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

FORM 10-Q

(Mark One)

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

For the quarterly period ended September 25, 2021

OR

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

For the transition period from to

Commission File Number **001-07882**

ADVANCED MICRO DEVICES, INC.

(Exact name of registrant as specified in its charter)

Delaware	**94-1692300**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

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

(408) 749-4000
Registrant's telephone number, including area code

N/A
(Former name, former address and former fiscal year, if changed since last report)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.01 par value	**AMD**	**The Nasdaq Global Select Market**

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 (the Exchange Act) during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☑ No ¨

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

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

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

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

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

Indicate the number of shares outstanding of the registrant's common stock, $0.01 par value, as of October 22, 2021: 1,207,610,455

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PART I. FINANCIAL INFORMATION

ITEM 1. CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

Advanced Micro Devices, Inc.
Condensed Consolidated Statements of Operations
(Unaudited)

	Three Months Ended		Nine Months Ended	
	September 25, 2021	September 26, 2020	September 25, 2021	September 26, 2020
	(In millions, except per share amounts)			
Net revenue	$ 4,313	$ 2,801	$ 11,608	$ 6,519
Cost of sales	2,227	1,571	6,105	3,623
Gross profit	2,086	1,230	5,503	2,896
Research and development	765	508	2,034	1,410
Marketing, general and administrative	376	273	1,036	687
Licensing gain	(3)	—	(8)	—
Operating income	948	449	2,441	799
Interest expense	(7)	(11)	(26)	(38)
Other income (expense), net	62	(37)	51	(32)
Income before income taxes and equity income	1,003	401	2,466	729
Income tax provision	82	12	284	22
Equity income in investee	2	1	6	2
Net income	$ 923	$ 390	$ 2,188	$ 709
Earnings per share				
Basic	$ 0.76	$ 0.33	$ 1.80	$ 0.60
Diluted	$ 0.75	$ 0.32	$ 1.78	$ 0.59
Shares used in per share calculation				
Basic	1,214	1,184	1,214	1,176
Diluted	1,230	1,215	1,231	1,208

See accompanying notes.

Advanced Micro Devices, Inc.
Condensed Consolidated Statements of Comprehensive Income
(Unaudited)

	Three Months Ended		Nine Months Ended	
	September 25, 2021	September 26, 2020	September 25, 2021	September 26, 2020
	(In millions)			
Net income	$ 923	$ 390	$ 2,188	$ 709
Other comprehensive income (loss), net of tax:				
Net change in unrealized gains (losses) on cash flow hedges	(7)	9	(17)	5
Total comprehensive income	$ 916	$ 399	$ 2,171	$ 714

See accompanying notes.

Advanced Micro Devices, Inc.
Condensed Consolidated Balance Sheets
(Unaudited)

	September 25, 2021	December 26, 2020
	(In millions, except par value amounts)	
ASSETS		
Current assets:		
Cash and cash equivalents	$ 2,440	$ 1,595
Short-term investments	1,168	695
Accounts receivable, net	2,224	2,066
Inventories	1,902	1,399
Receivables from related parties	5	10
Prepaid expenses and other current assets	249	378
Total current assets	7,988	6,143
Property and equipment, net	717	641
Operating lease right-of-use assets	284	208
Goodwill	289	289
Investment: equity method	69	63
Deferred tax assets	1,036	1,245
Other non-current assets	770	373
Total assets	$ 11,153	$ 8,962
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 1,048	$ 468
Payables to related parties	36	78
Accrued liabilities	2,048	1,796
Short-term debt, net	312	—
Other current liabilities	120	75
Total current liabilities	3,564	2,417
Long-term debt, net	1	330
Long-term operating lease liabilities	269	201
Other long-term liabilities	183	177
Commitments and Contingencies (See Note 12)		
Stockholders' equity:		
Capital stock:		
Common stock, par value $0.01; shares authorized: 2,250; shares issued: 1,230 and 1,217; shares outstanding: 1,212 and 1,211	12	12
Additional paid-in capital	10,905	10,544
Treasury stock, at cost (shares held: 18 and 6)	(1,356)	(131)
Accumulated deficit	(2,425)	(4,605)
Accumulated other comprehensive income	—	17
Total stockholders' equity	7,136	5,837
Total liabilities and stockholders' equity	$ 11,153	$ 8,962

See accompanying notes.

Advanced Micro Devices, Inc.
Condensed Consolidated Statements of Cash Flows
(Unaudited)

	Nine Months Ended	
	September 25, 2021	September 26, 2020
	(In millions)	
Cash flows from operating activities:		
Net income	$ 2,188	$ 709
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	289	222
Stock-based compensation	267	195
Amortization of debt discount and issuance costs	4	12
Amortization of operating lease right-of-use assets	40	31
Loss on debt conversion	7	38
Loss on sale or disposal of property and equipment	19	28
Deferred income taxes	201	1
(Gains) losses on equity investments, net	(52)	(1)
Other	(6)	12
Changes in operating assets and liabilities:		
Accounts receivable, net	(158)	(287)
Inventories	(504)	(310)
Receivables from related parties	5	16
Prepaid expenses and other assets	(284)	(172)
Payables to related parties	(42)	(98)
Accounts payable	526	(232)
Accrued and other liabilities	199	353
Net cash provided by operating activities	2,699	517
Cash flows from investing activities:		
Purchases of property and equipment	(215)	(220)
Purchases of short-term investments	(1,901)	(530)
Proceeds from maturity of short-term investments	1,428	92
Other	2	—
Net cash used in investing activities	(686)	(658)
Cash flows from financing activities:		
Proceeds from short-term debt borrowing	—	200
Repayment of short-term debt borrowing	—	(200)
Proceeds from sales of common stock through employee equity plans	55	45
Repurchases of common stock	(1,004)	—
Common stock repurchases for tax withholding on employee equity plans	(219)	(73)
Other	—	(1)
Net cash used in financing activities	(1,168)	(29)
Net increase (decrease) in cash, cash equivalents, and restricted cash	845	(170)
Cash, cash equivalents, and restricted cash at beginning of period	1,595	1,470
Cash, cash equivalents, and restricted cash at end of period	$ 2,440	$ 1,300
Supplemental cash flow information:		
Non-cash investing and financing activities:		
Purchases of property and equipment, accrued but not paid	$ 74	$ 36
Issuance of common stock to settle convertible debt	$ 25	$ 156

Transfer of assets for acquisition of property and equipment	$	37	$	57
Non-cash activities for leases:				
Operating lease right-of-use assets acquired by assuming related liabilities	$	128	$	40
Reconciliation of cash, cash equivalents, and restricted cash				
Cash and cash equivalents	$	2,440	$	1,296
Restricted cash included in Prepaid expenses and other current assets		—		4
Total cash, cash equivalents, and restricted cash	$	2,440	$	1,300

See accompanying notes.

Advanced Micro Devices
Condensed Consolidated Statements of Stockholders' Equity
(Unaudited)

	Three Months Ended		Nine Months Ended	
	September 25, 2021	September 26, 2020	September 25, 2021	September 26, 2020
	(In millions)			
Capital stock:				
Common stock				
Balance, beginning of period	$ 12	$ 12	$ 12	$ 12
Balance, end of period	$ 12	$ 12	$ 12	$ 12
Additional paid-in capital				
Balance, beginning of period	$ 10,795	$ 10,127	$ 10,544	$ 9,963
Common stock issued under employee equity plans	4	3	55	45
Stock-based compensation	99	76	267	195
Issuance of common stock to settle convertible debt	—	156	25	156
Issuance of common stock warrant	7	—	14	3
Balance, end of period	$ 10,905	$ 10,362	$ 10,905	$ 10,362
Treasury stock				
Balance, beginning of period	$ (401)	$ (54)	$ (131)	$ (53)
Repurchases of common stock	(750)	—	(1,006)	—
Common stock repurchases for tax withholding on employee equity plans	(205)	(72)	(219)	(73)
Balance, end of period	$ (1,356)	$ (126)	$ (1,356)	$ (126)
Accumulated deficit:				
Balance, beginning of period	$ (3,348)	$ (6,776)	$ (4,605)	$ (7,095)
Cumulative effect of adoption of accounting standard	—	—	(8)	709
Net income	923	390	2,188	—
Balance, end of period	$ (2,425)	$ (6,386)	$ (2,425)	$ (6,386)
Accumulated other comprehensive income (loss):				
Balance, beginning of period	$ 7	$ (4)	$ 17	$ —
Other comprehensive income (loss)	(7)	9	(17)	5
Balance, end of period	$ —	$ 5	$ —	$ 5
Total stockholders' equity	$ 7,136	$ 3,867	$ 7,136	$ 3,867

See accompanying notes.

Notes to Condensed Consolidated Financial Statements
(Unaudited)

NOTE 1 – The Company

Advanced Micro Devices, Inc. is a global semiconductor company. References herein to AMD or the Company mean Advanced Micro Devices, Inc. and its consolidated subsidiaries. AMD's products include x86 microprocessors (CPUs), accelerated processing units which integrate microprocessors and graphics (APUs), discrete graphics processing units (GPUs), semi-custom System-on-Chip (SOC) products and chipsets for the PC, gaming, datacenter and embedded markets. In addition, AMD provides development services and sells or licenses portions of its intellectual property portfolio.

NOTE 2 – Basis of Presentation and Significant Accounting Policies

Basis of Presentation. The accompanying unaudited condensed consolidated financial statements of AMD have been prepared in accordance with U.S. generally accepted accounting principles (U.S. GAAP) for interim financial information and the instructions to Form 10-Q and Article 10 of Regulation S-X. The results of operations for the three and nine months ended September 25, 2021 shown in this report are not necessarily indicative of results to be expected for the full year ending December 25, 2021 or any other future period. In the opinion of the Company's management, the information contained herein reflects all adjustments necessary for a fair presentation of the Company's results of operations, financial position, cash flows and stockholders' equity. All such adjustments are of a normal, recurring nature. The unaudited condensed consolidated financial statements should be read in conjunction with the audited consolidated financial statements in the Company's Annual Report on Form 10-K for the fiscal year ended December 26, 2020. Certain prior period amounts have been reclassified to conform to the current period presentation.

The Company uses a 52 or 53 week fiscal year ending on the last Saturday in December. The three and nine months ended September 25, 2021 and September 26, 2020 each consisted of 13 weeks and 39 weeks, respectively.

Significant Accounting Policies. There have been no material changes to the Company's significant accounting policies in Note 2 - Summary of Significant Accounting Policies, of the Notes to the Consolidated Financial Statements included in the Company's Annual Report on Form 10-K for the fiscal year ended December 26, 2020.

