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

The following discussion should be read in conjunction with the consolidated financial statements as ofDecember 31, 2016 and December 26, 2015 and for each of the three years in the period ended December 31, 2016 and related notes, which are included in this Annual Report on Form 10-K as well as with the other sections of this Annual Report on Form 10-K, including "Part I, Item 1: Business," "Part II, Item 6: Selected Financial Data" and "Part II, Item 8: Financial Statements and Supplementary Data."

Introduction

We are a global semiconductor company primarily offering:

(i) x86 microprocessors, as standalone devices or as incorporated into an accelerated processing unit (APU), chipsets, discrete graphics processing units (GPUs) and professional graphics; and

(ii) server and embedded processors, semi-custom System-on-Chip (SoC) products and technology for game consoles. We also license portions of our intellectual property portfolio.

In this MD&A, we will describe the results of operations and the financial condition for us and our consolidated subsidiaries, including a discussion of our results of operations for 2016 compared to 2015 and 2015 compared to 2014, an analysis of changes in our financial condition and a discussion of our contractual obligations and off balance sheet arrangements.

Overview

As we continued to focus on our strategy to improve our business, we made progress towards strengthening our competitive position and improving our financial performance in 2016. Net revenue for 2016 was $4.3 billion, an increase of 7% compared to 2015 net revenue of $4.0 billion. The increase in net revenue from 2015 was due to a 9% increase in Computing and Graphics segment revenue and a 5% increase in Enterprise, Embedded and Semi-Custom segment revenue. Computing and Graphics segment revenue increased year-over-year primarily due to higher GPU sales, offset by lower microprocessor sales. Embedded and Semi-Custom segment revenue increased year-over-year primarily due to higher semi-custom SoC sales.

Gross margin, as a percentage of net revenue for 2016, was 23% compared to 27% in 2015. The decrease in gross margin in 2016 as compared to 2015 was primarily due to a $340 million charge taken in the third quarter of 2016 (the WSA Charge) related to the sixth amendment to the wafer supply agreement (the Sixth Amendment) with GLOBALFOUNDRIES Inc. (GF). Operating loss for 2016 was $372 million compared to a $481 million for 2015. This improvement in operating performance in 2016 compared to 2015 was due to an increase in net revenue described above, a reduction in restructuring and other special charges, net and a licensing gain related to an intellectual property license agreement in connection with the joint ventures in China that we formed with Tianjin Haiguang Advanced Technology Investment Co. Ltd. (THATIC), partially offset by an increase in cost of sales due to the WSA Charge. During 2016, we continued to closely manage our operating expenses. Our operating expenses in 2016 decreased to $1.5 billion, compared to $1.6 billion in 2015, due to the absence of restructuring charges in 2016, partially offset by increased R&D expenses.

In 2016, we continued to improve our balance sheet by reducing our debt and extending our debt maturities. During the third quarter of 2016, we issued $690 million of common stock and $805 million aggregate principal amount of 2.125% Convertible Senior Notes due 2026 (2.125% Notes). We used the net proceeds from the issuance of our common stock and the 2.125% Notes to pay $230 million of our secured revolving line of credit and repurchase an aggregate principal amount of $796 million of our outstanding 6.75% Senior Notes due 2019 (6.75% Notes), 7.75% Senior Notes due 2020 (7.75% Notes), 7.50% Senior Notes due 2022 (7.50% Notes) and 7.00% Senior Notes due 2024 (7.00% Notes). In the fourth quarter of 2016, we redeemed the remaining $208 million in aggregate principal amount of our 7.75% Notes and as a result, we no longer have any 7.75% Notes outstanding. Total debt as of the end of the fourth quarter of 2016 was $1.4 billion, compared to $2.2 billion at the end of the fourth quarter of 2015. Our cash and cash equivalents as of December 31, 2016 were $1.3 billion compared to $785 million at December 26, 2015.

During 2016, we continued to execute our roadmap by delivering a number of new products and technologies across our two business segments. In March 2016, we announced new additions to our desktop processor family, with the AMD A10-7890K APU designed to help enable smooth play of online games and the AMD Athlon X4 880K APU that features our "Excavator" x86 architecture. Also in March, we introduced the Radeon Pro Duo GPU with the LiquidVR SDK platform designed for many aspects of VR content creation: from entertainment to education, journalism, medicine and cinema. In May 2016, we introduced our mobile 7th Generation A-Series processors. Our 7th Generation A-Series processors are designed to provide productivity and entertainment performance with maximum mobility for consumers. Also in May, we introduced an AMD Multiuser GPU (MxGPU) for blade servers, the AMD FirePro S7100X GPU, designed to provide a "workstation-class" experience for up to 16 users. We launched our first GPU featuring our Polaris architecture, the Radeon™ RX 480 GPU, in June 2016. Our Polaris architecture features our latest 4th Gen Graphics Core Next (GCN), along with the latest display technology support and performance per watt capabilities, all based on a FinFET 14 process technology. In July 2016, we revealed our new Radeon Pro SSG GPU with the ability to expand GPU storage up to 1 terabyte (TB) and which is designed for media and entertainment professionals. We also announced our new Radeon Pro WX series GPUs, which are based on our Polaris architecture and designed for workstation professionals and creators. In August 2016, we introduced the new Radeon RX 470, targeted at high definition (HD) resolutions for gamers. Also in August 2016, we released the new Radeon RX 460 graphics card with an ultra-quiet cooling solution and sub-75W power footprint for mainstream and e-sports gaming. We announced two new AMD Embedded Radeon graphics cards, the AMD Embedded Radeon E9260 and the AMD Embedded Radeon E9550 discrete GPU products in September 2016. These GPUs bring our Polaris architecture to the embedded markets and are designed to elevate the level of GPU processing performance available to embedded customers. In October 2016, we announced the first PCs featuring 7th Generation AMD PRO APUs. These APUs are built for businesses and designed to deliver increased computing and graphics performance and improved energy efficiency.

