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

The following discussion should be read in conjunction with the other sections of this Annual Report on Form 10-K, including the consolidated financial statements and related notes contained in Item 8, and the discussion of risks and cautionary factors that may affect future results in Item 1A. *Risk Factors*.

Description of Our Company

We are leading a transformation in the tobacco industry to create a smoke-free future and ultimately replace cigarettes with smoke-free products to the benefit of adults who would otherwise continue to smoke, society, the company and its shareholders. We are a leading international tobacco company engaged in the manufacture and sale of cigarettes, smoke-free products and associated electronic devices and accessories, and other nicotine-containing products in markets outside the United States of America. We are building a future on a new category of smoke-free products that, while not risk-free, are a much better choice than continuing to smoke. Through multidisciplinary capabilities in product development, state-of-the-art facilities and scientific substantiation, we aim to ensure that our smoke-free products meet adult consumer preferences and rigorous regulatory requirements. Our *IQOS* smoke-free product brand portfolio includes heated tobacco and nicotine-containing vapor products.

To provide a greater focus on both parts of our business — combustible and reduced-risk products — and to support our transformation toward a smoke-free future, effective January 1, 2018, we began managing our business in six reportable segments as follows:

- European Union ("EU");
- Eastern Europe ("EE");
- Middle East & Africa ("ME&A"), which includes our international duty free business;
- South & Southeast Asia ("S&SA");
- East Asia & Australia ("EA&A"); and
- Latin America & Canada ("LA&C").

Our cigarettes are sold in more than 180 markets, and in many of these markets they hold the number one or number two market share position. We have a wide range of premium, mid-price and low-price brands. Our portfolio comprises both international and local brands. In addition to the manufacture and sale of cigarettes, we are engaged in the development and commercialization of reduced-risk products ("RRPs"). RRPs is the term we use to refer to products that present, are likely to present, or have the potential to present less risk of harm to smokers who switch to these products versus continued smoking.

We use the term net revenues to refer to our operating revenues from the sale of our products, including shipping and handling charges billed to customers, net of sales and promotion incentives, and excise taxes. As discussed in Item 8, Note 21. *New Accounting Standards*, on January 1, 2018, we adopted Financial Accounting Standards Update ASU 2014-09, "Revenue from Contracts with Customers." We adopted this standard retrospectively to each prior period presented. We made an accounting policy election to exclude excise taxes collected from customers from the measurement of the transaction price, thereby presenting revenues net of excise taxes in all prior periods. Our net revenues and operating income are affected by various factors, including the volume of products we sell, the price of our products, changes in currency exchange rates and the mix of products we sell. Mix is a term used to refer to the proportionate value of premium-price brands to mid-price or low-price brands in any given market (product mix). Mix can also refer to the proportion of shipment volume in more profitable markets versus shipment volume in less profitable markets (geographic mix).

Our cost of sales consists principally of: tobacco leaf, non-tobacco raw materials, labor and manufacturing costs; shipping and handling costs; and the cost of the *IQOS* devices produced by third-party electronics manufacturing service providers. Estimated costs associated with *IQOS* warranty programs are generally provided for in cost of sales in the period the related revenues are recognized.

Our marketing, administration and research costs include the costs of marketing and selling our products, other costs generally not related to the manufacture of our products (including general corporate expenses), and costs incurred to develop new products. The most significant components of our marketing, administration and research costs are marketing and sales expenses and general and administrative expenses.

