer), Corporate Controller (our chief accounting officer) and any person performing similar functions) and employees. This Code of Ethics was most recently amended in March 2020. We will disclose future amendments to or waivers from our Code of Ethics and Business Conduct for Employees, Officers and Directors on our website or in a report on Form 8-K within four business days following the date of such amendment or waiver. Our Code of Ethics and Business Conduct for Employees, Officers and Directors is available on our website www.marvell.com. None of the material on our website is part of our Annual Report on Form 10-K or is incorporated by reference herein.

Committees of the Board of Directors

The information required by Items 407(d)(4) and (d)(5) of Regulation S-K concerning our Audit Committee and audit committee financial expert is incorporated by reference herein to the information set forth under the caption “Board of Directors and Committees of the Board - Committees of our Board of Directors” in our 2020 Proxy Statement.

Item 11. Executive Compensation

The information required by Items 402, 407(e)(4) and 407(e)(5) of Regulation S-K is incorporated by reference herein to the information set forth under the captions “Board of Directors and Committees of the Board - Director Compensation Table,” “Executive Compensation” and “Executive Compensation Committee Interlocks and Insider Participation” in our 2020 Proxy Statement.

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

The information required by Item 403 of Regulation S-K is incorporated by reference herein to the information set forth under the caption “Security Ownership of Certain Beneficial Owners and Management” in our 2020 Proxy Statement.

Securities Authorized for Issuance under Equity Compensation Plans

Equity Compensation Plan Information

The following table provides certain information with respect to all of our equity compensation plans in effect as of February 1, 2020:

Plan Category	(a) Number of Securities to Be Issued Upon Exercise of Outstanding Options, Warrants and Rights (1)	(b) Weighted- Average Exercise Price of Outstanding Options, Warrants, and Rights (2)	(c) Number of Securities Remaining Available for Future Issuance under Equity Compensation Plans (Excluding Securities Reflected in Column (a))
Equity compensation plans approved by security holders (3)(4)	18,734,796	\$ 15.99	112,180,040
Equity compensation plans not approved by security holders (5)	5,189,409	\$ 10.82	—

- (1) Includes only options and restricted stock units (outstanding under our equity compensation plans, as no stock warrants or other rights were outstanding as of February 1, 2020).
- (2) The weighted-average exercise price calculation does not take into account any restricted stock units as those units vest, without any cash consideration or other payment required for such shares.
- (3) Includes our Amended and Restated 1995 Stock Option Plan, our Amended 2000 Employee Stock Purchase Plan (the “2000 ESPP”).
- (4) The number of shares reserved for issuance under our 2000 ESPP includes an annual increase in shares reserved for issuance equal to the lesser of (i) 8,000,000 shares of Common Stock, or (ii) 1.5% of the outstanding shares of capital stock on such date, or (iii) an amount determined by the Board (provided that the amount approved by the Board shall not be greater than (i) or (ii)).
- (5) Plans not approved by security holders consists of the Cavium 2007, 2016 and Qlogic equity incentive plans which we assumed in our merger with Cavium Inc and Aquantia 2004, 2015 and 2017 equity incentive plans which we assumed in our merger with Aquantia.

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

The information required by Item 404 of Regulation S-K is incorporated by reference herein to the information set forth under the caption “Related Party Transactions” in our 2020 Proxy Statement.

The information required by Item 407(a) of Regulation S-K is incorporated by reference herein to the information set forth under the caption “Board of Directors and Committees of the Board” in our 2020 Proxy Statement.

Item 14. *Principal Accounting Fees and Services*

The information required by Item 9(e) of Schedule 14A is incorporated by reference to the information set forth under the caption “Information Concerning Independent Registered Public Accounting Firm” in our 2020 Proxy Statement.

PART IV

Item 15. Exhibits, Financial Statement Schedules

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

1. *Financial Statements:*

See the “Index to Consolidated Financial Statements” on page 46 of this Annual Report on Form 10-K.

2. *Financial Statement Schedule:*

See “Schedule II — Valuation and Qualifying Accounts” on page 107 of this Annual Report on Form 10-K:

All other schedules not listed above have been omitted because they are not applicable or required, or the information required to be set forth therein is included in the Consolidated Financial Statements or Notes thereto.