NOTE 3 – Supplemental Financial Statement Information

Short-term Investments

	September 25, 2021	December 26, 2020
	(In millions)	
Commercial paper	$ 974	$ 295
Time deposits	194	400
Total short-term investments	$ 1,168	$ 695

Accounts Receivable, net

As of September 25, 2021 and December 26, 2020, Accounts receivable, net included unbilled accounts receivable of $226 million and $123 million, respectively. Unbilled accounts receivables primarily represent work completed on development services and on custom products for which revenue has been recognized but not yet invoiced. All unbilled accounts receivable are expected to be billed and collected within 12 months.

Inventories

	September 25, 2021	December 26, 2020
	(In millions)	
Raw materials	$ 85	$ 93
Work in process	1,738	1,139
Finished goods	79	167
Total inventories	$ 1,902	$ 1,399

Property and Equipment, net

	September 25, 2021	December 26, 2020
	(In millions)	
Leasehold improvements	$ 187	$ 208
Equipment	1,410	1,209
Construction in progress	172	136
Property and equipment, gross	1,769	1,553
Accumulated depreciation	(1,052)	(912)
Total property and equipment, net	$ 717	$ 641

Other Non-Current Assets

	September 25, 2021	December 26, 2020
	(In millions)	
Software technology and licenses, net	$ 203	$ 229
Prepaid long-term supply agreements	355	—
Other	212	144
Total other non-current assets	$ 770	$ 373

Prepaid long-term supply agreements relate to payments made to vendors to secure long-term supply capacity.

Accrued Liabilities

	September 25, 2021	December 26, 2020
	(In millions)	
Accrued marketing programs and advertising expenses	$ 907	$ 839
Accrued compensation and benefits	567	513
Other accrued and current liabilities	574	444
Total accrued liabilities	$ 2,048	$ 1,796

Revenue

Revenue allocated to remaining performance obligations that were unsatisfied (or partially unsatisfied) as of September 25, 2021 was $241 million, which may include amounts received from customers but not yet earned and amounts that will be invoiced and recognized as revenue in future periods associated with any combination of development services, intellectual property ("IP") licensing and product revenue. The Company expects to recognize $151 million of revenue allocated to remaining performance obligations in the next 12 months. The revenue allocated to remaining performance obligations does not include amounts which have an original expected duration of one year or less.

Revenue recognized over time associated with custom products and development services accounted for approximately 22% of the Company's revenue for both the three and nine months ended September 25, 2021 and 25% and 15% for the three and nine months ended September 26, 2020, respectively.

NOTE 4 – Related Parties — Equity Joint Ventures

ATMP Joint Ventures

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

The ATMP JV provides assembly, testing, marking and packaging services to the Company. The Company assists the ATMP JV in its management of certain raw material inventory. The purchases from and resales to the ATMP JV of inventory under the Company's inventory management program are reported within purchases and resales with the ATMP JV and do not impact the Company's condensed consolidated statements of operations.

The Company's purchases from the ATMP JV during the three and nine months ended September 25, 2021 amounted to $259 million and $775 million, respectively. The Company's purchases from the ATMP JV during the three and nine months ended September 26, 2020 amounted to $204 million and $559 million, respectively. As of September 25, 2021 and December 26, 2020, the amounts payable to the ATMP JV were $36 million and $78 million, respectively, and are included in Payables to related parties on the Company's condensed consolidated balance sheets. The Company's resales to the ATMP JV during the three and nine months ended September 25, 2021 amounted to $6 million and $25 million, respectively. The Company's resales to the ATMP JV during the three and nine months ended September 26, 2020 amounted to $3 million and $18 million, respectively. As of September 25, 2021 and December 26, 2020, the Company's receivables from the ATMP JV were $5 million and $10 million, respectively, and were included in Receivables from related parties on the Company's condensed consolidated balance sheets.

During the three and nine months ended September 25, 2021, the Company recorded a gain of $2 million and $6 million in Equity income in investee on its condensed consolidated statements of operations, respectively. As of September 25, 2021 and December 26, 2020, the carrying value of the Company's investment in the ATMP JV was $69 million and $63 million, respectively.

THATIC Joint Ventures

The Company holds equity interests in two joint ventures (collectively, the THATIC JV) with Higon Information Technology Co., Ltd. (THATIC), a third-party Chinese entity. As of both September 25, 2021 and December 26, 2020, the carrying value of the investment was zero.

In February 2016, the Company licensed certain of its intellectual property (Licensed IP) to the THATIC JV, payable over several years upon achievement of certain milestones. The Company also receives a royalty based on the sales of the THATIC JV's products developed on the basis of such Licensed IP. The Company classifies Licensed IP and royalty income associated with the February 2016 agreement as Licensing gain within operating income. During the three and nine months ended September 25, 2021, the Company recognized $3 million and $8 million of licensing gain from royalty income under the agreement, respectively. As of both September 25, 2021 and December 26, 2020, the Company had no receivables from the THATIC JV.

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

NOTE 5 – Debt and Revolving Credit Facility

Debt

The Company's total debt as of September 25, 2021 and December 26, 2020 consisted of the following:

	September 25, 2021	December 26, 2020
	(In millions)	
7.50% Senior Notes Due August 2022 (7.50% Notes)	$ 312	$ 312
2.125% Convertible Senior Notes Due 2026 (2.125% Notes)	1	26
Total debt (principal amount)	313	338
Unamortized debt discount and issuance costs	—	(8)
Total debt (net)	313	330
Less: short-term debt	(312)	—
Total long-term debt	$ 1	$ 330

During the nine months ended September 25, 2021, holders of the 2.125% Notes converted $25 million principal amount of notes in exchange for approximately 3 million shares of the Company's common stock at the conversion price of $8.00 per share. The Company recorded a loss of $7 million from these conversions in Other income (expense), net on its condensed consolidated statements of operations.

Revolving Credit Facility

The Company is party to a $500 million unsecured revolving credit facility (the Revolving Credit Facility), including a $50 million swingline sub-facility and a $75 million sublimit for letters of credit pursuant to a credit agreement with a syndicate of banks. The Revolving Credit Facility expires in June 2024. Borrowings under the Revolving Credit Facility bear interest at either the LIBOR rate or the base rate at the Company's option (in each case, as customarily defined) plus an applicable margin. As of September 25, 2021, there were no borrowings outstanding under the Revolving Credit Facility and the Company was in compliance with all required covenants. As of September 25, 2021, the Company had $14 million of letters of credit outstanding under the Revolving Credit Facility.

NOTE 6 – Financial Instruments

Fair Value Measurements

Financial Instruments Recorded at Fair Value on a Recurring Basis

	September 25, 2021	December 26, 2020
	Level 2[(1)]	Level 2[(1)]
Short-term investments	(in millions)	
Commercial paper	$ 974	$ 295
Time deposits	194	400
Total	$ 1,168	$ 695

(1) Level 2 fair value estimates are based on quoted prices for identical or comparable instruments in markets that are not active, comparable instruments in active markets or can be corroborated by observable market data for substantially the full term of the related assets or liabilities.

During the three months ended September 25, 2021, the Company recognized a $60 million gain, in Other income (expense), due to an increase in the fair value of an equity investment. This equity investment is classified as Level 1 as it is valued using quoted prices for identical instruments in active markets. As of September 25, 2021, the fair value of this equity investment, included in Other non-current assets on the consolidated balance sheet, was $63 million.

Financial Instruments Not Recorded at Fair Value

The Company carries its financial instruments at fair value except for its debt. The carrying amounts and estimated fair values of the Company's debt are as follows:

	September 25, 2021		December 26, 2020	
	Carrying Amount	Estimated Fair Value	Carrying Amount	Estimated Fair Value
	(In millions)			
Short-term debt, net	$ 312	$ 332	$ —	$ —
Long-term debt, net	1	15	330	642

The estimated fair value of the Company's debt is based on Level 2 inputs of quoted prices for the Company's debt and comparable instruments in inactive markets. The estimated fair value of the 2.125% Notes takes into account the current value of the Company's stock price compared to the initial conversion price of approximately $8.00 per share of common stock.

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

Hedging Transactions and Derivative Financial Instruments

Foreign Currency Forward Contracts Designated as Accounting Hedges

The Company enters into foreign currency forward contracts to hedge its exposure to foreign currency exchange rate risk related to future forecasted transactions denominated in currencies other than the U.S. Dollar. These contracts generally mature within 18 months and are designated as accounting hedges. As of September 25, 2021 and December 26, 2020, the notional value of the Company's outstanding foreign currency forward contracts designated as cash flow hedges was $888 million and $501 million, respectively. The fair value of these contracts was not material as of September 25, 2021 and December 26, 2020.

Foreign Currency Forward Contracts Not Designated as Accounting Hedges

The Company also enters into foreign currency forward contracts to reduce the short-term effects of foreign currency fluctuations on certain receivables or payables denominated in currencies other than the U.S. Dollar. These forward contracts generally mature within 3 months and are not designated as accounting hedges. As of September 25, 2021 and December 26, 2020, the notional value of these outstanding contracts was $403 million and $254 million, respectively. The fair value of these contracts was not material as of September 25, 2021 and December 26, 2020.

NOTE 7 – Accumulated Other Comprehensive Income (Loss)

The table below summarizes the changes in accumulated other comprehensive income (loss):

	Three Months Ended		Nine Months Ended	
	September 25, 2021	September 26, 2020	September 25, 2021	September 26, 2020
Gains (losses) on cash flow hedges:	(In millions)			
Beginning balance	$ 7	$ (4)	$ 17	$ —
Net unrealized gains (losses) arising during the period	(6)	11	6	(1)
Net (gains) losses reclassified into income during the period	(4)	(2)	(23)	6
Tax effect	3	—	—	—
Total other comprehensive income (loss)	(7)	9	(17)	5
Ending balance	$ —	$ 5	$ —	$ 5

NOTE 8 – Earnings Per Share

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

	Three Months Ended		Nine Months Ended	
	September 25, 2021	September 26, 2020	September 25, 2021	September 26, 2020
	(In millions, except per share amounts)			
Numerator				
Net income for basic earnings per share	$ 923	$ 390	$ 2,188	$ 709
Effect of potentially dilutive shares:				
Interest expense related to the 2.125% Notes	—	1	—	4
Net income for diluted earnings per share	$ 923	$ 391	$ 2,188	$ 713
Denominator				
Basic weighted average shares	1,214	1,184	1,214	1,176
Effect of potentially dilutive shares:				
Employee equity plans and warrants	16	20	17	21
2.125% Notes	—	11	—	11
Diluted weighted average shares	1,230	1,215	1,231	1,208
Earnings per share:				
Basic	$ 0.76	$ 0.33	$ 1.80	$ 0.60
Diluted	$ 0.75	$ 0.32	$ 1.78	$ 0.59

NOTE 9 – Common Stock and Employee Equity Plans

Common Stock

Shares of common stock outstanding were as follows:

	Three Months Ended		Nine Months Ended	
	September 25, 2021	September 26, 2020	September 25, 2021	September 26, 2020
	(In millions)			
Balance, beginning of period	1,213	1,174	1,211	1,170
Common stock issued under employee equity plans, net of tax withholding	6	9	8	13
Common stock repurchases for tax withholding on equity awards	—	(1)	—	(1)
Issuance of common stock to settle convertible debt	—	20	3	20
Repurchases of common stock	(7)	—	(10)	—
Balance, end of period	1,212	1,202	1,212	1,202

Stock Repurchase Program

In May 2021, the Company's Board of Directors approved a stock repurchase program authorizing up to $4 billion of repurchases of the Company's outstanding common stock (the Repurchase Program). During the three and nine months ended September 25, 2021, the Company repurchased 7.2 million and 10.4 million shares of its common stock under the Repurchase Program for $750 million and $1 billion, respectively. As of September 25, 2021, $3 billion remains available for future stock repurchases under this program. The Repurchase Program does not obligate the Company to acquire any common stock, has no termination date and may be suspended or discontinued at any time.