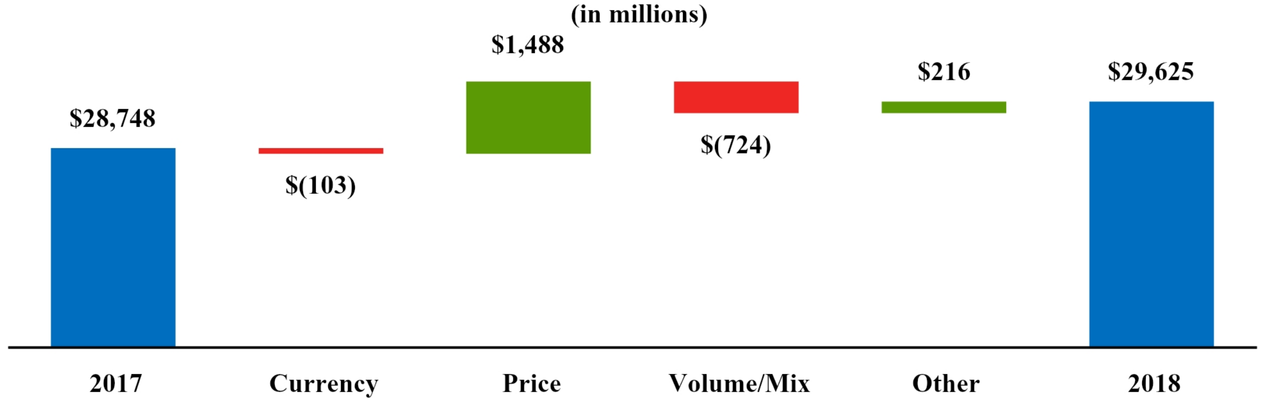
Philip Morris International Inc. is a legal entity separate and distinct from its direct and indirect subsidiaries. Accordingly, our right, and thus the right of our creditors and stockholders, to participate in any distribution of the assets or earnings of any subsidiary is subject to the prior rights of creditors of such subsidiary, except to the extent that claims of our company itself as a creditor may be recognized. As a holding company, our principal sources of funds, including funds to make payment on our debt securities, are from the receipt of dividends and repayment of debt from our subsidiaries. Our principal wholly owned and majority-owned subsidiaries currently are not limited by long-term debt or other agreements in their ability to pay cash dividends or to make other distributions with respect to their common stock that are otherwise compliant with law.

Executive Summary

The following executive summary provides significant highlights from the Discussion and Analysis that follows.

Consolidated Operating Results

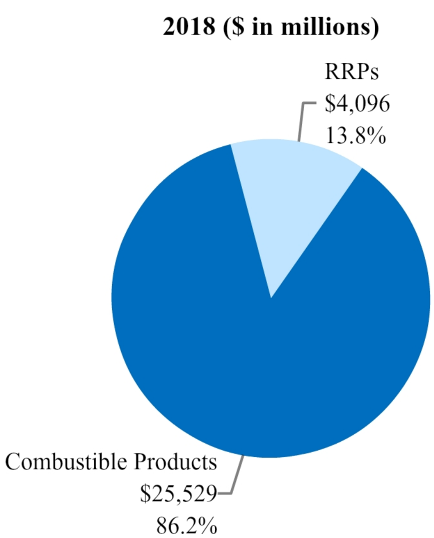
- **Net Revenues –** Net revenues of $29.6 billion for the year ended December 31, 2018, increased by $0.9 billion, or 3.1%, from the comparable 2017 amount. The change in our net revenues from the comparable 2017 amount was driven by the following:

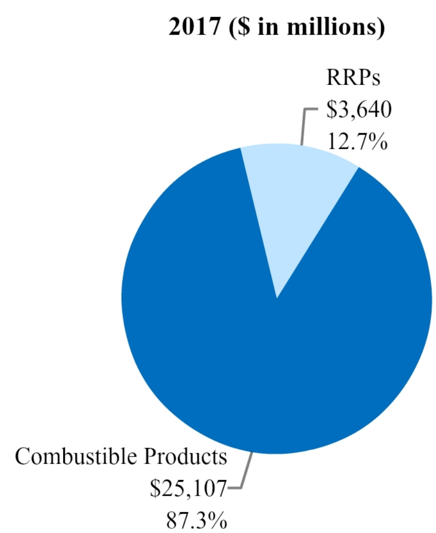


Net revenues, excluding unfavorable currency, increased by 3.4%, reflecting: a favorable pricing variance, notably in Argentina, Australia, Canada, Egypt, Germany, Indonesia, Italy, Japan, Mexico, the Philippines, Russia, Turkey, and Ukraine, partly offset by France, Korea, Saudi Arabia and Thailand; as well as a favorable "Other" variance attributable to 2018 fees for certain distribution rights billed to customers in certain markets in the ME&A Region.