3. *Exhibits.*

Exhibit No.	Description	Form	File Number	Incorporated by Reference from Exhibit Number	Filed with SEC
2.1	Agreement and Plan of Merger by and among the Company, Kauai Acquisition Corp., and Cavium, Inc. dated as of November 19, 2017	8-K	000-30877	2.1	11/20/2017
2.2	Asset Purchase Agreement between Marvell and NXP dated May 29, 2019	10-Q	000-30877	2.1	9/4/2019
3.1	Memorandum of Association of Marvell Technology Group Ltd.	10-K	000-30877	3.1	03/29/2018
3.2	Fourth Amended and Restated Bye-Laws of Marvell Technology Group Ltd.	8-K	000-30877	3.1	11/10/2016
3.3	Memorandum of Increase of Share Capital of Marvell Technology Group Ltd. dated June 29, 2006, June 7, 2004, April 25, 2000, July 16, 1999, July 22, 1998, September 26, 1996 and March 10, 1995	10-Q	000-30877	3.5	06/05/2018
3.4	Certificate of Incorporation of Marvell Technology Group Ltd.	10-Q	000-30877	3.2	06/05/2018
3.5	Memorandum of Reduction of Share Premium dated August 8, 2011	10-Q	000-30877	3.4	06/05/2018
4.1	Specimen common share certificate for Marvell Technology Group Ltd.	10-K	000-30877	4.1	03/29/2018
4.2	Indenture, dated as of June 22, 2018, by and between Marvell Technology Group Ltd. and U.S. Bank National Association, as trustee	8-K	000-30877	4.1	06/22/2018
4.3	First Supplemental Indenture, dated as of June 22, 2018, by and between Marvell Technology Group Ltd. and U.S. Bank National Association, as trustee	8-K	000-30877	4.2	06/22/2018
4.4	Form of 4.200% Senior Notes due 2023 (included in Exhibit 4.3)	8-K	000-30877	4.3	06/22/2018

4.5	Form of 4.87% Senior Notes due 2028 (included in Exhibit 4.3)	8-K	000-30877	4.4	06/22/2018
4.6	Description of Marvell Securities Registered under Section 12 of the Exchange Act				filed herewith
10.2#	2000 Employee Stock Purchase Plan (as amended and restated as of October 31, 2011)	10-Q	000-30877	10.1	12/2/2011
10.2.1#	2000 Employee Stock Purchase Plan Form of Subscription Agreement	10-K	000-30877	10.4	3/29/2013
10.3#	Amended and Restated 1995 Stock Option Plan, amended through April 16, 2015	8-K	000-30877	10.2	7/2/2015
10.3.1#	Form of Amended and Restated 1995 Stock Option Plan Restricted Stock Agreement	10-K	000-30877	10.20	4/13/2006
10.3.2#	Form of Stock Option Agreement and Notice of Grant of Stock Options and Option Agreement for use with 1995 Stock Option Plan (for options granted after September 20, 2013)	8-K	000-30877	10.2	9/26/2013
10.3.3#	Form of Stock Unit Agreement and Notice of Grant of Award and Award Agreement for use with the Amended and Restated 1995 Stock Option Plan (for RSUs granted on or after August 2, 2010)	10-Q	000-30877	10.4	9/3/2010
10.3.9#	Form of Notice of Grant of Stock Options — Performance-Based, for use with the Amended and Restated 1995 Stock Option Plan	8-K	000-30877	10.1	12/19/2008
10.3.10#	Form of Performance Award Agreement and Notice of Grant of Performance Award and Award Agreement for use with the Amended and Restated 1995 Stock Option Plan	10-Q	000-30877	10.2	6/5/2014
10.3.11#	Form of Deferral Feature Stock Unit Agreement with Stock Unit Election Form for use with the Amended and Restated 1995 Stock Option Plan	10-K	000-30877	10.3.11#	03/29/2018
10.3.12#	Form of Relative TSR RSU Grant Notice	10-Q	000-30877	10.3	06/06/2019
10.2.12#	Form of Relative Total Shareholder Return Performance Based Restricted Stock Unit Grant Notice	10-Q	000-30877	10.1	06/06/2019
10.4#	Marvell Technology Group Ltd. Executive Performance Incentive Plan	8-K	000-30877	10.1	7/2/2015
10.6#	Description of Indemnification Rights for certain current and former directors, officers and employees	10-Q	000-30877	10.37	9/6/2007
10.7#	Form of Indemnification Agreement with Directors and Executive Officers	8-K	000-30877	10.1	10/10/2008