Stock-based Compensation

Stock-based compensation expense was as follows:

	Three Months Ended		Nine Months Ended	
	September 25, 2021	September 26, 2020	September 25, 2021	September 26, 2020
	(In millions)			
Cost of sales	$ 2	$ 1	$ 4	$ 5
Research and development	63	48	171	122
Marketing, general and administrative	34	27	92	68
Total stock-based compensation expense before income taxes	99	76	267	195
Income tax benefit	(16)	—	(43)	—
Total stock-based compensation expense after income taxes	$ 83	$ 76	$ 224	$ 195

NOTE 10 – Income Taxes

The Company recorded an income tax provision of $82 million and $284 million for the three and nine months ended September 25, 2021, representing effective tax rates of 8.2% and 11.5%, respectively. The Company recorded an income tax provision of $12 million and $22 million for the three and nine months ended September 26, 2020, representing effective tax rates of 3.0% for both periods.

The increase in income tax expense and effective tax rate was due to significantly higher income in the United States in the current period, partially offset by the foreign-derived intangible income benefit, research and development tax credits, and excess tax benefit for stock-based compensation. The lower income tax expense and effective tax rate for the prior year period were due to a full valuation allowance against deferred tax assets in the United States during 2020, a significant portion of which was released by the Company in the fourth quarter of 2020.

The Company's effective tax rate for the three and nine months ended September 25, 2021 and the three and nine months ended September 26, 2020 was lower than the United States federal statutory rate primarily due to the tax benefits recognized for the three and nine months ended September 25, 2021 discussed above and due to the maintenance of a full valuation allowance against deferred tax assets in the United States during the three and nine months ended September 26, 2020.

As of September 25, 2021, the Company continues to maintain a valuation allowance for certain federal, state, and foreign tax attributes. The federal valuation allowance maintained is due to limitations under Internal Revenue Code Section 382 or 383, separate return loss year rules, or dual consolidated loss rules. Certain state and foreign valuation allowance maintained is due to a lack of sufficient sources of taxable income.

NOTE 11 – Segment Reporting

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

- the Computing and Graphics segment, which primarily includes desktop and notebook microprocessors, accelerated processing units that integrate microprocessors and graphics, chipsets, discrete graphics processing units (GPUs), data center and professional GPUs and development services. From time to time, the Company may also sell or license portions of its IP portfolio.
- the Enterprise, Embedded and Semi-Custom segment, which primarily includes server and embedded processors, semi-custom System-on-Chip (SoC) products, development services and technology for game consoles. From time to time, the Company may also sell or license portions of its IP portfolio.

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

The following table provides a summary of net revenue and operating income by segment:

	Three Months Ended		Nine Months Ended	
	September 25, 2021	September 26, 2020	September 25, 2021	September 26, 2020
	(In millions)			
Net revenue:				
Computing and Graphics	$ 2,398	$ 1,667	$ 6,748	$ 4,472
Enterprise, Embedded and Semi-Custom	1,915	1,134	4,860	2,047
Total net revenue	$ 4,313	$ 2,801	$ 11,608	$ 6,519
Operating income (loss):				
Computing and Graphics	$ 513	$ 384	$ 1,524	$ 846
Enterprise, Embedded and Semi-Custom	542	141	1,217	148
All Other (1)	(107)	(76)	(300)	(195)
Total operating income	$ 948	$ 449	$ 2,441	$ 799

(1) For the three and nine months ended September 25, 2021, all other operating losses included $99 million and $267 million of stock-based compensation expense and $8 million and $33 million of acquisition-related costs, respectively.

For the three and nine months ended September 26, 2020, all other operating losses were related to stock-based compensation expense.

NOTE 12 – Commitments and Contingencies

Commitments

The Company's purchase commitments primarily include the Company's obligations to purchase wafers and substrates from third parties and future payments related to certain software and technology licenses and IP licenses.

Total future unconditional purchase commitments as of September 25, 2021 were as follows:

Year	(In millions)
Remainder of 2021	$ 2,162
2022	2,477
2023	728
2024	658
2025	153
2026 and thereafter	388
Total unconditional purchase commitments	$ 6,566

Contingencies

Quarterhill Inc. Litigation

On July 2, 2018, three entities named Aquila Innovations, Inc. (Aquila), Collabo Innovations, Inc. (Collabo), and Polaris Innovations, Ltd. (Polaris), filed separate patent infringement complaints against the Company in the United States District Court for the Western District of Texas. Aquila alleges that the Company infringes two patents (6,239,614 and 6,895,519) relating to power management; Collabo alleges that the Company infringes one patent (7,930,575) related to power management; and Polaris alleges that the Company infringes two patents (6,728,144 and 8,117,526) relating to control or use of dynamic random-access memory, or DRAM. Each of the three complaints seeks unspecified monetary damages, interest, fees, expenses, and costs against the Company; Aquila and Collabo also seek enhanced damages. Aquila, Collabo, and Polaris each appear to be related to a patent assertion entity named Quarterhill Inc. (formerly WiLAN Inc.). On May 14, 2020, at the request of Polaris, the Court dismissed all claims related to one of the two patents in suite in the Polaris case. On June 10, 2020, the Court granted AMD's motions to stay the Polaris and Aquila cases pending the completion of inter partes review of each of the patents-in-suit in those cases by the Patent Trial and Appeal Board. On February 22, 2021, February 26, 2021, and March 10, 2021, the Patent Trial and Appeal Board issued final written decisions in inter partes reviews invalidating all asserted claims of the remaining Polaris and Aquila patents. On May 10, 2021, Aquila filed a notice of appeal to the Court of Appeals for the Federal Circuit for the IPR decision regarding U.S. Patent No. 6,895,519. On April 30, 2021, Polaris filed a notice of appeal to the Court of Appeals for the Federal Circuit for the IPR decision regarding U.S. Patent No. 8,117,526. On May 14, 2021, AMD filed a notice of cross-appeal to the Court of Appeals for the Federal Circuit for the IPR decision regarding U.S. Patent No. 8,117,526. Appellate briefing is underway.

Monterey Research Litigation

On November 15, 2019, Monterey Research, LLC filed a patent infringement complaint against the Company in the United States District Court for the District of Delaware (Case. No. 1:19-cv-02149). Monterey Research alleges that the Company infringes six U.S. patents: 6,534,805 (related to SRAM cell design); 6,629,226 (related to read interface protocols); 6,651,134 (related to memory devices); 6,765,407 (related to programmable digital circuits); 6,961,807 (related to integrated circuits and associated memory systems); and 8,373,455 (related to output buffer circuits). Monterey Research seeks unspecified monetary damages, enhanced damages, interest, fees, expenses, costs, and injunctive relief against the Company. On January 22, 2020, the Company filed a motion to dismiss part of Monterey Research's complaint. On February 5, 2020, Monterey Research filed an amended complaint. On February 19, 2020, the Company filed a renewed motion to dismiss part of Monterey Research's complaint. On October 13, 2020, the Court granted in part, and denied in part, the Company's renewed motion to dismiss. On October 27, 2020, the Company filed its answer to Monterey's complaint and also filed counterclaims based on Monterey's breach of the parties' pre-suit non-disclosure agreement. On December 1, 2020, Monterey filed a motion to dismiss the Company's counterclaims. On January 5, 2021, the Court granted the Company's motion to stay the litigation pending inter partes review of the patents-in-suit by the Patent Trial and Appeals Board.

On August 12, 2021, Monterey filed two patent infringement complaints in the United States District Court for the Western District of Texas (Case. No. 6:21-cv-00839 and Case. No. 6:21-cv-00840). In the first complaint, Monterey alleges that the Company infringes two patents (8,694,776 and 9,767,303) related to memory controllers, three patents (8,572,297, 7,609,799, and 7,899,145) related to circuit designs, and one patent (6,979,640) related to semiconductor processing. In the second complaint, Monterey alleges that the Company infringes one patent (6,680,516) related to semiconductor processing. In both complaints, Monterey Research seeks unspecified monetary damages, enhanced damages, interest, fees, expenses, costs, and injunctive relief against the Company. On October 22, 2021, Monterey Research filed an amended complaint in Case. No. 6:21-cv-00840 withdrawing its infringement claims for the '776 and '303 patents, and asserting an additional infringement claim for a patent related to circuit design (8,103,497).

City of Pontiac Police and Fire Retirement System Litigation

On September 29, 2020, the City of Pontiac Police and Fire Retirement System, an AMD shareholder, filed a shareholder derivative complaint (the "Complaint") against AMD and the members of its Board of Directors (collectively, "Defendants") in the United States District Court for the Northern District of California. See City of Pontiac Police and Fire Retirement System v. Caldwell, et al., No. 5:20-cv-6794 (N.D. Cal.). The Complaint alleges that Defendants breached their fiduciary duties, violated Section 14(a) of the Exchange Act of 1934, and were unjustly enriched by misrepresenting the Company's commitment to diversity, particularly with respect to the composition of the membership of AMD's Board of Directors and senior leadership team. On December 18, 2020, Defendants filed a motion to dismiss the Complaint. On February 12, 2021, Plaintiff filed an opposition to Defendants' motion to dismiss, and on March 12, 2021, Defendants filed a reply brief in support of the motion to dismiss. On July 1, 2021, the Court granted Defendants' motion to dismiss, without prejudice. On August 2, 2021, the parties filed a joint stipulation to dismiss the case with prejudice, and the court approved the joint stipulation on August 3, 2021.