These favorable variances were partly offset by unfavorable volume/mix, primarily reflecting unfavorable cigarette volume/mix, notably in Australia, the Gulf Cooperation Council ("GCC"), notably Saudi Arabia and the United Arab Emirates ("UAE"), Indonesia, Italy, Japan and Russia, partly offset by Pakistan, Thailand and Turkey. The unfavorable cigarette volume/mix was partly offset by favorable heated tobacco unit volume in the EU, notably the Czech Republic, Germany and Italy, as well as Korea, PMI Duty Free and Russia, partly offset by unfavorable heated tobacco unit volume in Japan, reflecting the net impact of estimated distributor inventory movements.

Net revenues by product category for the years ended December 31, 2018 and 2017, are shown below:





- **Diluted Earnings Per Share** – The changes in our reported diluted earnings per share ("diluted EPS") for the year ended December 31, 2018, from the comparable 2017 amounts, were as follows:

	Diluted EPS	% Growth (Decline)
For the year ended December 31, 2017	**$ 3.88**	
2017 Asset impairment and exit costs	—	
2017 Tax items	**0.84**	
Subtotal of 2017 items	**0.84**	
2018 Asset impairment and exit costs	—	
2018 Tax items	**(0.02)**	
Subtotal of 2018 items	**(0.02)**	
Currency	**(0.11)**	
Interest	**0.13**	
Change in tax rate	**0.40**	
Operations	**(0.04)**	
For the year ended December 31, 2018	**$ 5.08**	**30.9%**

Income Taxes – Our effective income tax rate for 2018 decreased by 17.8 percentage points to 22.9%. The 2018 tax items that decreased our 2018 diluted EPS by $0.02 per share in the table above represented a current income tax charge of $185 million primarily due to an increase in our final 2017 transition tax liability, mostly offset by a deferred income tax benefit of $154 million primarily due to the recognition of deferred tax assets for net operating losses in the state of New York. The 2017 tax items that decreased our 2017 diluted EPS by $0.84 per share in the table above were primarily due to the impact of the Tax Cuts and Jobs Act, which was signed into law in December 2017. The change in the effective tax rate that increased our diluted EPS by $0.40 per share in the table above was primarily due to the impact from the Tax Cuts and Jobs Act, which reduced the U.S. federal income tax rate from 35% to 21%, in addition to repatriation cost differences and earnings mix by taxing jurisdiction. For further details, see Item 8, Note 11. *Income Taxes* to our consolidated financial statements.

Currency – The unfavorable currency impact during 2018 results from the fluctuations of the U.S. dollar, especially against the Indonesian rupiah, Russian ruble and Turkish lira, partially offset by the Euro and Japanese yen. This unfavorable currency movement has impacted our profitability across our primary revenue markets and local currency cost bases.

Interest – The favorable impact of interest was due primarily to our ongoing efforts to optimize our capital structure following the passage of the Tax Cuts and Jobs Act. This included the decision to use existing cash to repay the $2.5 billion principal for our matured May 2018 ten-year U.S. bond, which had a coupon of 5.65%.