10.8#	Indemnification Arrangement with Dr. Sehat Sutardja	8-K	000-30877	10.1	3/7/2011
10.9#	Offer Letter between the Marvell and Matthew J. Murphy and form of Severance Agreement attached thereto as Appendix B	8-K	000-30877	10.1	6/20/2016
10.10#	Marvell Technology Group Ltd. Change in Control Severance Plan and Summary Plan Description, effective June 15, 2016	10-Q	000-30877	10.8	12/4/2019
10.11#	Offer Letter between Marvell and Mitchell Gaynor	10-Q	000-30877	10.3	9/8/2016
10.13#	Offer Letter between Marvell and Andrew Micallef	10-Q	000-30877	10.5	9/8/2016
10.15#	Offer Letter between the Company and Jean Hu	8-K	000-30877	10.1	8/23/2016
10.17#	Offer Letter between the Company and Thomas Lagatta	10-K	000-30877	10.22	03/28/2017
10.18#	Severance Agreement between the Company and Mitchell Gaynor	10-K	000-30877	10.23	03/28/2017
10.19#	Offer Letter between the Company and Neil Kim	10-Q	000-30877	10.1	06/05/2017
10.22#	Offer Letter between Marvell and Raghib Hussain	10-Q	003-30877	10.3	09/12/28
10.23#	Severance Agreement between the Company and Willem Meintjes, dated December 9, 2016	8-K	003-30877	10.1	06/29/2018
10.24	Credit Agreement dated as of June 13, 2018, among Marvell Technology Group Ltd., the Lenders party thereto, Goldman Sachs Bank USA, as the General Administrative Agent and the Term Facility Agent, and Bank of America, N.A., as the Revolving Facility Agent	8-K	003-30877	10.1	06/13/2018
10.25#	Summary of Fiscal 2020 Compensation Arrangements	10-Q	003-30877	10.2	06/06/2019
10.26#	Warrant to Purchase Common Shares of Marvell dated June 5, 2019	8-K	003-30877	99.1	06/05/2019
10.27#	Cavium, Inc. 2016 Equity Incentive Plan (including forms of grant notice and agreements)	10-Q	003-30877	10.1	12/04/2019
10.28#	Cavium, Inc. 2007 Equity Incentive Plan (including forms of grant notice and agreements)	10-Q	003-30877	10.2	12/04/2019
10.29#	QLogic Corporation 2005 Performance Incentive Plan (including forms of grant notice and agreements)	10-Q	003-30877	10.3	12/04/2019
10.30#	Aquantia Corp. 2004 Equity Incentive Plan (including forms of grant notice and agreements)	10-Q	003-30877	10.4	12/04/2019
10.31#	Aquantia Corp. 2015 Equity Incentive Plan (including forms of grant notice and agreements)	10-Q	003-30877	10.5	12/04/2019

10.32#	Aquantia Corp. 2017 Equity Incentive Plan (including forms of grant notice and agreements)	10-Q	003-30877	10.6	12/04/2019
10.33#	Form of Stock Unit Agreement and Notice of Grant under Amended 1995 Stock Option Plan	10-Q	003-30877	10.7	12/04/2019
10.34#	Change in Control Severance Plan and Summary Plan Description	10-Q	003-30877	10.8	12/04/2019
10.35#	Offer Letter for Dean Jarnac and promotion summary of terms	10-Q	003-30877	10.9	12/04/2019
10.36	Bridge Credit Agreement dated November 2019 among Marvell and the lenders party thereto, Wells Fargo Bank as administrative agent, Wells Fargo Securities and Citibank	8-K	003-30877	10.10	11/05/2019
21.1	Subsidiaries of Registrant				Filed herewith
23.1	Consent of Independent Registered Public Accounting Firm - Deloitte & Touche LLP				Filed herewith
24.1	Power of Attorney (contained in the signature page to this Annual Report)				Filed herewith
31.1	Rule 13a-14(a)/15d-14(a) Certification of the Principal Executive Officer				Filed herewith
31.2	Rule 13a-14(a)/15d-14(a) Certification of the Principal Financial Officer				Filed herewith
32.1*	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 for Principal Executive Officer				Filed herewith
32.2*	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 for Principal Financial Officer				Filed herewith
101.INS	XBRL Instance Document				
101.SCH	XBRL Taxonomy Extension Schema Document				
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document				
101.DEF	XBRL Taxonomy Extension Definition				
101.LAB	XBRL Taxonomy Extension Label Linkbase Document				

Management contracts or compensation plans or arrangements in which directors or executive officers are eligible to participate.