Future Link Systems Litigation

On December 21, 2020, Future Link Systems, LLC filed a patent infringement complaint against the Company in the United States District Court for the Western District of Texas. Future Link Systems alleges that the Company infringes three U.S. patents: 7,983,888 (related to simulated PCI express circuitry); 6,363,466 (related to out of order data transactions); and 6,622,108 (related to interconnect testing). Future Link Systems seeks unspecified monetary damages, enhanced damages, interest, fees, expenses, costs, and injunctive relief against the Company. On March 22, 2021, the Company filed its answer to Future Link Systems' complaint and also filed counterclaims based on Future Link Systems' breach of the parties' pre-suit non-disclosure agreement. On April 12, 2021, Future Link Systems filed its answer to the Company's counterclaims. On October 12, 2021, the Court granted AMD's motion to transfer the case to Austin, Texas. On October 14, 2021, the Court issued an order construing certain terms in the asserted patents.

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

Other Legal Matters

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

NOTE 13 – Pending Acquisition

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

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

On April 7, 2021, the Company's and Xilinx's stockholders voted to approve their respective proposals relating to the pending acquisition of Xilinx by the Company. Effective as of June 29, 2021, the United Kingdom's Competition and Markets Authority, and effective as of June 30, 2021, the European Commission issued approvals of the Merger. The completion of the Merger remains subject to other closing conditions, including the receipt of certain approvals and clearances required under the competition laws of certain other foreign jurisdictions. The Merger is currently expected to occur by the end of calendar year 2021.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The statements in this report include forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are based on current expectations and beliefs and involve numerous risks and uncertainties that could cause actual results to differ materially from expectations. These forward-looking statements speak only as of the date hereof or as of the dates indicated in the statements and should not be relied upon as predictions of future events, as we cannot assure you that the events or circumstances reflected in these statements will be achieved or will occur. You can identify forward-looking statements by the use of forward-looking terminology including "believes," "expects," "may," "will," "should," "seeks," "intends," "plans," "pro forma," "estimates," "anticipates," or the negative of these words and phrases, other variations of these words and phrases or comparable terminology. The forward-looking statements relate to, among other things: possible impact of future accounting rules on AMD's condensed consolidated financial statements; demand for AMD's products; the growth, change and competitive landscape of the markets in which AMD participates; international sales will continue to be a significant portion of total sales in the foreseeable future; that AMD's cash, cash equivalents and short-term investment balances together with the availability under that certain revolving credit facility (the Revolving Credit Facility) made available to AMD and certain of its subsidiaries under the Credit Agreement, and our cash flows from operations will be sufficient to fund AMD's operations including capital expenditures over the next 12 months; AMD's ability to obtain sufficient external financing on favorable terms, or at all; AMD's expectation that based on the information presently known to management, the potential liability related to AMD's current litigation will not have a material adverse effect on its financial condition, cash flows or results of operations; anticipated ongoing and increased costs related to enhancing and implementing information security controls; all unbilled accounts receivables are expected to be billed and collected within 12 months; revenue allocated to remaining performance obligations that are unsatisfied which will be recognized over the next 12 months; a small number of customers will continue to account for a substantial part of AMD's revenue in the future; and the acquisition of Xilinx, Inc. is currently expected to close by the end of calendar year 2021. For a discussion of the factors that could cause actual results to differ materially from the forward-looking statements, see "Part II, Item 1A —Risk Factors" and the "Financial Condition" section set forth below, and such other risks and uncertainties as set forth in this report or detailed in our other Securities and Exchange Commission (SEC) reports and filings. We assume no obligation to update forward-looking statements.

AMD, the AMD Arrow logo, ATI, and the ATI logo, Athlon, EPYC, Radeon, Ryzen, Threadripper, AMD Instinct and combinations thereof, are trademarks of Advanced Micro Devices, Inc. Microsoft and Xbox One are trademarks or registered trademarks of Microsoft Corporation in the United States and other jurisdictions. Other names are for informational purposes only and are used to identify companies and products and may be trademarks of their respective owners. "Zen" is a code name for an AMD architecture and is not a product name.

The following discussion should be read in conjunction with the unaudited condensed consolidated financial statements and related notes included in this report and our audited consolidated financial statements and related notes as of December 26, 2020 and December 28, 2019, and for each of the three years for the period ended December 26, 2020 as filed in our Annual Report on Form 10-K for the fiscal year ended December 26, 2020.

Overview

We are a global semiconductor company. Our products include x86 microprocessors (CPUs), accelerated processing units which integrate microprocessors and graphics (APUs), discrete graphics processing units (GPUs) semi-custom System-on-Chip (SoC) products and chipsets for the PC, gaming, datacenter and embedded markets. In addition, we provide development services and sell or license portions of our intellectual property portfolio.

In this section, we will describe the general financial condition and the results of operations of Advanced Micro Devices, Inc. and its wholly-owned subsidiaries (collectively, "us," "our" or "AMD"), including a discussion of our results of operations for the three and nine months ended September 25, 2021 compared to the prior year period, an analysis of changes in our financial condition and a discussion of our contractual obligations.

Net revenue for the three months ended September 25, 2021 was $4.3 billion, a 54% increase compared to the prior year period. The increase was due to a 44% increase in Computing and Graphics net revenue and a 69% increase in Enterprise, Embedded and Semi-Custom net revenue. The increase in Computing and Graphics segment net revenue was primarily due to higher sales of our client and graphics processors. The increase in

Enterprise, Embedded and Semi-Custom net revenue was primarily due to higher sales volume of our server processors and semi-custom products.

Gross margin in the third quarter of 2021 improved compared to the third quarter of 2020. Gross margin for the three months ended September 25, 2021 was 48% compared to gross margin of 44% for the prior year period. The increase in gross margin was primarily driven by a richer mix of EPYC™, Ryzen™ and Radeon™ processor sales.

Our operating income for the three months ended September 25, 2021 was $948 million compared to operating income of $449 million for the prior year period. The increase in operating income was primarily driven by strong revenue growth which more than offset higher operating expenses.

Our net income for the three months ended September 25, 2021 was $923 million compared to net income of $390 million for the prior year period. The increase in net income was primarily driven by higher operating income, partially offset by a higher income tax provision.

Cash, cash equivalents and short-term investments as of September 25, 2021 were $3.6 billion, compared to $2.3 billion as of December 26, 2020. The principal amount of our outstanding debt obligations was $313 million and $338 million as of September 25, 2021 and December 26, 2020, respectively. During the three months ended September 25, 2021, we repurchased 7.2 million shares of our common stock under our share repurchase program for $750 million.

We saw strong demand across our business in the third quarter of 2021 and we are making strategic investments in our long-term supply chain capacity to support future revenue growth.

We continued to further our roadmap by introducing new products during the third quarter of 2021. In July 2021, we announced the AMD Radeon RX 6600 XT graphics card, designed to deliver high-framerate, high-fidelity and highly responsive 1080p gaming experience. In August 2021, we introduced the AMD Radeon Pro W6000X series GPUs for the Mac Pro, designed to power a wide variety of demanding professional applications and workloads, including 3D rendering, 8K video compositing, and color correction.

Although the current COVID-19 pandemic continues to impact our business operations and practices, we experienced limited financial disruption during the third quarter of 2021. We continue to focus on the health and safety of our employees during the COVID-19 pandemic. We monitor and take safety measures to protect our employees who are in the office and support those employees who work from home so that they can be productive. COVID-19 also continues to impact the global supply chain causing disruptions to service providers, logistics and the flow and availability of supplies and products.

As part of our strategy to establish AMD as the industry's high performance computing leader, we announced in October 2020 that we entered into a definitive agreement to acquire Xilinx, Inc. in an all-stock transaction. The closing of the Merger is subject to customary conditions, including regulatory approval, and is currently expected to occur by the end of calendar year 2021.

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

Results of Operations

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

Additional information on our reportable segments is contained in Note 11—Segment Reporting of the Notes to Condensed Consolidated Financial Statements (Part I, Financial Information of this Form 10-Q).

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

The following table provides a summary of net revenue and operating income (loss) by segment:

	Three Months Ended		Nine Months Ended	
	September 25, 2021	September 26, 2020	September 25, 2021	September 26, 2020
	(In millions)			
Net revenue:				
Computing and Graphics	$ 2,398	$ 1,667	$ 6,748	$ 4,472
Enterprise, Embedded and Semi-Custom	1,915	1,134	4,860	2,047
Total net revenue	$ 4,313	$ 2,801	$ 11,608	$ 6,519
Operating income (loss):				
Computing and Graphics	$ 513	$ 384	$ 1,524	$ 846
Enterprise, Embedded and Semi-Custom	542	141	1,217	148
All Other	(107)	(76)	(300)	(195)
Total operating income	$ 948	$ 449	$ 2,441	$ 799

Computing and Graphics

Computing and Graphics net revenue of $2.4 billion for the three months ended September 25, 2021 increased by 44%, compared to net revenue of $1.7 billion for the prior year period, primarily as a result of an 83% increase in average selling price, partially offset by a decrease in unit shipments of 23%. Computing and Graphics net revenue of $6.7 billion for the nine months ended September 25, 2021 increased by 51%, compared to net revenue of $4.5 billion for the prior year period, primarily as a result of a 56% increase in average selling price, partially offset by a decrease in unit shipments of 3%. The increase in average selling price for both periods was primarily driven by a richer mix of Ryzen, Radeon and AMD Instinct™ products. The decrease in unit shipments for both periods was primarily driven by a strategic focus on premium and higher end products in a tight supply environment.

Computing and Graphics operating income was $513 million for the three months ended September 25, 2021, compared to operating income of $384 million for the prior year period. Computing and Graphics operating income was $1.5 billion for the nine months ended September 25, 2021, compared to operating income of $846 million for the prior year period. The increase in operating income for both periods was primarily due to higher revenue which more than offset higher operating expenses. Operating expenses increased for the reasons outlined under "Expenses" below.

Enterprise, Embedded and Semi-Custom

Enterprise, Embedded and Semi-Custom net revenue of $1.9 billion for the three months ended September 25, 2021 increased by 69%, compared to net revenue of $1.1 billion for the prior year period. Enterprise, Embedded and Semi-Custom net revenue of $4.9 billion for the nine months ended September 25, 2021 increased by 137%, compared to net revenue of $2.0 billion for the prior year period. The increase for both periods was primarily driven by higher sales of our EPYC server processors and semi-custom products.