In connection with our plans to further sharpen our focus and operations on designing high-performance products, we entered into a definitive agreement to form two joint ventures with Tongfu Fujitsu Microelectronics Co., Ltd. (formerly, Nantong Fujitsu Microelectronics Co., Ltd.) (TFME) in the third quarter of 2015. In April 2016, we completed the sale of a majority of the equity interests in Suzhou TF AMD Semiconductor Co., Ltd. (formerly, AMD Technologies (China) Co., Ltd.) and TF AMD Microelectronics (Penang) Sdn. Bhd. (formerly, Advanced Micro Devices Export Sdn. Bhd.), to affiliates of TFME to form two joint ventures (collectively, ATMP JV). As a result of the sale, TFME's affiliates own 85% of the equity interests in the ATMP JV while certain of our subsidiaries own the remaining 15%. We received approximately $342 million, including purchase price adjustments, in net cash proceeds for selling 85% of the equity interest in the ATMP JV.

In February 2016, as part of our IP monetization strategy, we and THATIC formed a joint venture comprised of two separate legal entities, China JV1 and China JV2 (collectively, the THATIC JV). Our equity share in China JV1 and China JV2 is a majority and minority interest, respectively, funded by our contribution of certain of our patents. The THATIC JV's primary purpose is to support our expansion into the server product market in China. We also licensed certain of our intellectual property (Licensed IP) to the THATIC JV for a total of approximately $293 million in license fees payable over several years contingent upon achievement of certain milestones. We also expect to receive a royalty based on the sales of the THATIC JV's products to be developed on the basis of such Licensed IP. We will also provide certain engineering and technical support to the THATIC JV in connection with the product development.

In addition, we entered into a Sixth Amendment with GF during the third quarter of 2016. The Sixth Amendment modifies certain terms of the wafer supply agreement applicable to wafers for our microprocessor, graphics processor and semi-custom products for a five-year period from January 1, 2016 to December 31, 2020. Also, in connection with and in consideration for the limited waiver and rights under the Sixth Amendment, we entered into a warrant agreement (the Warrant Agreement) with West Coast Hitech L.P. (WCH), a wholly-owned subsidiary of Mubadala Development Company PJSC (Mubadala) pursuant to which WCH received the right to purchase up to 75 million shares of our common stock.

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.

GLOBALFOUNDRIES

Formation and Accounting

On March 2, 2009, we consummated the transactions contemplated by the Master Transaction Agreement among us, Mubadala Technology Investments LLC, or Mubadala Tech, (formerly, Advanced Technology Investment Company LLC) and West Coast Hitech L.P. (WCH), pursuant to which we formed GF. In connection with the consummation of the transactions contemplated by the Master Transaction Agreement, AMD, Mubadala Tech and GF entered into a Wafer Supply Agreement (the WSA), a Funding Agreement (the Funding Agreement) and a Shareholders' Agreement (the Shareholders' Agreement) on March 2, 2009.

On March 4, 2012, as partial consideration for certain rights received under a second amendment to the WSA, we transferred to GF all of the remaining capital stock of GF that we owned. In addition, as of March 4, 2012, the Funding Agreement was terminated, and we were no longer party to the Shareholders' Agreement. As a result of these transactions, we no longer owned any GF capital stock as of March 4, 2012.

GF continues to be a related party of us because Mubadala Development Company PJSC (Mubadala) and Mubadala Tech are affiliated with WCH, our largest stockholder. WCH and Mubadala Tech are wholly-owned subsidiaries of Mubadala.

Wafer Supply Agreement

The WSA governs the terms by which we purchase products manufactured by GF. Pursuant to the WSA, we are required to purchase all of our microprocessor and APU product requirements, and a certain portion of our GPU product requirements from GF with limited exceptions. If we acquire a third-party business that manufactures microprocessor and APU products, we will have up to two years to transition the manufacture of such microprocessor and APU products to GF.

The WSA terminates no later than March 2, 2024. GF has agreed to use commercially reasonable efforts to assist us to transition the supply of products to another provider and to continue to fulfill purchase orders for up to two years following the termination or expiration of the WSA. During the transition period, pricing for microprocessor and APU products will remain as set forth in the WSA, but our purchase commitments to GF will no longer apply.

Sixth Amendment to Wafer Supply Agreement. On August 30, 2016, we entered into a sixth amendment (the Sixth Amendment) to the WSA. The Sixth Amendment modifies certain terms of the WSA applicable to wafers for our microprocessor, graphics processor and semi-custom products for a five-year period from January 1, 2016 to December 31, 2020. AMD and GF agreed to establish a comprehensive framework for technology collaboration for the 7nm technology node.

The Sixth Amendment also provides us a limited waiver with rights to contract with another wafer foundry with respect to certain products in the 14nm and 7nm technology nodes and gives us greater flexibility in sourcing foundry services across our product portfolio. In consideration for these rights, we agreed to pay GF $100 million in installments starting in the fourth fiscal quarter of 2016 through the third fiscal quarter of 2017. During the fourth quarter of fiscal 2016, we paid GF $25 million. Starting in 2017 and continuing through 2020, we also agreed to make quarterly payments to GF based on the volume of certain wafers purchased from another wafer foundry.

Further, for each calendar year during the term of the Sixth Amendment, AMD and GF agreed to annual wafer purchase targets that increase from 2016 through 2020. If we do not meet the annual wafer purchase target for any calendar year, we will be required to pay to GF a portion of the difference between our actual wafer purchases and the wafer purchase target for that year. The annual targets were established based on our current business and market expectations and take into account the limited waiver we have received for certain products.

AMD and GF also agreed on fixed pricing for wafers purchased during 2016 and established a framework to agree on annual wafer pricing for the years 2017 to 2020.

Our total purchases from GF related to wafer manufacturing and research and development activities were approximately $0.7 billion for 2016, $0.9 billion for 2015 and $1.0 billion for 2014.