Operations – The decrease in diluted EPS of $0.04 from our operations in the table above was due primarily to the following segments:

- East Asia & Australia: Unfavorable volume/mix and higher marketing, administration and research costs, partially offset by lower manufacturing costs and favorable pricing;

partially offset by

- South & Southeast Asia: Favorable pricing, partially offset by unfavorable volume/mix, higher marketing, administration and research costs, and higher manufacturing costs;
- Latin America & Canada: Favorable pricing, partially offset by unfavorable volume/mix and higher marketing, administration and research costs;
- Eastern Europe: Favorable pricing, partially offset by unfavorable volume/mix and higher marketing, administration and research costs;

- European Union: Favorable pricing and favorable volume/mix, partially offset by higher marketing, administration and research costs, and higher manufacturing costs; and
- Middle East & Africa: Favorable pricing, favorable volume/mix and lower marketing, administration and research costs, partially offset by higher manufacturing costs.

For further details, see the *Consolidated Operating Results* and *Operating Results by Business Segment* sections of the following *Discussion and Analysis*.

Tax Items and Impact of U.S. Tax Reform

We completed our analysis of the Tax Cuts and Jobs Act during 2018 and adjusted the 2017 provisional estimates to the final amounts based on our 2017 U.S. federal income tax return as filed. Accordingly, in the fourth quarter 2018, we recorded in our income tax provision a charge of $31 million representing a current income tax charge of $185 million, primarily due to an increase in our aggregate foreign cash position used to determine our final 2017 transition tax liability, mostly offset by a deferred income tax benefit of $154 million primarily due to the recognition of deferred tax assets for net operating losses in the state of New York. Updates to the provisional estimates have been recorded in accordance with Staff Accounting Bulletin No. 118 ("SAB 118").

We estimate that our 2019 effective tax rate will be approximately 23%, reflecting the current analysis, interpretation and clarifications of the scope and impact of the Tax Cuts and Jobs Act.

The Tax Cuts and Jobs Act has significant complexity, and our final full-year effective tax rate may differ from this estimate, due to, among other things, additional guidance that may be issued by the U.S. Treasury Department and the Internal Revenue Service, related interpretations and clarifications of tax law, in addition to repatriation costs differences and earnings mix by taxing jurisdiction.

Discussion and Analysis

Critical Accounting Estimates

Item 8, Note 2. *Summary of Significant Accounting Policies* to our consolidated financial statements includes a summary of the significant accounting policies and methods used in the preparation of our consolidated financial statements. In most instances, we must use a particular accounting policy or method because it is the only one that is permitted under U.S. GAAP.

The preparation of financial statements requires that we use estimates and assumptions that affect the reported amounts of our assets, liabilities, net revenues and expenses, as well as our disclosure of contingencies. If actual amounts differ from previous estimates, we include the revisions in our consolidated results of operations in the period during which we know the actual amounts. Historically, aggregate differences, if any, between our estimates and actual amounts in any year have not had a significant impact on our consolidated financial statements.

The selection and disclosure of our critical accounting estimates have been discussed with our Audit Committee. The following is a discussion of the more significant assumptions, estimates, accounting policies and methods used in the preparation of our consolidated financial statements:

Revenue Recognition - We recognize revenue as performance obligations are satisfied. Our primary performance obligation is the distribution and sales of cigarettes and other nicotine-containing products, including reduced-risk products. Our performance obligations are typically satisfied upon shipment or delivery to our customers. The company estimates the cost of sales returns based on historical experience, and these estimates are immaterial. Estimated costs associated with warranty programs for *IQOS* devices are generally provided for in cost of sales in the period the related revenues are recognized, based on a number of factors, including historical experience, product failure rates and warranty policies. The transaction price is typically based on the amount billed to the customer and includes estimated variable consideration where applicable. Such variable consideration is typically not constrained and is estimated based on the most likely amount that PMI expects to be entitled to under the terms of the contracts with customers, historical experience of discount or rebate redemption, where relevant, and the terms of any underlying discount or rebate programs, which may change from time to time as the business and product categories evolve.

Inventories - Our inventories are valued at the lower of cost or market based upon assumptions about future demand and market conditions. The valuation of inventory also requires us to estimate obsolete and excess inventory. We perform regular reviews of our inventory on hand, as well as our future purchase commitments with our suppliers, considering multiple factors, including demand forecasts, product life cycle, current sales levels, pricing strategy and cost trends. If our review indicates that inventories of raw materials, components or finished products have become obsolete or are in excess of anticipated demand or that inventory cost exceeds net realizable value, we may be required to make adjustments that will impact the results of operations.