Enterprise, Embedded and Semi-Custom operating income was $542 million for the three months ended September 25, 2021 compared to operating income of $141 million for the prior year period. Enterprise, Embedded and Semi-Custom operating income was $1.2 billion for the nine months ended September 25, 2021 compared to operating income of $148 million for the prior year period. The increase in operating income for both periods was driven by higher revenue and richer product mix, partially offset by higher operating expenses. Operating expenses increased for the reasons outlined under "Expenses" below.

All Other

All Other operating loss of $107 million for the three months ended September 25, 2021 consisted of $99 million of stock-based compensation expense and $8 million of acquisition-related costs. All Other operating loss of $76 million for the prior year period consisted of stock-based compensation expense.

All Other operating loss of $300 million for the nine months ended September 25, 2021 consisted of $267 million of stock-based compensation expense and $33 million of acquisition-related costs. All Other operating loss of $195 million for the prior year period consisted of stock-based compensation expense.

International Sales

International sales as a percentage of net revenue were 67% and 72% for the three months ended September 25, 2021 and September 26, 2020, respectively. International sales as a percentage of net revenue were 72% and 77% for the nine months ended September 25, 2021 and September 26, 2020, respectively. We expect that international sales will continue to be a significant portion of total sales in the foreseeable future. Substantially all of our sales transactions were denominated in U.S. dollars.

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

The following is a summary of certain condensed consolidated statement of operations data for the periods indicated:

	Three Months Ended		Nine Months Ended	
	September 25, 2021	September 26, 2020	September 25, 2021	September 26, 2020
	(In millions except for percentages)			
Net revenue	$ 4,313	$ 2,801	$ 11,608	$ 6,519
Cost of sales	2,227	1,571	6,105	3,623
Gross profit	2,086	1,230	5,503	2,896
Gross margin	48 %	44 %	47 %	44 %
Research and development	765	508	2,034	1,410
Marketing, general and administrative	376	273	1,036	687
Licensing gain	(3)	—	(8)	—
Interest expense	(7)	(11)	(26)	(38)
Other income (expense), net	62	(37)	51	(32)
Income tax provision	82	12	284	22
Equity income in investee	2	1	6	2

Gross Margin

Gross margin was 48% and 44% for the three months ended September 25, 2021 and September 26, 2020, respectively. Gross margin was 47% and 44% for the nine months ended September 25, 2021 and September 26, 2020, respectively. The increase for both periods was primarily driven by a richer mix of EPYC, Ryzen and Radeon processor sales.

Expenses

Research and Development Expenses

Research and development expenses of $765 million for the three months ended September 25, 2021 increased by $257 million, or 51%, compared to $508 million for the prior year period. Research and development expenses of $2.0 billion for the nine months ended June 26, 2021 increased by $624 million, or 44%, compared to $1.4 billion for the prior year period. The increase for both periods was primarily driven by an increase in product development costs in both the Computing and Graphics and Enterprise, Embedded and Semi-Custom segments due to an increase in headcount and higher annual employee incentives as a result of our improved financial performance.

Marketing, General and Administrative Expenses

Marketing, general and administrative expenses of $376 million for the three months ended September 25, 2021 increased by $103 million, or 38%, compared to $273 million for the prior year period. Marketing, general and administrative expenses of $1.0 billion for the nine months ended September 25, 2021 increased by $349 million, or 51%, compared to $687 million for the prior year period. The increase for both periods was primarily due to an increase in go-to-market activities in both the Computing and Graphics and Enterprise, Embedded and Semi-Custom segments, and an increase in headcount and higher annual employee incentives driven by our improved financial performance. In addition, in connection with our pending acquisition of Xilinx, Inc., we incurred $8 million and $33 million of acquisition-related costs for the three and nine months ended September 25, 2021, respectively.

Licensing Gain

During the three and nine months ended September 25, 2021, we recognized $3 million and $8 million, respectively, of royalty income associated with the licensed IP to the THATIC JV, our two joint ventures with Higon Information Technology Co., Ltd., a third-party Chinese entity.

Interest Expense

Interest expense for the three months ended September 25, 2021 was $7 million compared to $11 million for the prior year period. Interest expense for the nine months ended September 25, 2021 was $26 million compared to $38 million for the prior year period. The decrease for both periods was due to lower debt balances as a result of conversions by the holders of our 2.125% Convertible Senior Notes due 2026.

Other Income (Expense), Net

Other income, net for the three months ended September 25, 2021, was $62 million compared to $37 million of Other expense, net for the prior year period. The change was primarily due to a $60 million gain from an increase in the fair value of an equity investment.

Other income, net was $51 million for the nine months ended September 25, 2021, compared to $32 million of Other expense, net for the prior year period. The change was primarily due to a $60 million gain from an increase in fair value of an equity investment and lower losses from conversion of our convertible debt of $31 million, partially offset by an impairment charge of $8 million associated with an equity investment in the first quarter of 2021.

Income Tax Provision

We recorded an income tax provision of $82 million and $12 million for the three months ended September 25, 2021 and September 26, 2020, representing effective tax rates of 8.2% and 3.0%, respectively. We recorded an income tax provision of $284 million and $22 million for the nine months ended September 25, 2021 and September 26, 2020, representing effective tax rates of 11.5% and 3.0%, respectively.

The increase in income tax expense and effective tax rate in the current year period was due to significantly higher income in the United States, partially offset by the foreign-derived intangible income benefit, research and development tax credits, and excess tax benefit for stock-based compensation. The lower income tax expense and effective tax rate for the prior year period was due to a full valuation allowance against deferred tax assets in the United States during 2020, a significant portion of which was released by us in the fourth quarter of 2020.

As of September 25, 2021, we continue to maintain a valuation allowance for certain federal, state, and foreign tax attributes. The federal valuation allowance maintained is due to limitations under Internal Revenue Code Section 382 or 383, separate return loss year rules, or dual consolidated loss rules. Certain state and foreign valuation allowance maintained is due to lack of sufficient sources of taxable income.

FINANCIAL CONDITION

Liquidity and Capital Resources

As of September 25, 2021, our cash, cash equivalents and short-term investments were $3.6 billion, compared to $2.3 billion as of December 26, 2020. The percentage of cash, cash equivalents and short-term investments held domestically were 92% and 94% as of September 25, 2021 and December 26, 2020, respectively.

Our operating, investing and financing activities for the nine months ended September 25, 2021 compared to the prior year period are as described below:

	Nine Months Ended	
	September 25, 2021	September 26, 2020
	(In millions)	
Net cash provided by (used in):		
Operating activities	$ 2,699	$ 517
Investing activities	(686)	(658)
Financing activities	(1,168)	(29)
Net increase (decrease) in cash, cash equivalents, and restricted cash	$ 845	$ (170)

Our principal debt obligations were $313 million and $338 million as of September 25, 2021 and December 26, 2020, respectively.

We believe our cash, cash equivalents and short-term investments along with our Revolving Credit Facility and cash flows from operations will be sufficient to fund current and long-term operations, including capital expenditures, over the next 12 months and beyond. We believe we will be able to access the capital markets should we require additional funds. However, we cannot assure that such funds will be available on favorable terms, or at all.

Operating Activities

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

Net cash provided by operating activities was $2.7 billion in the nine months ended September 25, 2021, primarily due to our net income of $2.2 billion, adjusted for non-cash and non-operating charges of $769 million and net cash outflows of $258 million from changes in our operating assets and liabilities. The primary drivers of the changes in operating assets and liabilities included a $504 million increase in inventories driven by an increase in product build in support of customer demand and a $284 million increase in prepaid expenses and other assets driven primarily by prepayments of long-term supply agreements, partially offset by a $526 million increase in accounts payable due to an increase in inventory purchases.

Net cash provided by operating activities was $517 million in the nine months ended September 26, 2020, primarily due to our net income of $709 million, adjusted for non-cash and non-operating charges of $538 million and net cash outflows of $730 million from changes in our operating assets and liabilities. The primary drivers of the changes in operating assets and liabilities included a $287 million increase in accounts receivable driven primarily by higher revenue in the third quarter of 2020 compared to the fourth quarter of 2019, partially offset by higher collections due to better revenue linearity in the third quarter of 2020 compared to the fourth quarter of 2019, a $310 million increase in inventories driven by an increase in product build, and a $172 million increase in prepaid expenses and other assets primarily due to an increase in vendor credits.

Investing Activities

Net cash used in investing activities was $686 million for the nine months ended September 25, 2021 which primarily consisted of $1.9 billion for purchases of short-term investments and $215 million for purchases of property and equipment, partially offset by $1.4 billion for maturities of short-term investments.

Net cash used in investing activities was $658 million for the nine months ended September 26, 2020, which primarily consisted of $530 million for purchases of short-term investments and $220 million for purchases of property and equipment, partially offset by $92 million for maturities of short-term investments.

Financing Activities

Net cash used in financing activities was $1.2 billion for the nine months ended September 25, 2021, which primarily consisted of common stock repurchases of $1.0 billion and repurchases for tax withholding on employee equity plans of $219 million, partially offset by a cash inflow of $55 million from issuance of common stock under our employee equity plans.

Net cash used in financing activities was $29 million for the nine months ended September 26, 2020, which primarily consisted of common stock repurchased for tax withholding on employee equity plans of $73 million, partially offset by proceeds from the issuance of common stock under our employee equity plans of $45 million. We borrowed $200 million short-term debt and paid off the balance during the nine months ended September 26, 2020.

Contractual Obligations

Other than the unconditional purchase commitments disclosed in Note 12—Commitments and Contingencies of the Notes to Condensed Consolidated Financial Statements, there were no significant changes outside the ordinary course of business in our contractual obligations from those disclosed in Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations - Liquidity and Capital Resources” of our Annual Report on Form 10-K for the fiscal year ended December 26, 2020.

Critical Accounting Estimates

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

Management believes there have been no significant changes for the three and nine months ended September 25, 2021 to the items that we disclosed as our critical accounting estimates in the Management’s Discussion and Analysis of Financial Condition and Results of Operations section of our Annual Report on Form 10-K for the fiscal year ended December 26, 2020.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Reference is made to “Part II, Item 7A, Quantitative and Qualitative Disclosures About Market Risk,” in our Annual Report on Form 10-K for the fiscal year ended December 26, 2020.

There have not been any material changes in interest rate risk, default risk or foreign exchange risk since December 26, 2020.

ITEM 4. CONTROLS AND PROCEDURES

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our reports made under the Securities Exchange Act of 1934, as amended, is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer as appropriate, to allow for timely decisions regarding required disclosure. In designing and evaluating our disclosure controls and procedures, our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and our management is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

As of September 25, 2021, the end of the period covered by this report, we carried out an evaluation under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures. Based on the foregoing, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective at the reasonable assurance level.