Warrant Agreement. Also on August 30, 2016, in consideration of the limited waiver and rights under the Sixth Amendment, we entered into a warrant agreement (the Warrant Agreement) with WCH, a wholly-owned subsidiary of Mubadala. Under the Warrant Agreement, WCH and its permitted assigns are entitled to purchase 75 million shares of our common stock (the Warrant Shares) at a purchase price of $5.98 per share. The warrant under the Warrant Agreement is exercisable in whole or in part until February 29, 2020, provided that the maximum number of Warrant Shares that may be exercised prior to the one-year anniversary of the Warrant Agreement shall not exceed 50 million. Notwithstanding the foregoing, the Warrant Agreement will only be exercisable to the extent that Mubadala does not beneficially own, either directly through any other entities directly and indirectly owned by Mubadala or its subsidiaries, an aggregate of more than 19.99% of our outstanding capital stock after any such exercise.

During 2016, we recorded a charge of $340 million, consisting of the $100 million payment under the Sixth Amendment and the $240 million value of the warrant under the Warrant Agreement issued in consideration of the Sixth Amendment.

Equity Interest Purchase Agreement - ATMP Joint Venture

On April 29, 2016, we and certain of our subsidiaries completed the sale of a majority of the equity interests in Suzhou TF-AMD Semiconductor Co., Ltd. (formerly, AMD Technologies (China) Co., Ltd.), and TF AMD Microelectronics (Penang) Sdn. Bhd. (formerly, Advanced Micro Devices Export Sdn. Bhd.), to affiliates of Tongfu Microelectronics Co., Ltd. (formerly, Nantong Fujitsu Microelectronics Co., Ltd.) (TFME), a Chinese joint stock company, to form two joint ventures (collectively, the ATMP JV). As a result of the sale, TFME's affiliates own 85% of the equity interests in the ATMP JV while certain of our subsidiaries own the remaining 15%. We have no obligations to fund the ATMP JV.

As a result of the transaction, we received approximately $342 million, including purchase price adjustments, in net cash proceeds for selling 85% of the equity interest in each of Suzhou TF-AMD Semiconductor Co., Ltd. and TF AMD Microelectronics (Penang) Sdn. Bhd. These proceeds, net of certain transaction costs, were included in investing activities on our consolidated statements of cash flows for the year ended December 31, 2016.

We recognized a net pre-tax gain on the sale of the 85% equity interest in ATMP JV of $146 million for the year ended December 31, 2016, which was recognized in Other income (expense), net on our consolidated statements of operations. The net pre-tax gain reflects the excess of the sum of net cash proceeds and fair value of our retained 15% equity interests in the ATMP JV over the sum of the net book values of our former subsidiaries and other closing costs directly attributed to the divestiture. The above gain includes $11 million in excess of fair value of our retained interest over the corresponding net book values.

In determining the fair value of our retained 15% equity interests in the ATMP JV, we used quoted prices from comparable bids for this transaction. We also considered other factors including the control premium and the amount of consideration received for the portion sold.

We account for our equity interests in the ATMP JV under the equity method of accounting due to our significant influence over the ATMP JV. As of December 31, 2016, the carrying value of our investment in the ATMP JV was approximately $59 million.

Following the deconsolidation, the ATMP JV is our related party. The ATMP JV provides assembly, test, mark and packaging (ATMP) services to us. We currently pay the ATMP JV for ATMP services on a cost-plus basis. Our total purchases from the ATMP JV during the year ended December 31, 2016 amounted to approximately $265 million. Our payable to the ATMP JV, as of December 31, 2016, was $128 million.

During the year ended December 31, 2016, we recorded a $10 million loss in Equity in income (loss) of ATMP JV on our consolidated statements of operations, which included certain expenses incurred by us on behalf of the ATMP JV.

Equity Joint Venture - Intellectual Property Licensing Agreement

In February 2016, we and THATIC, a third-party Chinese entity (JV Partner), formed a joint venture comprised of two separate legal entities, China JV1 and China JV2 (collectively, the THATIC JV). Our equity share in China JV1 and China JV2 is a majority and minority interest, respectively, funded by our contribution of certain of our patents. The JV Partner is responsible for the initial and on-going financing of the THATIC JV's operations. We have no obligations to fund the THATIC JV. The THATIC JV's primary purpose is to support our expansion into the server and workstation product market in China. We licensed certain of our intellectual property (Licensed IP) to the THATIC JV for a total of approximately $293 million in license fees payable over several years contingent upon achievement of certain milestones. We also expect to receive a royalty based on the sales of the THATIC JV's products to be developed on the basis of such Licensed IP. We will also provide certain engineering and technical support to the THATIC JV in connection with the product development.

We concluded the China JV1 and China JV2 are not operating joint ventures and are variable interest entities due to their reliance on on-going financing by JV Partner. We determined that we are not the primary beneficiary of either China JV1 or China JV2, as we do not have unilateral power to direct selling and marketing activities, manufacturing and product development activities related to the THATIC JV's products. Accordingly we will not consolidate either of these entities and therefore account for our investments in the THATIC JV under the equity method of accounting. THATIC JV is our related party.

Income related to the Licensed IP will be recognized over the period commencing upon delivery of the first Licensed IP milestone through the date of the milestone that requires our continuing involvement in the product development process. Royalty payments will be recognized in income once earned. We will classify

Licensed IP income and royalty income as other operating income. During the year ended December 31, 2016, we recognized $88 million of licensing gain associated with the THATIC JV as part of operating income.

Our total exposure to losses through our investment in the THATIC JV is limited to our investments in the THATIC JV, which was zero as of December 31, 2016. Our share in the net losses of the THATIC JV for the year ended December 31, 2016 was not material and is not recorded in our consolidated statement of operations since we are not obligated to fund the THATIC JV's losses in excess of our investment in the THATIC JV.

As of December 31, 2016, the total assets and liabilities of the THATIC JV were not material.

Critical Accounting Estimates

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

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

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

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

Goodwill. Goodwill represents the excess of the purchase price over the fair value of net tangible and identifiable intangible assets acquired. Goodwill is not amortized, but rather is tested for impairment at least annually, or more frequently if there are indicators of impairment present.

We perform an annual goodwill impairment analysis as of the first day of the fourth quarter of each year. In assessing impairment on goodwill, we first analyze qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount as a basis for determining whether it is necessary to perform the two-step goodwill impairment test. The qualitative factors we assess include long-term prospects of our performance, share price trends, market capitalization and Company-specific events. If we conclude it is more likely than not that the fair value of a reporting unit exceeds its carrying amount, we do not need to perform the two-step impairment test. If based on that assessment, we believe it is more likely than not that the fair value of the reporting unit is less than its carrying value, a two-step goodwill impairment test will be performed.