* In accordance with Item 601(b)(32)(ii) of Regulation S-K and SEC Release No. 33-8238 and 34-47986, Final Rule: Management's Reports on Internal Control Over Financial Reporting and Certification of Disclosure in Exchange Act Periodic Reports, the certifications furnished in Exhibits 32.1 and 32.2 hereto are deemed to accompany this Annual Report Form 10-K and will not be deemed "filed" for purposes of Section 18 of the Exchange Act. Such certifications will not be deemed to be incorporated by reference into any filings under the Securities Act or the Exchange Act, except to the extent that the registrant specifically incorporates it by reference.

Item 16. Form 10-K Summary

Not applicable.

SIGNATURES

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

MARVELL TECHNOLOGY GROUP LTD.

Dated: March 23, 2020

By: /s/ JEAN HU
Jean Hu
Chief Financial Officer
(Principal Financial Officer)

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Matthew J. Murphy and Jean Hu, and each of them individually, as his or her attorney-in-fact, each with full power of substitution, for him or her in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with exhibits thereto and all other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that said attorney-in-fact, or his substitute or substitutes, may do or cause to be done by virtue hereof. Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed by the following persons on behalf of the registrant in the capacities and on the dates indicated.

Name and Signature	Title	Date
/S/ MATTHEW J. MURPHY Matthew J. Murphy	President and Chief Executive Officer (Principal Executive Officer), Director	March 23, 2020
/S/ JEAN HU Jean Hu	Chief Financial Officer (Principal Financial Officer)	March 23, 2020
/S/ WILLEM MEINTJES Willem Meintjes	Chief Accounting Officer (Principal Accounting Officer)	March 23, 2020
/S/ TUDOR BROWN Tudor Brown	Director	March 23, 2020
/S/ BRAD BUSS Brad Buss	Director	March 23, 2020
/S/ EDWARD FRANK Dr. Edward Frank	Director	March 23, 2020
/S/ RICHARD S. HILL Richard S. Hill	Chairman of the Board	March 23, 2020
/S/ OLEG KHAYKIN Oleg Khaykin	Director	March 23, 2020

Name and Signature	Title	Date
/S/ BETHANY MAYER Bethany Mayer	Director	March 23, 2020
/S/ DONNA MORRIS Donna Morris	Director	March 23, 2020
/S/ MICHAEL STRACHAN Michael Strachan	Director	March 23, 2020
/S/ ROBERT E. SWITZ Robert E. Switz	Director	March 23, 2020

SCHEDULE II
VALUATION AND QUALIFYING ACCOUNTS
(in thousands)

	Balance at Beginning of Year	Additions	Deductions	Balance at End of Year
Fiscal year ended February 1, 2020				
Allowance for doubtful accounts (1)	\$ 2,637	\$ 3,448	\$ (3,959)	\$ 2,126
Deferred tax asset valuation allowance	\$ 597,829	\$ 78,951	\$ —	\$ 676,780
Fiscal year ended February 2, 2019				
Allowance for doubtful accounts (1)	\$ 984	\$ 1,653	\$ —	\$ 2,637
Deferred tax asset valuation allowance	\$ 618,353	\$ —	\$ (20,524)	\$ 597,829
Fiscal year ended February 3, 2018				
Allowance for doubtful accounts and sales return reserve	\$ 1,384	\$ 2,352	\$ (1,236)	\$ 2,500
Deferred tax asset valuation allowance	\$ 456,541	\$ 161,812	\$ —	\$ 618,353

(1) Beginning in fiscal 2019 upon the adoption of the new revenue recognition standard, the sales return reserve is included as a component of contract liabilities within accrued liabilities in the accompanying consolidated balance sheet. The additions and deductions to contract liabilities during fiscal 2020 is disclosed in “Note 8 - Revenue” in the accompanying notes to the consolidated financial statements.

**DESCRIPTION OF THE REGISTRANT'S SECURITIES
REGISTERED PURSUANT TO SECTION 12 OF THE
SECURITIES EXCHANGE ACT OF 1934**

Marvell Technology Group Ltd. has one class of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended: our common shares.

DESCRIPTION OF COMMON SHARES

Our authorized share capital consists of \$2,000,000, divided into 1,000,000,000 common shares, \$0.002 par value per share ("common shares"), and no preferred shares are currently issued.

Pursuant to our bye-laws ("Bye-laws"), our board of directors is authorized to issue any of our authorized but unissued shares. There are no limitations on the right of non-Bermudians or non-residents of Bermuda to hold our common shares.