There was no change in our internal controls over financial reporting for the three months ended September 25, 2021 that materially affected, or is reasonably likely to materially affect, our internal controls over financial reporting.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

For a discussion of our legal proceedings, refer to Note 12—Commitments and Contingencies of the Notes to Condensed Consolidated Financial Statements (Part I, Item 1 of this Form 10-Q).

ITEM 1A. RISK FACTORS

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

Risk Factors Summary

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

Economic and Strategic Risks

- Intel Corporation's dominance of the microprocessor market and its aggressive business practices may limit our ability to compete effectively on a level playing field.
- Global economic and market uncertainty may adversely impact our business and operating results.
- The loss of a significant customer may have a material adverse effect on us.
- The ongoing novel coronavirus (COVID-19) pandemic could materially adversely affect our business, financial condition and results of operations.
- The markets in which our products are sold are highly competitive.
- The demand for our products depends in part on the market conditions in the industries into which they are sold. Fluctuations in demand for our products or a market decline in any of these industries could have a material adverse effect on our results of operations.
- The semiconductor industry is highly cyclical and has experienced severe downturns that have materially adversely affected, and may continue to materially adversely affect, our business in the future.
- Our operating results are subject to quarterly and seasonal sales patterns.
- If we cannot adequately protect our technology or other intellectual property in the United States and abroad, through patents, copyrights, trade secrets, trademarks and other measures, we may lose a competitive advantage and incur significant expenses.
- Unfavorable currency exchange rate fluctuations could adversely affect us.

Operational and Technology Risks

- We rely on third parties to manufacture our products, and if they are unable to do so on a timely basis in sufficient quantities and using competitive technologies, our business could be materially adversely affected.
- If essential equipment, materials, substrates or manufacturing processes are not available to manufacture our products, we could be materially adversely affected.
- Failure to achieve expected manufacturing yields for our products could negatively impact our financial results.
- The success of our business is dependent upon our ability to introduce products on a timely basis with features and performance levels that provide value to our customers while supporting and coinciding with significant industry transitions.
- Our revenue from our semi-custom SoC products is dependent upon our semi-custom SoC products being incorporated into customers' products and the success of those products.
- Our products may be subject to security vulnerabilities that could have a material adverse effect on us.
- IT outages, data loss, data breaches and cyber-attacks could compromise our intellectual property or other sensitive information, be costly to remediate or cause significant damage to our business, reputation and operations.
- Uncertainties involving the ordering and shipment of our products could materially adversely affect us.
- Our ability to design and introduce new products in a timely manner is dependent upon third-party intellectual property.

- We depend on third-party companies for the design, manufacture and supply of motherboards, software, memory and other computer platform components to support our business.
- If we lose Microsoft Corporation's support for our products or other software vendors do not design and develop software to run on our products, our ability to sell our products could be materially adversely affected.
- Our reliance on third-party distributors and add-in-board (AIB) partners subjects us to certain risks.
- Our business is dependent upon the proper functioning of our internal business processes and information systems and modification or interruption of such systems may disrupt our business, processes and internal controls.
- If our products are not compatible with some or all industry-standard software and hardware, we could be materially adversely affected.
- Costs related to defective products could have a material adverse effect on us.
- If we fail to maintain the efficiency of our supply chain as we respond to changes in customer demand for our products, our business could be materially adversely affected.
- We outsource to third parties certain supply-chain logistics functions, including portions of our product distribution, transportation management and information technology support services.
- Our inability to effectively control the sales of our products on the gray market could have a material adverse effect on us.

Legal and Regulatory Risks

- Government actions and regulations such as export administration regulations, tariffs, and trade protection measures may limit our ability to export our products to certain customers.
- If we cannot realize our deferred tax assets, our results of operations could be adversely affected.
- Our business is subject to potential tax liabilities, including as a result of tax regulation changes.
- We are party to litigation and may become a party to other claims or litigation that could cause us to incur substantial costs or pay substantial damages or prohibit us from selling our products.
- We are subject to environmental laws, conflict minerals-related provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act as well as a variety of other laws or regulations that could result in additional costs and liabilities.

Xilinx Merger and Acquisition Risks

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

Liquidity and Capital Resources Risks

- The agreements governing our notes and our Revolving Credit Facility impose restrictions on us that may adversely affect our ability to operate our business.
- Our indebtedness could adversely affect our financial position and prevent us from implementing our strategy or fulfilling our contractual obligations.
- We may not be able to generate sufficient cash to meet our working capital requirements. Also, if we cannot generate sufficient revenue and operating cash flow, we may face a cash shortfall and be unable to make all of our planned investments in research and development or other strategic investments.

General Risks

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

- Our stock price is subject to volatility.
- Worldwide political conditions may adversely affect demand for our products.

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

Economic and Strategic Risks

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

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

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

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

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

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

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

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

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

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

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

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

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

COVID-19 continues to impact the global supply chain causing disruptions to service providers, logistics and the flow and availability of supplies and products. We have experienced some disruptions to parts of our supply chain as a result of COVID-19 and we adjust our supply chain requirements based on changing customer needs and demands. We have taken efforts to maintain a stable supply of materials to meet our production requirements through long-term purchase commitments and prepayment arrangements with some of our suppliers. If we are unable to procure a stable supply of equipment, materials or substrates at a reasonable cost, it could have a material adverse effect on our business. We may also assess our product schedules and roadmaps to make any adjustments that may be necessary to support remote working requirements and address the geographic and market demand shifts caused by COVID-19. If the supply of our products to customers is delayed, reduced or canceled due to disruptions encountered by our third-party manufacturers, back-end manufacturers, warehouses, partners, suppliers or vendors as a result of facility closures, border and port restrictions or closures, transportation delays, labor shortages or workforce mobility limitations, it could have a material adverse effect on our business.

COVID-19 has in the short-term and may in the long-term adversely impact the global economy, creating uncertainty and potentially leading to an economic downturn. This could negatively impact consumer confidence and spending causing our customers to postpone or cancel purchases, or delay paying or default on payment of outstanding amounts due to us, which may have a material adverse effect on our business. Even in times of robust demand for our products, as we are currently experiencing across our business, the worldwide economic environment remains uncertain due to COVID-19 and such demand may not be sustainable over the longer term.

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

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

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

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

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

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

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

Industry-wide fluctuations in the computer marketplace have materially adversely affected us in the past and may materially adversely affect us in the future. A large portion of our Computing and Graphics revenue is focused on the consumer desktop PC and notebook segments, which have in the past experienced a decline driven by, among other factors, the adoption of smaller and other form factors, increased competition and changes in replacement cycles. The success of our semi-custom SoC products is dependent on securing customers for our semi-custom design pipeline and consumer market conditions, including the success of the Sony PlayStation®5, Microsoft® Xbox Series S and Microsoft® Xbox Series X game console systems and next generation consoles for Sony and Microsoft, worldwide. In addition, the GPU market has at times seen elevated demand due to the application of GPU products to cryptocurrency mining. For example, our GPU revenue has been affected in part by the volatility of the cryptocurrency mining market. Demand for cryptocurrency has changed and is likely to continue to change quickly. For example, South Korea has instituted restrictions on cryptocurrency trading and the valuations of the currencies and China has banned such activities, and corresponding interest in mining of such currencies are subject to significant fluctuations. Alternatively, countries have created and may continue to create their own cryptocurrencies or equivalents that could also impact interest in mining. If we are unable to manage the risks related to the volatility of the cryptocurrency mining market, our GPU business could be materially adversely affected.

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

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

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

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

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

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

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

We rely on a combination of protections provided by contracts, including confidentiality and nondisclosure agreements, copyrights, patents, trademarks and common law rights, such as trade secrets, to protect our intellectual property. However, we cannot assure you that we will be able to adequately protect our technology or other intellectual property from third-party infringement or from misappropriation in the United States and abroad. Any patent licensed by us or issued to us could be challenged, invalidated or circumvented or rights granted thereunder may not provide a competitive advantage to us. Also, due to measures to slow down the spread of COVID-19, various patent offices and courts have been adversely impacted and there is a potential for delay or disruptions that might affect certain of our patent rights.

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

Unfavorable currency exchange rate fluctuations could adversely affect us.

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

Operational and Technology Risks

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

We utilize third-party wafer foundries to fabricate the silicon wafers for all of our products. We rely on Taiwan Semiconductor Manufacturing Company Limited (TSMC) for the production of all wafers for our 7 nanometer (nm) products, and we rely primarily on GLOBALFOUNDRIES Inc. (GF) for wafers for products manufactured at process nodes larger than 7 nm. We also rely on third-party manufacturers to assemble, test, mark and pack (ATMP) our products. It is important to have reliable relationships with all of these third-party manufacturing suppliers to ensure adequate product supply to respond to customer demand.

We cannot guarantee that these manufacturers or our other third-party manufacturing suppliers will be able to meet our near-term or long-term manufacturing requirements. If we experience supply constraints from our third-party manufacturing suppliers, we may be required to allocate the affected products amongst our customers, which could have a material adverse effect on our relationships with these customers and on our financial condition. In addition, if we are unable to meet customer demand due to fluctuating or late supply from our manufacturing suppliers, it could result in lost sales and have a material adverse effect on our business. For example, if TSMC is not able to manufacture wafers for our 7 nm products in sufficient quantities to meet customer demand, it could have a material adverse effect on our business.

We do not have long-term commitment contracts with some of our third-party manufacturing suppliers. We obtain some of these manufacturing services on a purchase order basis and these manufacturers are not required to provide us with any specified minimum quantity of product beyond the quantities in an existing purchase order. Accordingly, we depend on these suppliers to allocate to us a portion of their manufacturing capacity sufficient to meet our needs, to produce products of acceptable quality and at acceptable manufacturing yields and to deliver those products to us on a timely basis and at acceptable prices. The manufacturers we use also fabricate wafers and ATMP products for other companies, including certain of our competitors. They could choose to prioritize capacity for other customers, increase the prices that they charge us on short notice, require prepayments, or reduce or eliminate deliveries to us, which could have a material adverse effect on our business.

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

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

We are a party to a wafer supply agreement (WSA) with GF that governs the terms by which we purchase products manufactured by GF and is in place until 2024. In May 2021, we entered into an amendment (the “A&R Seventh Amendment”) to the WSA that modifies certain terms applicable to wafer purchases at the 12 nm and 14 nm technology nodes by us. GF agreed to a minimum annual capacity allocation to us for years 2022, 2023 and 2024. The A&R Seventh Amendment also removes all prior exclusivity commitments and provides us with full flexibility to contract with any wafer foundry with respect to all products manufactured at any technology node. Further, the parties agreed to pricing and new annual wafer purchase targets for years 2022, 2023 and 2024, and we agreed to pre-pay GF certain amounts for those wafers in 2022 and 2023. If we do not meet the annual wafer purchase target for any of these years, we will be required to pay to GF a portion of the difference between the actual wafer purchases and the wafer purchase target for that year. If our actual wafer requirements are less than the number of wafers required to meet the applicable annual wafer purchase target, we could have excess inventory or higher inventory unit costs, both of which may adversely impact our gross margin and our results of operations. We could experience significant delays in the shipment of our products if we are required to find alternative third-party manufacturers, which could have a material adverse effect on our business.