The first step measures for impairment by applying fair value-based tests at the reporting unit level. We evaluate whether goodwill has been impaired at the reporting unit level by first determining whether the estimated fair value of the reporting unit is less than its carrying value and, if so, by determining whether the implied fair value of goodwill within the reporting unit is less than the carrying value. The implied fair value of a reporting unit is determined through the application of one or more valuation models common to our industry, including the income, market and cost approaches. While market valuation data for comparable companies is gathered and analyzed, we believe that there has not been sufficient comparability between the peer groups and the specific reporting units to allow for the derivation of reliable indications of value using a market approach. Therefore, we have ultimately employed the income approach which requires estimates of present value of estimated future cash flows. Cash flow projections are based on management's estimates of revenue growth rates and operating margins, taking into consideration industry and market condition. The discount rate used is based on the weighted-average cost of capital adjusted for the relevant risk associated with business-specific characteristics and the uncertainty related to the reporting unit's ability to execute on the projected cash flows. A variance in the discount rate could have a significant impact on the amount of the goodwill impairment charge recorded, if any. The second step (if necessary) measures the amount of impairment by applying fair value-based tests to the individual assets and liabilities within each reporting unit.

Based on the results of our annual qualitative analysis of goodwill in 2016, we determined that it was more likely than not that the fair value of our reporting unit exceeded its carrying amount and, as such, we did not need to perform the two-step impairment test and there was no goodwill impairment.

Based on the results of our annual analysis of goodwill in 2015, each reporting unit's fair value exceeded its carrying value, indicating that there was no goodwill impairment.

Based on the results of our annual goodwill impairment analysis in 2014, we determined that the carrying value of the Computing and Graphics reporting unit exceeded its estimated fair value and accordingly an impairment charge of $233 million was recorded, which represented the entire goodwill balance within this reporting unit. The remaining two reporting units' estimated fair values exceeded their carrying value, ranging from approximately 156% to approximately 209%. In estimating the fair value of our reporting units, we took into consideration the challenging industry and market trends that existed as of September 28, 2014, the date of the annual goodwill impairment test for each respective reporting unit.

Estimates of fair value for all of our reporting units can be affected by a variety of external and internal factors. Potential events or circumstances that could reasonably be expected to negatively affect the key assumptions we used in estimating the fair value of our reporting units include adverse changes in our industry, increased competition, an inability to successfully introduce new products in the marketplace or to achieve internal forecasts, and a decline in our stock price. If the estimated fair value of our reporting units declines due to any of these factors, we may be required to record future goodwill impairment.

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

We must assess the likelihood that we will be able to recover our deferred tax assets. If recovery is not likely, we must increase our charge to income tax expense, in the form of a valuation allowance, for the deferred tax assets that we estimate will not ultimately be recoverable. We consider past performance, future expected taxable income and prudent and feasible tax planning strategies in determining the need for a valuation allowance.

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

Results of Operations

Management, including the Chief Operating Decision Maker, who is our Chief Executive Officer, reviews and assesses our operating performance using segment net revenue and operating income (loss) before interest, other income (expense), net, income taxes and equity in income (loss) of ATMP JV. These performance measures include the allocation of expenses to the operating segments based on management's judgment. We have the following two reportable segments:

- the Computing and Graphics segment, which primarily includes desktop and notebook processors and chipsets, discrete GPUs and professional graphics; and
- the Enterprise, Embedded and Semi-Custom segment, which primarily includes server and embedded processors, semi-custom SoC products, development services, technology for game consoles and licensing portions of our intellectual property portfolio.

In addition to these reportable segments, we have 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. Included in this category are employee stock-based compensation expense, the charge related to the Sixth Amendment to the WSA with GF, restructuring and other special charges, net, amortization of acquired intangible assets, workforce rebalancing severance charges, goodwill impairment charge and significant or unusual lower of cost or market inventory adjustments. We also reported the results of former businesses in the All Other category because the operating results were not material.

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

We use a 52 or 53 week fiscal year ending on the last Saturday in December. The years ended December 31, 2016, December 26, 2015 and December 27, 2014 included 53 weeks, 52 weeks and 52 weeks, respectively. The extra week in 2016 did not have a material impact on our results of operations. References in this report to 2016, 2015 and 2014 refer to the fiscal year unless explicitly stated otherwise.

The following table provides a summary of net revenue and operating income (loss) by segment and income (loss) before income taxes and equity in income (loss) of ATMP JV for 2016, 2015 and 2014.

	2016	2015	2014
		(In millions)	
Net revenue:			
Computing and Graphics	$ 1,967	$ 1,805	$ 3,132
Enterprise, Embedded and Semi-Custom	2,305	2,186	2,374
Total net revenue	$ 4,272	$ 3,991	$ 5,506
Operating income (loss):			
Computing and Graphics	$ (238)	$ (502)	$ (76)
Enterprise, Embedded and Semi-Custom	283	215	399
All Other	(417)	(194)	(478)
Total operating loss	$ (372)	$ (481)	$ (155)
Interest expense	(156)	(160)	(177)
Other income (expense), net	80	(5)	(66)
Loss before income taxes and equity income (loss) of ATMP JV	$ (448)	$ (646)	$ (398)

Computing and Graphics

Computing and Graphics net revenue of $2.0 billion in 2016 increased by 9% compared to $1.8 billion in 2015 as a result of a 9% increase in unit shipments, partially offset by a 2% decrease in average selling price. The increase in unit shipments was primarily attributable to higher unit shipments of our GPU products, partially offset by lower unit shipments of our microprocessor products. The increase of unit shipments of our GPU products was primarily driven by demand for our Polaris architecture-based GPU products. The decrease in unit shipments of our microprocessor products was primarily due to lower unit shipments of our desktop microprocessor products due to lower demand, partially offset by higher shipments of notebook microprocessor products driven by higher demand for our 7th Generation A-Series notebook processors. The decrease in average selling price was primarily attributable to a decrease in average selling price of our desktop microprocessor and notebook GPU products due to a shift in our product mix, partially offset by an increase in average selling price of our channel GPU products primarily due to strong demand for our Polaris architecture-based GPU products.