In the event of our liquidation, dissolution or winding up, holders of common shares would be entitled to receive all of our assets, pro rata, after payment in full of all our debts and liabilities, and any liquidation payment that we may be required to pay to our preferred shareholders on the date of liquidation.

The common shares do not have preemptive or conversion rights or other subscription rights and there are no redemption or sinking fund provisions. The outstanding common shares are, and the common shares offered hereby, when issued and upon our receipt of the full purchase price therefore, will be, fully paid and nonassessable.

Bermuda Law

We were incorporated as an exempted Bermuda company under The Companies Act 1981, as amended, of Bermuda ("Companies Act"). This means that we are exempted from the provisions of Bermuda law which currently stipulate that at least 60% of our equity must be beneficially owned by Bermudians.

The rights of our shareholders, including those persons who will become our shareholders in connection with this offering, are governed by Bermuda law, our Memorandum of Association and Bye-laws. The following is a summary of certain provisions of Bermuda law and our organizational documents.

Because this summary does not contain all of the information set forth in the Bermuda law provisions or our organizational documents, we encourage you to read those documents.

Dividends. Bermuda law authorizes a company to declare or pay a dividend or make a distribution out of contributed surplus, unless there are reasonable grounds for believing that,

- the company would not be able to pay its debts as they become due; or
- the realizable value of the company's assets would thereby be less than its liabilities.

Our Bye-laws provide our board of directors may from time to time declare dividends or distributions out of contributed surplus to be paid to the shareholders according to their rights and interests, such dividend may be paid in cash or wholly or partly in specie.

Voting Rights. Unless otherwise provided by the Companies Act or a company's bye-laws, under Bermuda law, questions brought before a general meeting of shareholders are decided by a simple majority vote of shareholders present at the meeting. Each shareholder has one vote, regardless of the number of shares held, unless a poll is requested. If a poll is requested, each shareholder present in person or by proxy has one vote for each share held. A poll may be requested by:

- the chairman of the meeting;
- at least three shareholders present in person or represented by proxy;
- any shareholder or shareholders present in person or represented by proxy and holding between them not less than one-tenth of the total voting rights of all the shareholders having the right to vote; or
- any shareholder or shareholders present in person or represented by proxy holding shares conferring the right to vote at the meeting, and the total paid up on those shares has been paid up equal to at least one-tenth of the total sum paid up on all shares conferring the right vote at the meeting.

Our Bye-laws provide that, subject to the provisions of the Companies Act, any questions sent to a shareholder vote will be decided by the affirmative votes of a majority of the votes cast. In case of an equality of votes, the resolution shall fail. No shareholder shall (unless otherwise entitled under the Companies Act) be entitled to vote at any general meeting unless such shareholder has paid all the calls on all shares held by such shareholder.

Rights in Litigation. Under Bermuda law, in the event of a winding up of a company, the proceeds of such company being wound up are distributed on a pro rata basis among the holders of common shares, after satisfaction in full of all claims of creditors and subject to the preferential rights accorded to any series of preferred stock or preferential creditors.

Repurchase of Shares. At its discretion and without the sanction of a resolution, our board of directors may authorize the purchase by our company of our own shares, of any class, at any price. To the extent permitted by Bermuda law, the shares to be purchased may be selected in any manner whatsoever, upon such terms as our board of directors may determine in its discretion.

Meetings of Shareholders. Under Bermuda law, a company is required to convene at least one general shareholders' meeting per calendar year unless waived by the shareholders. Bermuda law provides that a special general meeting must be called by our board of directors and must be

called upon the request of shareholders holding not less than 10% of such of the paid-up capital of the company having the right to vote.

Bermuda law also requires that shareholders be given at least five days' advance notice of a general meeting, but the accidental omission of notice to any person does not invalidate the proceedings at such meeting. Our Bye-laws require at least five days' notice be given to each shareholder of the annual general meeting and of any special general meeting.

Under Bermuda law, the number of shareholders constituting a quorum at any general meeting of shareholders is determined by the bye-laws of the company. Our Bye-laws provide that two persons present in person and representing in person or by proxy at least 50% of the total issued voting shares throughout the meeting constitutes a quorum.

Shareholder Written Resolutions. Subject to certain exceptions in our Bye-laws and provisions of the Companies Act, anything which may be done by resolution of us in general meeting may without a meeting and without any previous notice being required, be done by resolution in writing signed by all the shareholders who at the date of the resolution would be entitled to attend the meeting and vote on the resolution.

Such exceptions in our Bye-laws include resolutions passed for the purpose of (a) appointing and removing its auditors before the expiration of its term of office; or (b) removing a director before the expiration of his term of office.