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

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

We may purchase equipment, materials and substrates for use by our back-end manufacturing service providers from a number of suppliers and our operations depend upon obtaining deliveries of adequate supplies of equipment and materials on a timely basis. Our third-party suppliers also depend on the same timely delivery of adequate quantities of equipment and materials in the manufacture of our products. In addition, as many of our products increase in technical complexity, we rely on our third-party suppliers to update their processes in order to continue meeting our back-end manufacturing needs. Certain equipment and materials that are used in the manufacture of our products are available only from a limited number of suppliers, or in some cases, a sole supplier. We also depend on a limited number of suppliers to provide the majority of certain types of integrated circuit packages for our microprocessors, including our APU products. Similarly, certain non-proprietary materials or components such as memory, printed circuit boards (PCBs), interposers, substrates and capacitors used in the manufacture of our products are currently available from only a limited number of sources. If we are unable to procure a stable supply of equipment, materials or substrates on an ongoing basis and at reasonable costs to meet our production requirements, we could experience a shortage in equipment, materials or substrate supply or an increase in production costs, which could have a material adverse effect on our business. We have long-term purchase commitments and prepayment arrangements with some of our substrate suppliers. If the delivery of such supply is delayed or does not occur for any reason, it could materially impact our ability to procure the required volume of substrates and to meet customer demand. Conversely, a decrease in customer demand could result in excess substrate inventory and an increase in our production costs, particularly since we have prepayment arrangements with certain substrate suppliers. Because some of the equipment and materials that we and our third-party manufacturing suppliers purchase are complex, it is sometimes difficult to substitute one supplier for another. From time to time, suppliers may extend lead times, limit supply or increase prices due to capacity constraints or other factors. Also, some of these materials and components may be subject to rapid changes in price and availability. Interruption of supply or increased demand in the industry could cause shortages and price increases in various essential materials. Dependence on a sole supplier or a limited number of suppliers exacerbates these risks. If we are unable to procure certain of these materials for our back-end manufacturing operations, or our third-party foundries or manufacturing suppliers are unable to procure materials for manufacturing our products, our business would be materially adversely affected.

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

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

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

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

Our success depends to a significant extent on the development, qualification, implementation and acceptance of new product designs and improvements that provide value to our customers. Our ability to develop, qualify and distribute, and have manufactured, new products and related technologies to meet evolving industry requirements, at prices acceptable to our customers and on a timely basis, are significant factors in determining our competitiveness in our target markets. As consumers have new product feature preferences or have different requirements than those consumers in the PC market, PC sales could be negatively impacted, which could adversely impact our business. Our product roadmap includes our next-generation AMD Ryzen™, AMD Radeon™ and AMD EPYC™ processors. We cannot assure you that our efforts to execute our product roadmap will result in innovative products and technologies that provide value to our customers. If we fail to or are delayed in developing, qualifying or shipping new products or technologies that provide value to our customers and address these new trends or if we fail to predict which new form factors consumers will adopt and adjust our business accordingly, we may lose competitive positioning, which could cause us to lose market share and require us to discount the selling prices of our products. Although we make substantial investments in research and development, we cannot be certain that we will be able to develop, obtain or successfully implement new products and technologies on a timely basis or that they will be well-received by our customers. Moreover, our investments in new products and technologies involve certain risks and uncertainties and could disrupt our ongoing business. New investments may not generate sufficient revenue, may incur unanticipated liabilities and may divert our limited resources and distract management from our current operations. We cannot be certain that our ongoing investments in new products and technologies will be successful, will meet our expectations and will not adversely affect our reputation, financial condition and operating results.

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

Our revenue from our semi-custom SoC products is dependent upon our semi-custom SoC products being incorporated into customers' products and the success of those products.

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

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

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

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

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

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

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

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

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

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

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

We typically sell our products pursuant to individual purchase orders. We generally do not have long-term supply arrangements with our customers or minimum purchase requirements except that orders generally must be for standard pack quantities. Generally, our customers may cancel orders for standard products more than 30 days prior to shipment without incurring significant fees. We base our inventory levels in part on customers' estimates of demand for their products, which may not accurately predict the quantity or type of our products that our customers will want in the future or ultimately end up purchasing. Our ability to forecast demand is even further complicated when our products are sold indirectly through downstream channel distributors and customers, as our forecasts for demand are then based on estimates provided by multiple parties throughout the downstream channel. For instance, we have experienced and continue to experience increased demand for our products. To the extent we fail to forecast demand and product mix accurately or are unable to increase production or secure sufficient capacity and there is a mismatch between supply and demand for our products, it could limit our ability to meet customer demand and have a material adverse effect on our business. Many of our markets are characterized by short product lifecycles, which can lead to rapid obsolescence and price erosion. In addition, our customers may change their inventory practices on short notice for any reason. We may build inventories during periods of anticipated growth, and the cancellation or deferral of product orders or overproduction due to failure of anticipated orders to materialize could result in excess or obsolete inventory, which could result in write-downs of inventory and an adverse effect on gross margins. Our customers may also experience a shortage of, or delay in receiving certain components to build their products, which in turn may affect the demand for or the timing of our products. For instance, during the third quarter of 2021, our OEMs experienced industry-wide challenges securing matched component sets to build their products.

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

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

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

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

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

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

Our ability to innovate beyond the x86 instruction set controlled by Intel depends partially on Microsoft designing and developing its operating systems to run on or support our x86-based microprocessor products. With respect to our graphics products, we depend in part on Microsoft to design and develop its operating system to run on or support our graphics products. Similarly, the success of our products in the market, such as our APU products, is dependent on independent software providers designing and developing software to run on our products. If Microsoft does not continue to design and develop its operating systems so that they work with our x86 instruction sets or does not continue to develop and maintain their operating systems to support our graphics products, independent software providers may forego designing their software applications to take advantage of our innovations and customers may not purchase PCs with our products. In addition, some software drivers licensed for use with our products are certified by Microsoft. If Microsoft did not certify a driver, or if we otherwise fail to retain the support of Microsoft or other software vendors, our ability to market our products would be materially adversely affected.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Legal and Regulatory Risks

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

We have equity interests in two joint ventures (collectively, the THATIC JV) with Higon Information Technology Co., Ltd. (THATIC), a third-party Chinese entity. In June 2019, the Bureau of Industry and Security (BIS) of the United States Department of Commerce added certain Chinese entities to the Entity List, including THATIC and the THATIC JV. In October 2019, the BIS added additional Chinese entities to the Entity List. Also, the United States administration has called for changes to domestic and foreign policy. Specifically, United States-China trade relations remain uncertain. The United States administration has announced tariffs on certain products imported into the United States with China as the country of origin, and China has imposed tariffs in response to the actions of the United States. We are taking steps to mitigate the impact of these tariffs on our business and AMD processor-based products. There is also a possibility of future tariffs, trade protection measures, import or export regulations or other restrictions imposed on our products or on our customers by the United States, China or other countries that could have a material adverse effect on our business. A significant trade disruption or the establishment or increase of any tariffs, trade protection measures or restrictions could result in lost sales adversely impacting our reputation and business.

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

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

In addition, a significant amount of our deferred tax assets and a portion of the deferred tax assets related to net operating losses or tax credits which remain under a valuation allowance could be subject to limitations under Internal Revenue Code Section 382 or 383, separate return loss year rules, or dual consolidated loss rules. The limitations could reduce our ability to utilize the net operating losses or tax credits before the expiration of the tax attributes.

Our business is subject to potential tax liabilities, including as a result of tax regulation changes.

We are subject to income tax, indirect tax or other tax claims by tax agencies in jurisdictions in which we conduct business. Significant judgment is required in determining our worldwide provision for income taxes. Tax laws are dynamic and subject to change as new laws are passed and new interpretations of the law are issued or applied. Any changes to tax laws could have a material adverse effect on our tax obligations and effective tax rate.

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

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

From time to time, we are a defendant or plaintiff in various legal actions. For example, as described in Note 12 of our condensed consolidated financial statements, we have been subject to certain claims concerning federal securities laws and corporate governance. Our products are purchased by and/or used by consumers, which could increase our exposure to consumer actions such as product liability claims and consumer class action claims. On occasion, we receive claims that individuals were allegedly exposed to substances used in our former semiconductor wafer manufacturing facilities and that this alleged exposure caused harm. Litigation can involve complex factual and legal questions, and its outcome is uncertain. It is possible that if a claim is successfully asserted against us, including the claims described in Note 12 of our condensed consolidated financial statements, it could result in the payment of damages that could be material to our business.

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

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

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

Our operations and properties have in the past been and continue to be subject to various United States and foreign laws and regulations, including those relating to materials used in our products and manufacturing processes, discharge of pollutants into the environment, the treatment, transport, storage and disposal of solid and hazardous wastes and remediation of contamination. These laws and regulations require our suppliers to obtain permits for operations making our products, including the discharge of air pollutants and wastewater. Although our management systems are designed to oversee our suppliers' compliance, we cannot assure you that our suppliers have been or will be at all times in complete compliance with such laws, regulations and permits. If our suppliers violate or fail to comply with any of them, a range of consequences could result, including fines, suspension of production, alteration of manufacturing processes, import/export restrictions, sales limitations, criminal and civil liabilities or other sanctions. Such non-compliance from our manufacturing suppliers could result in disruptions in supply, higher sourcing costs, and/or reputational damage for us.

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

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

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

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

Xilinx Merger and Acquisition Risks

Acquisitions, joint ventures and/or investments, including our recently announced acquisition of Xilinx, and the failure to integrate acquired businesses, could disrupt our business and/or dilute or adversely affect the price of our common stock.

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

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

Acquisitions and joint ventures may also involve the entry into geographic or business markets in which we have little or no prior experience. Consequently, we may not achieve anticipated benefits of acquisitions or joint ventures, which could harm our operating results. In addition, to complete an acquisition (and as contemplated in the Merger), we may issue equity securities, which would dilute our stockholders' ownership and could adversely affect the price of our common stock, and/or incur debt, assume contingent liabilities or have amortization expenses and write-downs of acquired assets, which could adversely affect our results of operations. Moreover, if such acquisitions or joint ventures require us to seek additional debt or equity financing, we may not be able to obtain such financing on terms favorable to us or at all. Even if we successfully complete an acquisition or joint venture, we may not be able to assimilate and integrate effectively or efficiently the acquired business, technologies, solutions, assets, personnel or operations, particularly if key personnel of the acquired company decide not to work for us.