Goodwill and Non-Amortizable Intangible Assets Valuation - We test goodwill and non-amortizable intangible assets for impairment annually or more frequently if events occur that would warrant such review. While the company has the option to perform a qualitative assessment for both goodwill and non-amortizable intangible assets to determine if it is more likely than not that an impairment exists, the company elects to perform the quantitative assessment for our annual impairment analysis. The impairment analysis involves comparing the fair value of each reporting unit or non-amortizable intangible asset to the carrying value. If the carrying value exceeds the fair value, goodwill or a non-amortizable intangible asset is considered impaired. To determine the fair value of goodwill, we primarily use a discounted cash flow model, supported by the market approach using earnings multiples of comparable global and local companies within the tobacco industry. At December 31, 2018, the carrying value of our goodwill was $7.2 billion, which is related to ten reporting units, each of which consists of a group of markets with similar economic characteristics. The estimated fair value of each of our ten reporting units exceeded the carrying value as of December 31, 2018. To determine the fair value of non-amortizable intangible assets, we primarily use a discounted cash flow model applying the relief-from-royalty method. We concluded that the fair value of our non-amortizable intangible assets exceeded the carrying value. These discounted cash flow models include management assumptions relevant for forecasting operating cash flows, which are subject to changes in business conditions, such as volumes and prices, costs to produce, discount rates and estimated capital needs. Management considers historical experience and all available information at the time the fair values are estimated, and we believe these assumptions are consistent with the assumptions a hypothetical marketplace participant would use. Since the March 28, 2008, spin-off from Altria Group, Inc., we have not recorded a charge to earnings for an impairment of goodwill or non-amortizable intangible assets.

Marketing Costs - We incur certain costs to support our products through programs that include advertising, marketing, consumer engagement and trade promotions. The costs of our advertising and marketing programs are expensed in accordance with U.S. GAAP. Recognition of the cost related to our consumer engagement and trade promotion programs contain uncertainties due to the judgment required in estimating the potential performance and compliance for each program. For volume-based incentives provided to customers, management continually assesses and estimates, by customer, the likelihood of the customer's achieving the specified targets, and records the reduction of revenue as the sales are made. For other trade promotions, management relies on estimated utilization rates that have been developed from historical experience. Changes in the assumptions used in estimating the cost of any individual marketing program would not result in a material change in our financial position, results of operations or operating cash flows.

Employee Benefit Plans - As discussed in Item 8, Note 13. *Benefit Plans* to our consolidated financial statements, we provide a range of benefits to our employees and retired employees, including pensions, postretirement health care and postemployment benefits (primarily severance). We record annual amounts relating to these plans based on calculations specified by U.S. GAAP. These calculations include various actuarial assumptions, such as discount rates, assumed rates of return on plan assets, compensation increases, mortality, turnover rates and health care cost trend rates. We review actuarial assumptions on an annual basis and make modifications to the assumptions based on current rates and trends when it is deemed appropriate to do so. As permitted by U.S. GAAP, any effect of the modifications is generally amortized over future periods. We believe that the assumptions utilized in calculating our obligations under these plans are reasonable based upon our historical experience and advice from our actuaries.

Weighted-average discount rate assumptions for pension and postretirement plan obligations at December 31, 2018 and 2017 are as follows:

	2018	2017
Pension plans	**1.61%**	1.51%
Postretirement plans	**3.97%**	3.79%

We anticipate that assumption changes will increase 2019 pre-tax pension and postretirement expense to approximately $205 million as compared with approximately $160 million in 2018, excluding amounts related to employee severance and early retirement programs. The anticipated increase is primarily due to higher amortization out of other comprehensive earnings for unrecognized actuarial gains/losses of $14 million, coupled with lower return on assets of $16 million, higher interest and service cost of $12 million and $4 million respectively, partially offset by other movements of $1 million.