Computing and Graphics net revenue of $1.8 billion in 2015 decreased by 42% compared to $3.1 billion in 2014 as a result of a 44% decrease in unit shipments, partially offset by a 3% increase in average selling price. Unit shipments of all our Computing and Graphics products decreased. The decrease in unit shipments of all categories of products was due to lower demand caused by challenging global macro-economic conditions, especially in the Greater China region, in addition to increased competitive pressures and reduced demand from our OEM customers in advance of the Microsoft Windows® 10 operating system. The increase in average selling price was primarily attributable to an increase in average selling price of our notebook GPU products and channel GPU products due to a shift in our product mix, partially offset by a decrease in average selling price of our notebook microprocessor products and chipset products.

Computing and Graphics operating loss was $238 million in 2016 compared to an operating loss of $502 million in 2015. The improvement in operating results was primarily due to the increase in net revenue referenced above and a decrease in operating expenses, partially offset by an increase in cost of sales primarily due to higher sales in 2016 compared to 2015. In 2015, cost of sales included an inventory write-down of $52 million as a result of lower than anticipated demand for primarily older-generation APU products. Operating expenses decreased for the reasons set forth under “Expenses” below.

Computing and Graphics operating loss was $502 million in 2015 compared to an operating loss of $76 million in 2014. The decline in operating results was primarily due to the decrease in net revenue referenced above, partially offset by a $696 million decrease in cost of sales and a decrease in operating expenses. Cost of sales decreased primarily due to lower unit shipments in 2015 compared to 2014, partially offset by an inventory write-down of $52 million as a result of lower anticipated demand for primarily older-generation APU products. Operating loss in 2014 included a $19 million benefit from technology licensing revenue. Operating expenses decreased for the reasons set forth under “Expenses” below.

Enterprise, Embedded and Semi-Custom

Enterprise, Embedded and Semi-Custom net revenue of $2.3 billion in 2016 increased by 5% compared to net revenue of $2.2 billion in 2015. The increase in net revenue was primarily due to an increase in unit shipments of our semi-custom SoC products and non-recurring engineering (NRE) revenue. The increase in unit shipments was primarily driven by increased demand.

Enterprise, Embedded and Semi-Custom net revenue of $2.2 billion in 2015 decreased by 8% compared to net revenue of $2.4 billion in 2014. The decrease was primarily due to a decrease in net revenue received in connection with lower unit shipments of our server and embedded products due primarily to increased competitive pressures, as well as a decrease in net revenue from certain royalty arrangements and a decrease in NRE revenue. The decrease in net revenue was partially offset by an increase in net revenue received in connection with higher unit shipments of our semi-custom SoC products.

Enterprise, Embedded and Semi-Custom operating income was $283 million in 2016 compared to $215 million in 2015. The improvement in operating results was primarily due to the increase in net revenue referenced above, an $88 million licensing gain recorded in 2016 related to the Licensed IP to the THATIC JV, and a decrease in cost of sales, in part due to the absence of a technology node transition charge of $33 million recorded in 2015, partially offset by an increase in operating expenses. Operating expenses increased for the reasons set forth under “Expenses” below.

Enterprise, Embedded and Semi-Custom operating income was $215 million in 2015 compared to $399 million in 2014. The decline in operating results was primarily due to the decrease in net revenue referenced above, partially offset by a decrease in operating expenses and a decrease in cost of sales. The decrease in cost of sales was primarily due to a decrease in unit shipments of our server and embedded products in 2015 compared to 2014, largely offset by a technology node transition charge of $33 million and an inventory write-down of $13 million. Operating expenses decreased for the reasons set forth under “Expenses” below.

All Other

All Other operating loss of $417 million in 2016 included a charge of $340 million, which was comprised of the $100 million payment under the Sixth Amendment and the $240 million value of the warrant under the Warrant Agreement, and stock-based compensation expense of $86 million, partially offset by restructuring reversals of $10 million.

All Other operating loss of $194 million in 2015 included restructuring and other special charges, net of $129 million and stock-based compensation expense of $63 million. Restructuring and other special charges, net of $129 million included $76 million related to our decision to exit from the dense server systems business, $37 million related to our 2015 Restructuring Plan and $16 million related to our 2014 Restructuring Plan.

All Other operating loss of $478 million in 2014 included a goodwill impairment charge of $233 million, stock-based compensation expense of $81 million, restructuring and other special charges, net of $71 million, lower of cost or market inventory adjustment of $58 million, workforce rebalancing severance charges of $14 million, amortization of acquired intangible assets of $14 million and other expenses of $7 million.

Comparison of Gross Margin, Expenses, Interest Expense, Other Income (Expense), Net Income Taxes and Equity in Income (Loss) of ATMP JV

The following is a summary of certain consolidated statement of operations data for 2016, 2015 and 2014.

	2016	2015	2014
	(In millions, except for percentages)		
Cost of sales	$ 3,274	$ 2,911	$ 3,667
Gross margin	998	1,080	1,839
Gross margin percentage	23%	27%	33%
Research and development	1,008	947	1,072
Marketing, general and administrative	460	482	604
Amortization of acquired intangible assets	—	3	14
Restructuring and other special charges, net	(10)	129	71
Licensing gain	(88)	—	—
Goodwill impairment charge	—	—	233
Interest expense	(156)	(160)	(177)
Other income (expense), net	80	(5)	(66)
Provision for income taxes	39	14	5
Equity in income (loss) of ATMP JV	$ (10)	$ —	$ —

Gross Margin

Gross margin as a percentage of net revenue was 23% in 2016 compared to 27% in 2015. Gross margin in 2016 was adversely impacted by a charge of $340 million, which is comprised of a $100 million payment under the Sixth Amendment and the value of the warrant of $240 million under the Warrant Agreement. The impact of the charge accounted for eight gross margin percentage points. Gross margin in 2015 was adversely impacted by an inventory write-down of $65 million, which was primarily the result of lower anticipated demand for older-generation APUs and a technology node transition charge of $33 million. The impact of the inventory write-down and the technology node transition charge accounted for approximately two gross margin percentage points. In the absence of these charges, the gross margin would have increased by two percentage points, primarily driven by improved product mix.