Access to Books and Records and Dissemination of Information. Members of the general public have the right to inspect the public documents of a company available at the office of the Registrar of Companies in Bermuda. These documents include:

- our Memorandum of Association (including its objects and powers); and
- any amendment of our Memorandum of Association.

In addition, our shareholders have the right to inspect:

- our Bye-laws;
- our minutes of general meetings; and
- our audited financial statements, which must be presented at the annual general meeting.

Our register of shareholders is also open to inspection by our shareholders and to members of the general public without charge.

We are required to maintain our share register in Bermuda but may, subject to the provisions of the Companies Act, establish a branch register outside Bermuda. We are required to keep at our registered office a register of our directors and officers which is open for inspection for not less than two hours each day by members of the public without charge. However, Bermuda law does not provide a general right for shareholders to inspect or obtain copies of any other corporate records.

Election or Removal of Directors. Under Bermuda law and our Bye-laws, directors are elected at the annual general meeting for a term of one year or until their successors are elected or appointed, unless they resign or are earlier removed. Pursuant to our Bye-laws, our board of directors shall consist of not less than two directors or such number in excess thereof as our board of directors may from time to time determine.

Under Bermuda law, unless otherwise provided in a company's bye-laws, a director may be removed at a special general meeting of shareholders specifically called for that purpose, provided that the director was served with at least 14 days' notice of the meeting. The director has a right to be heard at such meeting. Any vacancy created by the removal of a director at a special general meeting may be filled at such meeting by the election of another director in his or her place or, in the absence of any such election, by our board of directors.

Amendment of Memorandum of Association and Bye-laws. Bermuda law provides that the memorandum of association of a company may be amended by a resolution passed at a general meeting of shareholders after due notice has been given. An amendment to the memorandum of association, other than an amendment which alters or reduces a company's share capital, also requires the approval of the Registrar of Companies, who may grant or withhold approval at his or her discretion. The directors may amend the bye-laws, but the amendment must be approved by the shareholders at a general meeting and approved by the affirmative votes of a majority of the votes cast in accordance with the provisions of the bye-laws and in case of an equality of votes the resolutions shall fail.

Under Bermuda law, the holders of a total of at least 20% in par value of any class of a company's issued share capital have the right to apply to the Bermuda courts for an annulment of any amendment of the memorandum of association adopted by shareholders at any general meeting, other than an amendment which alters or reduces a company's share capital as provided in the Companies Act. Where such an application is made, the amendment becomes effective only to the extent that it is confirmed by the Bermuda courts. An application for annulment of any amendment of the memorandum of association must be made within 21 days after the date on which the resolution altering the company's memorandum is passed and may be made on behalf of the persons entitled to make the application by one or more of their number as they may appoint in writing for that purpose. No such application may be made by persons voting in favor of the amendment.

Appraisal Rights and Shareholder Suits. Under Bermuda law, in the event of a merger or amalgamation of a Bermuda company with another company, a shareholder of the Bermuda company who is not satisfied that fair value has been offered for his or her shares may within one month of giving of the notice of the shareholder meeting apply to the Bermuda courts to appraise the fair value of his or her shares. The merger or amalgamation of a company with another company requires the approval of the merger or amalgamation agreement by our board of directors and by the shareholders, and of the holders of each class of such shares.

Class actions and derivative actions are generally not available to shareholders under Bermuda law. However, the Bermuda courts would ordinarily be expected to follow English case law precedent, which would permit a shareholder to commence an action in the name of a company to remedy a wrong done to the company where the act complained of is alleged:

- to be beyond the corporate power of the company;
- to be illegal; or
- to violate the company's memorandum of association or bye-laws.

Furthermore, consideration would be given by the Bermuda courts to acts that are alleged to constitute a fraud against the minority shareholders or, for instance where an act requires the approval of a greater percentage of the company's shareholders than those who actually approve it.

When the affairs of a company are being conducted in a manner oppressive or unfairly prejudicial to the interests of some of the shareholders, one or more shareholders may apply to the Bermuda courts for an order to regulate the company's conduct of affairs in the future or for an order for the purchase of the shares by any shareholder, by other shareholders or by the company.

Board Actions. Under Bermuda law, the directors of a Bermuda company owe their fiduciary duties to the company, rather than to individual shareholders. Our Bye-laws provide that some actions are required to be approved by our board of directors. Actions must be approved by a majority of the votes present and entitled to be cast at a properly convened meeting of our board of directors.