Acquisitions and joint ventures may also reduce our cash available for operations and other uses, which could harm our business. Also, any failure on our part to effectively evaluate and execute new business initiatives could adversely affect our business. We may not adequately assess the risks of new business initiatives and subsequent events may arise that alter the risks that were initially considered. Furthermore, we may not achieve the objectives and expectations with respect to future operations, products and services. The majority of our ATMP services are provided by the ATMP JVs, and there is no guarantee that the JVs will be able to fulfill our long-term ATMP requirements. If we are unable to meet customer demand due to fluctuating or late supply from the ATMP JVs, it could result in lost sales and have a material adverse effect on our business.

In addition, we may not realize the anticipated benefits from our business initiatives. For example, we may not realize the expected benefits from the THATIC JV's expected future performance, including the receipt of any future milestone payments and any royalties from certain licensed intellectual property. In June 2019, the BIS added certain Chinese entities to the Entity List, including THATIC and the THATIC JV. We are complying with U.S. law pertaining to the Entity List designation.

Our ability to complete the Merger is subject to closing conditions, including the receipt of consents and approvals from governmental authorities, which may impose conditions that could adversely affect us or cause the Merger not to be completed.

The Merger is subject to a number of closing conditions as specified in the Merger Agreement. These include, among others, the receipt of approvals under certain competition laws and the absence of governmental restraints or prohibitions preventing the consummation of the Merger. No assurance can be given that the required consents and approvals will be obtained or that the closing conditions will be satisfied in a timely manner or at all. Also, if a settlement or other resolution is not reached in any legal proceedings that have been, or might be, instituted against us, our directors, Xilinx or its directors relating to the transactions contemplated by the Merger Agreement, and the plaintiffs in such proceedings secure injunctive or other relief prohibiting, delaying or otherwise adversely affecting our and/or Xilinx's ability to complete the Merger on the terms contemplated by the Merger Agreement, then such injunctive or other relief may prevent the Merger from becoming effective in a timely manner, or at all. Any delay in completing the Merger could cause the combined company not to realize, or to be delayed in realizing, some or all of the benefits that we expect to achieve. We cannot provide any assurances that these conditions will not result in the abandonment or delay of the Merger. The occurrence of any of these events could have a material adverse effect on our results of operations and the trading price of our common stock. Additionally, under the Merger Agreement, Xilinx will be required to pay a termination fee to us equal to $1 billion if the Merger Agreement is terminated in certain circumstances, including if the Merger Agreement is terminated because Xilinx's board of directors has changed its recommendation. We will be required to pay a termination fee to Xilinx equal to $1.5 billion if the Merger Agreement is terminated in certain circumstances, including if the Merger Agreement is terminated because our board of directors has changed its recommendation. We will be required to pay a termination fee equal to $1 billion if the Merger Agreement is terminated in certain circumstances related to the failure to obtain required regulatory approvals by October 26, 2021 (subject to automatic extension first to January 26, 2022 and then to April 26, 2022, in each case, to the extent the regulatory closing conditions remain outstanding).

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

Whether or not it is completed, the announcement and pendency of the Merger could cause disruptions in our business: our and Xilinx's current and prospective employees may experience uncertainty about their future roles with the combined company, which might adversely affect the ability to retain key employees; uncertainty regarding the completion of the Merger may cause customers, suppliers, distributors, vendors, strategic partners or others to delay or defer entering into contracts, make other decisions or seek to change or cancel existing business relationships; and the attention of management may be directed toward the completion of the Merger. If the Merger is not completed, we will have incurred significant costs, including the potential payment of termination fees and the diversion of management resources, for which we will have received little or no benefit.

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

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

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

Liquidity and Capital Resources Risks

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

The indenture governing our 7.50% Senior Notes Due August 2022 (7.50% Notes) contains various covenants which limit our ability to, among other things: make certain investments, including investments in our unrestricted subsidiaries; and consolidate or merge or sell our assets as an entirety or substantially as an entirety.

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

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

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

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

Our total debt principal amount outstanding as of September 25, 2021 was $313 million. Our indebtedness may make it difficult for us to satisfy our financial obligations, including making scheduled principal and interest payments; limit our ability to borrow additional funds for working capital, capital expenditures, acquisitions and general corporate and other purposes; limit our ability to use our cash flow or obtain additional financing for future working capital, capital expenditures, acquisitions or other general corporate purposes; require us to use a substantial portion of our cash flow from operations to make debt service payments; place us at a competitive disadvantage compared to our competitors with relatively less debt; and increase our vulnerability to the impact of adverse economic and industry conditions.

We may not be able to generate sufficient cash to meet our working capital requirements. Also, if we cannot generate sufficient revenue and operating cash flow, we may face a cash shortfall and be unable to make all of our planned investments in research and development or other strategic investments.

Our ability to generate sufficient cash to meet our working capital requirements will depend on our financial and operating performance, which may fluctuate significantly from quarter to quarter, and is subject to prevailing economic, financial and business conditions along with other factors, many of which are beyond our control. We cannot assure you that we will be able to generate cash flow in amounts sufficient to enable us to meet our working capital requirements. If we are not able to generate sufficient cash flow from operations, we may be required to sell assets or equity, reduce expenditures, refinance all or a portion of our existing debt or obtain additional financing.

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

Our inability to generate sufficient cash from operations may require us to abandon projects or curtail planned investments in research and development or other strategic initiatives. If we curtail planned investments in research and development or abandon projects, our products may fail to remain competitive and our business would be materially adversely affected.

General Risks

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

We maintain operations around the world, including in the United States, Canada, Europe, Australia, Latin America and Asia. We rely on third-party wafer foundries in the United States, Europe and Asia. Nearly all product assembly and final testing of our products is performed at manufacturing facilities, operated by third-party manufacturing facilities, in China, Malaysia and Taiwan. We also have international sales operations. International sales, as a percent of net revenue, were 67% for the three months ended September 25, 2021, respectively. We expect that international sales will continue to be a significant portion of total sales in the foreseeable future.

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

In addition, our worldwide operations (or those of our business partners) could be subject to natural disasters and climate change such as earthquakes, tsunamis, flooding, typhoons, droughts, fires, extreme heat and volcanic eruptions that disrupt our operations, or those of our manufacturers, vendors or customers. For example, our Santa Clara operations are located near major earthquake fault lines in California. There may be conflict or uncertainty in the countries in which we operate, including public health issues (for example, an outbreak of a contagious disease such as COVID-19, avian influenza, measles or Ebola), safety issues, natural disasters, fire, disruptions of service from utilities, nuclear power plant accidents or general economic or political factors. For example, governments worldwide have implemented, and continue to implement, measures to slow down the outbreak of COVID-19. We have experienced, and will continue to experience, disruptions to our business as these measures have, and will continue to have, an effect on our business operations and practices. Also, the European Union's General Data Protection Regulation imposes significant new requirements on how we collect, process and transfer personal data, as well as significant fines for non-compliance. Any of the above risks, should they occur, could result in an increase in the cost of components, production delays, general business interruptions, delays from difficulties in obtaining export licenses for certain technology, tariffs and other barriers and restrictions, longer payment cycles, increased taxes, restrictions on the repatriation of funds and the burdens of complying with a variety of foreign laws, any of which could ultimately have a material adverse effect on our business.

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

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

We license certain third-party technologies and tools for the design and production of our products. We report the value of those licenses as other non-current assets on the balance sheet and we periodically evaluate the carrying value of those licenses based on their future economic benefit to us. Factors such as the life of the assets, changes in competing technologies, and changes to the business strategy may represent an indicator of impairment. The occurrence of any of these events may require us to record future technology license impairment charges.

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

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

Our stock price is subject to volatility.

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

In May 2021, we announced that our Board of Directors approved a new stock repurchase program to purchase up to $4 billion of our outstanding common stock in the open market. This repurchase program does not obligate us to acquire any common stock, has no termination date and may be suspended or discontinued at any time. Our stock repurchases could affect the trading price of our stock, the volatility of our stock price, reduce our cash reserves, and may be suspended or discontinued at any time, which may result in a decrease in our stock price.

Worldwide political conditions may adversely affect demand for our products.

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

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

We issued warrants dated September 27, 2021 to purchase 41,585 shares, of our common stock to a commercial partner pursuant to a strategic arrangement with such partner. The warrants have an exercise price of $25.50 per share and expire on September 27, 2024.

The warrants were issued pursuant to Section 4(a)(2) of the Securities Act of 1933, as amended.

Issuer Purchases of Equity Securities

In May 2021, we announced that our Board of Directors approved a new stock repurchase program to purchase up to $4 billion of our outstanding common stock in the open market. We expect to fund repurchases through cash generated from operations which have been strengthened by our strong operational results. Our stock repurchase program does not obligate us to acquire any common stock, has no termination date and may be suspended or discontinued at any time.

The following table provides information relating to our repurchase of common stock for the three months ended September 25, 2021:

	Total Number of Shares Repurchased	Average Price Paid per Share	Total Number of Shares Repurchased as Part of Publicly Announced Program	Maximum Dollar Value of Shares That May Yet be Purchased Under the Program
	(In millions, except shares and per share data)			
June 27, 2021 - July 24, 2021	699,908	$ 88.79	699,908	$ 3,682
July 25, 2021 - August 21, 2021	2,181,816	$ 106.48	2,181,816	$ 3,450
August 22, 2021 - September 25, 2021	4,284,175	$ 106.33	4,284,175	$ 2,994
Total	7,165,899			

Equity Award Share Withholding

During the nine months ended September 25, 2021, we paid $219 million in employee withholding taxes due upon the vesting of net settled equity awards. We withheld approximately 2 million shares of common stock from employees in connection with such net share settlement at an average price of $106.37 per share. These shares may be deemed to be “issuer purchases” of shares.

ITEM 6. EXHIBITS

31.1	Certification of the Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of the Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of the Principal Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification of the Principal Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document.
101.SCH	XBRL Taxonomy Extension Schema Document.
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.
104	Cover Page Interactive Data File - the cover page XBRL tags are embedded within the Inline XBRL document

SIGNATURE

Pursuant to the requirements 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.

ADVANCED MICRO DEVICES, INC.

October 27, 2021	By:	*/s/ Devinder Kumar*
	Name:	Devinder Kumar
	Title:	Executive Vice President, Chief Financial Officer and Treasurer Signing on behalf of the Registrant as the Principal Financial Officer