Gross margin as a percentage of net revenue was 27% in 2015 compared to 33% in 2014. Gross margin in 2015 was adversely impacted by an inventory write-down of $65 million, which was primarily the result of lower anticipated demand for older-generation APUs and a technology node transition charge of $33 million. The impact of the write-down and the technology node transition charge accounted for approximately two gross margin percentage points. Gross margin in 2015 was also adversely impacted by a lower proportion of revenue from the Computing and Graphics segment due to lower sales which has a higher average gross margin than our Enterprise, Embedded and Semi-Custom segment and also by lower game console royalties. Gross margin in 2014 included a $58 million lower of cost or market inventory adjustment, which accounted for one gross margin percentage point, and a $27 million benefit from technology licensing revenue, which accounted for less than one gross margin percentage point.

Expenses

Research and Development Expenses

Research and development expenses of $1.0 billion in 2016 increased by $61 million, or 6%, compared to $0.9 billion in 2015. The increase was primarily due to a $138 million increase in research and development expenses attributable to our Enterprise, Embedded and Semi-Custom segment and a $13 million increase attributable to our All Other category, partially offset by a $90 million decrease in research and development expenses attributable to our Computing and Graphics segment. Research and development expenses attributable to our Enterprise, Embedded and Semi-Custom segment increased primarily due to a $128 million increase in product engineering and design costs. Research and development expenses attributable to our All Other category increased primarily due to a $13 million increase in stock-based compensation expense. Research and development expenses attributable to our Computing and Graphics segment decreased primarily due to a $108 million decrease in product engineering and design costs.

Research and development expenses of $947 million in 2015 decreased by $125 million, or 12%, compared to $1.1 billion in 2014. The decrease was primarily due to a $120 million decrease in research and development expenses attributable to our Computing and Graphics segment and a $21 million decrease in the All Other category primarily related to a $9 million workforce rebalancing severance charge recorded in 2014 and an $8 million decrease in stock-based compensation expenses. The decrease was partially offset by a $16 million increase in research and development expenses attributable to our Enterprise, Embedded and Semi-Custom segment. Research and development expenses attributable to our Computing and Graphics segment decreased primarily due to a $116 million decrease in product engineering and design costs and a $4 million decrease in other employee compensation and benefit expenses. Research and development expenses attributable to our Enterprise, Embedded and Semi-Custom segment increased primarily due to a $17 million increase in product engineering and design costs.

Marketing, General and Administrative Expenses

Marketing, general and administrative expenses of $460 million in 2016 decreased by $22 million, or 5%, compared to $482 million in 2015. The decrease was primarily due to a $40 million decrease in marketing, general and administrative expenses attributable to our Computing and Graphics segment primarily due to an $18 million decrease in sales and marketing activities and a $22 million decrease in other general and administrative expenses, partially offset by a $6 million increase in other general and administrative expenses attributable to our Enterprise, Embedded and Semi-Custom segment and a $12 million increase attributable to our All Other category primarily due to an $11 million increase in stock-based compensation expense.

Marketing, general and administrative expenses of $482 million in 2015 decreased by $122 million, or 20%, compared to $604 million in 2014. The decrease was primarily due to an $84 million decrease in marketing, general and administrative expenses attributable to our Computing and Graphics segment, a $19 million decrease in marketing, general and administrative expenses attributable to our Enterprise, Embedded and Semi-Custom segment and a $19 million decrease in the All Other category primarily related to a $5 million workforce rebalancing severance charge recorded in 2014 and a $10 million decrease in stock-based compensation expenses. Marketing, general and administrative expenses attributable to our Computing and Graphics segment decreased primarily due to a $62 million decrease in sales and marketing expenses and a $22 million decrease in other general and administrative expenses. Marketing, general and administrative expenses attributable to our Enterprise, Embedded and Semi-Custom segment decreased primarily due to a $5 million decrease in sales and marketing expenses and a $14 million decrease in other general and administrative expenses.

Legal Settlements

As of December 26, 2015, the Italian tax authorities had concluded their audit of our subsidiaries' activities in Italy for the years 2003 through 2013. We entered into a settlement for $11 million in taxes and penalties, which was reflected in full in the 2015 tax provision and $2 million in interest.

Amortization of Acquired Intangible Assets

Amortization of acquired intangible assets was $0 million in 2016, $3 million in 2015 and $14 million in 2014. The decrease from 2014 to 2015 was due to the impairment of intangible assets as a result of our exit from the dense server systems business in the first quarter of 2015. The related intangible assets were fully amortized as of December 26, 2015.

Restructuring and Other Special Charges, Net

Effects of Restructuring Plans

2015 Restructuring Plan

In the third quarter of 2015, we implemented a restructuring plan (2015 Restructuring Plan) focused on our ongoing efforts to simplify our business and better align resources around our priorities and business outlook. The 2015 Restructuring Plan involved a reduction of global headcount by approximately 5% and included organizational actions such as outsourcing certain IT services and application development. During 2015, we recorded a $37 million restructuring charge, which consisted of $27 million for severance and benefit costs, $1 million for facilities-related costs and $9 million for intangible asset-related charges. The actions associated with the 2015 Restructuring Plan will be completed by the end of the first quarter of 2017.

The following table provides a summary of the restructuring activities during 2016 and the related liabilities recorded in Other current liabilities and Other long-term liabilities on our consolidated balance sheets as of December 31, 2016:

	Severance and related benefits	Other exit related costs	Total
		(In millions)	
Balance as of December 26, 2015	$ 14	$ —	$ 14
Charges (reversals), net	(1)	—	(1)
Cash payments	(10)	—	(10)
Balance as of December 31, 2016	$ 3	$ —	$ 3

2014 Restructuring Plan

In the fourth quarter of 2014, we implemented a restructuring plan (2014 Restructuring Plan) designed to improve operating efficiencies. The 2014 Restructuring Plan involved a reduction of global headcount by approximately 6% and an alignment of our real estate footprint with our reduced headcount. We recorded a $57 million restructuring charge in the fourth quarter of 2014, which consisted of $44 million for severance and costs related to the continuation of certain employee benefits, $6 million for contract or program termination costs, $1 million for facilities-related costs and $6 million for asset impairments, a non-cash charge. During 2015, we recorded a $16 million restructuring charge, which consisted of $5 million non-cash charge related to asset impairments, $2 million for severance and related benefits and $9 million for facilities-related costs. The 2014 Restructuring Plan was completed during the third quarter of 2015.