Our Bye-laws contain a provision by virtue of which our shareholders waive any claim or right of action that they have, both individually and on our behalf, against any director or officer in relation to any action or failure to take action by such director or officer, except in respect of any fraud or dishonesty of such director or officer. Our Bye-laws also indemnify our directors and officers in respect of their actions and omissions, except in respect of their fraud or dishonesty. The indemnification provided in our Bye-laws is not exclusive of other indemnification rights to which a director or officer may be entitled, provided these rights do not extend to his or her fraud or dishonesty.

Our Bye-laws provide that our business is to be managed and conducted by our board of directors. Bermuda law does not require that our directors be individuals, and there is no requirement in our Bye-laws or Bermuda law that directors hold any of our shares. There is also no requirement in our Bye-laws or Bermuda law that our directors must retire at a certain age.

Related Party Transactions and Loans. Pursuant to our Bye-laws, provided a director discloses a direct or indirect interest in any contract or arrangement with us as required by Bermuda law, such director is may be counted in the quorum and vote in respect of any such contract or arrangement in which he or she is interested unless he or she is disqualified from voting by the chairman of the relevant board meeting.

Discontinuance/Continuation. Under Bermuda law, an exempted company may be discontinued in Bermuda and continued in a jurisdiction outside Bermuda as if it had been incorporated under the laws of that other jurisdiction. Our Bye-laws provide that our board of directors may exercise all our power to discontinue to another jurisdiction.

Foreign Exchange Controls. We have been designated as a “non-resident” of Bermuda by the Bermuda Monetary Authority for the purposes of the Exchange Control Act, 1972 and regulations made under it and there is no restriction or requirement of Bermuda binding on us which limits the availability or transfer of foreign exchange (i.e. monies denominated in currencies other than Bermuda dollars).

Transfer of Common Shares to Non-Residents of Bermuda. The Bermuda Monetary Authority has given its general permission for the issue and free transferability of securities of Bermuda companies, which would include the common shares that are the subject of this offering, to and between non-residents of Bermuda for exchange control purposes, provided that our common shares remain listed on an appointed stock exchange, which includes NASDAQ. Approvals or permissions given by the Bermuda Monetary Authority do not constitute a guarantee by the Bermuda Monetary Authority as to our performance or our creditworthiness. Accordingly, in giving such consent or permissions, the Bermuda Monetary Authority shall not be liable for the financial soundness, performance or default of our business or for the correctness of any opinions or statements expressed in this prospectus.

In accordance with Bermuda law, share certificates are only issued in the names of companies, partnerships or individuals. In the case of a shareholder acting in a special capacity (for example as a trustee), certificates may, at the request of the shareholder, record the capacity in which the shareholder is acting. Notwithstanding such recording of any special capacity, we are not bound to investigate or see to the execution of any such trust. We will take no notice of any trust applicable to any of our common shares, whether or not we have been notified of such trust.

SUBSIDIARIES OF MARVELL

Subsidiary

Cavium India Holdings, LLC
Cavium International

Cavium Networks (India) Private Limited
Cavium Networks Asia
Cavium Networks International
Cavium Networks International, Inc.

Cavium Networks LLC
Cavium Networks Singapore Pte. Ltd.

Cavium Semiconductor Technology (Shanghai) Co. Ltd.
Cavium Taiwan Ltd.
Cavium UK Ltd.
Cavium, LLC
Kinoma, Inc.
Marvell Asia Pte Ltd
Marvell Hong Kong Limited
Marvell India Private Limited
Marvell International Ltd.
Marvell International Technology Ltd.
Marvell Israel (M.I.S.L) Ltd.
Marvell Italia S.r.l.
Marvell Japan K.K.
Marvell Netherlands B.V.
Marvell Semiconductor Germany GmbH
Marvell Semiconductor Korea, Ltd.
Marvell Semiconductor Sdn. Bhd.
Marvell Semiconductor Technology S.a.r.l.
Marvell Semiconductor, Ltd.
Marvell Semiconductor, Inc.
Marvell Switzerland S.a.r.l.
Marvell Taiwan Ltd.
Marvell Technology (Beijing), Ltd.
Marvell Technology (Chengdu), Ltd.
Marvell Technology (Nanjing), Ltd.
Marvell Technology (Shanghai), Ltd.
Marvell Semiconductor Canada Inc.
Marvell Technology Denmark ApS
Marvell Technology Japan Y.K.
Marvell Technology Sweden AB

Jurisdiction

Delaware, United States
Cayman Islands

India
Cayman Islands
Cayman Islands
Delaware, United States

Delaware, United States
Singapore

China
Taiwan
United Kingdom
Delaware, United States
California, United States
Singapore
Hong Kong
India
Bermuda
Bermuda
Israel
Italy
Japan
Netherlands
Germany
Korea
Malaysia
Switzerland
Delaware, United States
California, United States
Switzerland
Taiwan
China
China
China
China
Canada
Denmark
Japan
Sweden

Marvell Technology Vietnam LLC	Vietnam
Marvell Technology, Inc.	Delaware, United States
Marvell UK Limited	United Kingdom
Marvell World Trade Ltd.	Barbados
NetXen, Inc.	Delaware, United States
PT. Marvell Technology Indonesia	Indonesia
QLGC Limited (Ireland)	Ireland
QLogic Hong Kong Ltd.	Hong Kong
QLogic India Pvt. Ltd.	India
QLogic International Holdings, Inc.	Delaware, United States
QLogic International Ltd.	Bermuda
QLogic LLC	Delaware, United States
QLogic Storage Network Infrastructure (Beijing) Co. Ltd.	China
QLogic Switch Products, LLC	Minnesota, United States
Utopia Capital Holdings, Ltd.	Bermuda
Aquantia Corp.	Delaware, United States
Aquantia LLC	Delaware, United States
Aquantia Rus LLC [Marvell Rus LLC] ¹	Russia
Aquantia Semiconductor India Pvt Ltd	India
Aquantia C.V.	Netherlands
Aquantia (Cayman), Ltd.	Cayman Islands
Aquantia B.V.	Netherlands
Aquantia Technology B.V.	Netherlands
Aquantia Japan G.K.	Japan
Aquantia Czech s.r.o	Czech Republic
Avera Semiconductor LLC [Marvell Government Solutions, LLC] ²	Delaware, United States

¹ Name change effective as of February 14, 2020

² Name change effective as of February 24, 2020

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statements on Form S-3 (No. 333-225591) , Form S-4 (No. 333-222235) and Form S-8 (Nos. 333-40152, 333-40154, 333-54188, 333-55974, 333-56322, 333-87322, 333-91124, 333-104925, 333-106683, 333-108334, 333-111133, 333-114434, 333-124072, 333-133281, 33-148621, 333-151816, 333-163644, 333-180412, 333-187641, 333-194865, 333-204730, 333-213059, 333-217004, 333-224015, 333-226085, 333-230616 and 333-233851) of our reports dated March 23, 2020, relating to the consolidated financial statements and financial statement schedule of Marvell Technology Group Ltd. and subsidiaries, and the effectiveness of Marvell Technology Group Ltd. and subsidiaries' internal control over financial reporting, appearing in this Annual Report on Form 10-K of Marvell Technology Group Ltd. and subsidiaries for the year ended February 1, 2020.

/s/ Deloitte & Touche LLP

San Jose, California
March 23, 2020

CERTIFICATION

I, Matthew J. Murphy, certify that:

1. I have reviewed this Annual Report on Form 10-K of Marvell Technology Group Ltd.;
 2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
 3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
 4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
 5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.
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Date: March 23, 2020

By: /s/ Matthew J. Murphy

Matthew J. Murphy
President and Chief Executive Officer
(Principal Executive Officer)

CERTIFICATION

I, Jean Hu, certify that:

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

Date: March 23, 2020

By: /s/ Jean Hu

Jean Hu
Chief Financial Officer
(Principal Financial Officer)

CERTIFICATION

I, Matthew J. Murphy, the Principal Executive Officer of Marvell Technology Group Ltd. (the “Registrant”), certify for the purposes of 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge,

- (i) the Annual Report of the Registrant on Form 10-K for the fiscal year ended February 1, 2020 (the “Report”), fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
- (ii) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Registrant.

Date: March 23, 2020

By: /s/ Matthew J. Murphy

Matthew J. Murphy
President and Chief Executive Officer
(Principal Executive Officer)

CERTIFICATION

I, Jean Hu, the Principal Financial Officer of Marvell Technology Group Ltd. (the “Registrant”), certify for the purposes of 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge,

- (i) the Annual Report of the Registrant on Form 10-K for the fiscal year ended February 1, 2020 (the “Report”), fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
- (ii) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Registrant.

Date: March 23, 2020

By: /s/ Jean Hu

Jean Hu
Chief Financial Officer
(Principal Financial Officer)