The following table provides a summary of the restructuring activities during 2016 and the related liabilities recorded in "Other current liabilities" and "Other long-term liabilities" on our consolidated balance sheets as of December 31, 2016:

	Severance and related benefits	Other exit related costs	Total
		(In millions)	
Balance as of December 26, 2015	$ 5	$ 15	$ 20
Charges (reversals), net	(2)	(7)	(9)
Cash payments	(1)	(6)	(7)
Balance as of December 31, 2016	$ 2	$ 2	$ 4

Dense Server Systems Business Exit

As a part of our strategy to simplify and sharpen our investment focus, we exited the dense server systems business, formerly SeaMicro, in the first quarter of 2015. As a result, we recorded a charge of $76 million in "Restructuring and other special charges, net" on our consolidated statements of operations during 2015. This charge consisted of an impairment charge of $62 million related to the acquired intangible assets. We concluded that the carrying value of the acquired intangible assets associated with our dense server systems business was fully impaired as we did not have plans to utilize the related freedom fabric technology in any of our future products nor did we have any plans at that time to monetize the associated intellectual property. In addition, the exit charge consisted of a $7 million non-cash charge related to asset impairments, $4 million of severance and related benefits and $3 million for contract or program termination costs. We substantially completed this exit activity during the second quarter of 2016.

Executive Officer Separation

In the fourth quarter of 2014, we recorded other special charges of $13 million. The amount primarily included $10 million due to the departure of our former CEO, of which $5 million was related to cash and $5 million was related to stock-based compensation expense. The amount is recorded under "Restructuring and other special charges, net" on the consolidated statements of operations.

Interest Expense

Interest expense of $156 million in 2016 decreased by $4 million compared to $160 million in 2015, primarily due to the repurchases of debt bearing higher interest rates and issuance of new debt at a lower interest rate in late 2016.

Interest expense of $160 million in 2015 decreased by $17 million compared to $177 million in 2014, primarily due to timing of issuances of new debt and repurchases of other debt in 2014.

Other Income (Expense), Net

In 2016, we recognized $80 million of other income, net, primarily due to the net gain on sale of equity interests in the ATMP JV of $146 million, partially offset by the $68 million total loss on debt repurchases.

In 2015, we recognized $5 million of other expense, net, primarily due to a loss from foreign currency exchange rate fluctuations.

In 2014, we recognized $66 million of other expense, net, primarily due to a $61 million loss from debt repurchases and a $7 million loss from foreign currency exchange rate fluctuations, partially offset by $3 million of interest income.

Income Taxes

We recorded an income tax provision of $39 million, $14 million and $5 million in 2016, 2015 and 2014, respectively.

The income tax provision in 2016 was primarily due to $41 million of foreign taxes in profitable locations including $27 million attributable to gain on the sale of 85% of the ownership interest in the subsidiary operating a factory in Suzhou and $9 million of withholding taxes on cross-border transactions where no foreign tax credit is expected to be available, offset by $2 million of tax benefits for Canadian tax credits and the monetization of certain U.S. tax credits.

The income tax provision in 2015 was primarily due to $16 million of foreign taxes in profitable locations, offset by $2 million of tax benefits for Canadian tax credits and the monetization of certain U.S. tax credits.

The income tax provision in 2014 was primarily due to $7 million of foreign taxes in profitable locations, offset by $2 million of tax benefits for Canadian tax credits and the monetization of certain U.S. tax credits.

As of December 31, 2016, substantially all of our U.S. and foreign deferred tax assets, net of deferred tax liabilities, continued to be subject to a valuation allowance. The realization of these assets is dependent on substantial future taxable income which, at December 31, 2016, in management's estimate, is not more likely than not to be achieved.

As of December 26, 2015, the Italian tax authorities had concluded their audit of our subsidiaries' activities in Italy for the years 2003 through 2013. We entered into a settlement for $11 million in taxes and penalties, which was reflected in full in the 2015 tax provision, and $2 million in interest.

Stock-Based Compensation Expense

We allocated stock-based compensation expense related to employee stock options and restricted stock units for the years ended December 31, 2016, December 26, 2015 and December 27, 2014 in our consolidated statements of operations as follows:

	2016	2015	2014
		(In millions)	
Cost of sales	$ 2	$ 3	$ 3
Research and development	49	36	44
Marketing, general and administrative	35	24	34
Total stock-based compensation expense, net of tax of $0	$ 86	$ 63	$ 81

During 2016, 2015 and 2014, we did not realize any excess tax benefits related to stock-based compensation and therefore we did not record any effects relating to financing cash flows.

Stock-based compensation expense of $86 million in 2016 increased by $23 million as compared to $63 million in 2015. The increase was primarily due to a higher weighted average grant date fair value and higher number of shares related to restricted stock units granted in 2016, compared to the restricted stock units granted in 2013, which became fully amortized in 2016. The increase was also driven by performance-based restricted stock units with market conditions granted in 2015 and 2016.

Stock-based compensation expense of $63 million in 2015 decreased by $18 million as compared to $81 million in 2014. The decrease was primarily due to a lower weighted average grant date fair value and the effect of the 2015 and 2014 Restructuring Plans.

International Sales

International sales as a percentage of net revenue were 78% in 2016, 75% in 2015 and 81% in 2014. The increase in international sales as a percentage of net revenue in 2016 compared to 2015 was primarily driven by a higher proportion of revenue from international sales of our semi-custom SoC products.

The decrease in international sales as a percentage of net revenue in 2015 compared to 2014 was primarily driven by a decrease in sales in China. 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.

FINANCIAL CONDITION

Liquidity

As of December 31, 2016, our cash and cash equivalents consisted of cash, government money market funds and commercial paper. Our cash and cash equivalents as of December 31, 2016 were $1.3 billion compared to $785 million as of December 26, 2015. The increase during the year was due to net cash provided by our operating, investing and financing activities discussed below. The percentage of cash and cash equivalents held domestically was 98% as of December 31, 2016, and 88% as of December 26, 2015.

Our cash flows for fiscal 2016, 2015 and 2014 were as follows:

	2016	2015	2014
		(In millions)	
Net cash provided by (used in):			
Operating activities	$ 90	$ (226)	$ (98)
Investing activities	267	147	(12)
Financing activities	122	59	46
Net increase (decrease) in cash and cash equivalents	$ 479	$ (20)	$ (64)

Our debt obligations of $1.4 billion net of unamortized debt discount of $308 million associated with the 2.125% Notes as of December 31, 2016 decreased compared to $2.2 billion as of December 26, 2015.

We believe our cash and cash equivalents balance along with our Secured Revolving Line of Credit will be sufficient to fund operations, including capital expenditures, over the next 12 months. We believe that in the event we decide to obtain external funding, we may be able to access the capital markets on terms and in amounts adequate to meet our objectives.

Should we require additional funding, such as to meet payment obligations of our long-term debt when due, we may need to raise the required funds through borrowings or public or private sales of debt or equity securities, which may be issued from time to time under an effective registration statement, through the issuance of securities in a transaction exempt from registration under the Securities Act of 1933, as amended, or a combination of one or more of the foregoing. Uncertain global economic conditions have in the past adversely impacted, and may in the future adversely impact, our business. If market conditions deteriorate, we may be limited in our ability to access the capital markets to meet liquidity needs on favorable terms or at all, which could adversely affect our liquidity and financial condition, including our ability to refinance maturing liabilities.

Operating Activities

Net cash provided by operating activities was $90 million in 2016 compared to net cash used in operating activities of $226 million in 2015. The improvement in cash flows from operating activities was primarily due to lower operating expenses, including lower labor costs and lower restructuring-related payments, receipt of $97 million associated with the licensing agreement with THATIC JV and higher sales and timing of related collections, partially offset by timing of accounts payable payments.

Net cash used in operating activities was $226 million in 2015 compared to $98 million in 2014. The increase in cash used in operating activities was primarily due to lower cash collections during 2015 compared 2014 driven by lower sales compared to 2014, partially offset by lower other operating expenses and labor cost as a result of restructuring actions and the absence of the final $200 million cash payment made in the first quarter of 2014 related to GF's waiver of a portion of our obligations for wafer purchase commitments.

Investing Activities

Net cash provided by investing activities was $267 million in 2016, which consisted of a net cash inflow of $342 million from sale of equity interests in the ATMP JV, partially offset by a cash outflow of $77 million for purchases of property, plant and equipment.

Net cash provided by investing activities was $147 million in 2015, which consisted of a net cash inflow of $235 million from purchases, sales and maturities of available for sale securities, partially offset by a net cash outflow of $88 million for purchases and sales of property, plant and equipment.

Net cash used in investing activities was $12 million in 2014, which consisted of a cash outflow of $95 million for purchases of property, plant and equipment, offset by a net cash inflow of $83 million from purchases, sales and maturities of available for sale securities.

Financing Activities

Net cash provided by financing activities was $122 million in 2016, primarily due to the $782 million net proceeds from the issuance of our 2.125% Notes, the $667 million net proceeds from selling 115 million shares of our common stock and the $20 million proceeds from issuance of common stock under stock-based compensation equity plans, partially offset by the repurchases of an aggregate principal amount of $1.1 billion of our outstanding 6.75% Notes, 7.75% Notes, 7.50% Notes and 7.00% Notes for $1.1 billion in cash and repayments in aggregate of $230 million of our Secured Revolving Line of Credit.

Net cash provided by financing activities was $59 million in 2015, primarily due to net proceeds from borrowings pursuant to our Secured Revolving Line of Credit of $100 million, of which $42 million was used to repay the remaining aggregate principal amount of our 6.00% Convertible Senior Notes due 2015 (6.00% Notes) during the second quarter of 2015. In addition, during 2015, we received $5 million from the exercise of employee stock options.

Net cash provided by financing activities was $46 million in 2014, primarily due to net proceeds from borrowings pursuant to our 6.75% Notes of $589 million, our 7.00% Notes of $491 million and our Secured Revolving Line of Credit of $75 million, partially offset by $518 million in payments to repurchase a portion of our 6.00% Notes, $522 million in payments to repurchase our 8.125% Senior Notes due 2017 (8.125% Notes), $48 million in payments to repurchase a portion of our 7.75% Notes, $24 million in payments to repurchase a portion of our 7.50% Notes and $3 million in payments for capital lease obligations. During 2014, we also received $4 million from the exercise of employee stock options.

During 2016, 2015 and 2014, we did not realize any excess tax benefit related to stock-based compensation. Therefore, we did not record any effects relating to financing cash flows for these periods.

Contractual Obligations

The following table summarizes our consolidated principal contractual cash obligations, as of December 31, 2016, and is supplemented by the discussion following the table:

		Payment due by period					
(In millions)	**Total**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022 and thereafter**
6.75% Notes	$ 196	$ —	$ —	$ 196	$ —	$ —	$ —
7.50% Notes	350	—	—	—	—	—	350
7.00% Notes	416	—	—	—	—	—	416
2.125% Notes	805	—	—	—	—	—	805
Other long-term liabilities	93	—	49	36	6	—	2
Aggregate interest obligation (1)	601	88	88	81	73	72	199
Operating leases	388	49	51	46	43	64	135
Purchase obligations (2)	447	391	37	15	3	1	—
Obligations to GF (3)	3,256	964	748	764	780	—	—
Total contractual obligations (4)	$ 6,552	$ 1,492	$ 973	$ 1,138	$ 905	$ 137	$ 1,907

(1) Represents estimated aggregate interest obligations for our outstanding debt obligations that are payable in cash, excluding non-cash amortization of debt issuance costs.

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