Weighted-average expected rate of return and discount rate assumptions have a significant effect on the amount of expense reported for the employee benefit plans. A fifty-basis-point decrease in our discount rate would increase our 2019 pension and postretirement expense by approximately $50 million, and a fifty-basis-point increase in our discount rate would decrease our 2019 pension and postretirement expense by approximately $44 million. Similarly, a fifty-basis-point decrease (increase) in the expected return on plan assets would increase (decrease) our 2019 pension expense by approximately $33 million.

Income Taxes - Income tax provisions for jurisdictions outside the United States, as well as state and local income tax provisions, are determined on a separate company basis, and the related assets and liabilities are recorded in our consolidated balance sheets.

The extent of our operations involves dealing with uncertainties and judgments in the application of complex tax regulations in a multitude of jurisdictions. The final taxes paid are dependent upon many factors, including negotiations with taxing authorities in various jurisdictions and resolution of disputes arising from federal, state, and international tax audits. In accordance with the authoritative guidance for income taxes, we evaluate potential tax exposures and record tax liabilities for anticipated tax audit issues based on our estimate of whether, and the extent to which, additional taxes will be due. We adjust these reserves in light of changing facts and circumstances; however, due to the complexity of some of these uncertainties, the ultimate resolution may result in a payment that is materially different from our current estimate of the tax liabilities. If our estimate of tax liabilities proves to be less than the ultimate assessment, an additional charge to expense would result. If payment of these amounts ultimately proves to be less than the recorded amounts, the reversal of the liabilities would result in tax benefits being recognized in the period when we determine the liabilities are no longer necessary.

We are required to assess the likelihood of recovering deferred tax assets against future sources of taxable income. If we determine, using all available evidence, that we do not reach the more likely than not threshold for recovery, a valuation allowance is recorded. Significant judgment is required in determining the need for and amount of valuation allowances for deferred tax assets including estimates of future taxable income in the applicable jurisdictions and the feasibility of on-going tax planning strategies, as applicable.

The effective tax rates used for interim reporting are based on our full-year geographic earnings mix projections. Changes in currency exchange rates or earnings mix by taxing jurisdiction could have an impact on the effective tax rates. Significant judgment is required in determining income tax provisions and in evaluating tax positions.

For further details, see Item 8, Note 11. *Income Taxes* to our consolidated financial statements.

Hedging - As discussed below in “Market Risk,” we use derivative financial instruments principally to reduce exposures to market risks resulting from fluctuations in foreign currency exchange and interest rates by creating offsetting exposures. For derivatives to which we have elected to apply hedge accounting, gains and losses on these derivatives are initially deferred in accumulated other comprehensive losses on the consolidated balance sheet and recognized in the consolidated statement of earnings into the same line item as the impact of the underlying transaction, the periods when the related hedged transactions are also recognized in operating results. If we had elected not to use the hedge accounting provisions, gains (losses) deferred in stockholders’ (deficit) equity would have been recorded in our net earnings for these derivatives.

Contingencies - As discussed in Item 8, Note 18. *Contingencies* to our consolidated financial statements, legal proceedings covering a wide range of matters are pending or threatened against us, and/or our subsidiaries, and/or our indemnitees in various jurisdictions. We and our subsidiaries record provisions in the consolidated financial statements for pending litigation when we determine that an unfavorable outcome is probable and the amount of the loss can be reasonably estimated. The variability in pleadings in multiple jurisdictions, together with the actual experience of management in litigating claims, demonstrate that the monetary relief that may be specified in a lawsuit bears little relevance to the ultimate outcome. Much of the tobacco-related litigation is in its early stages, and litigation is subject to uncertainty. At the present time, while it is reasonably possible that an unfavorable outcome in a case may occur, after assessing the information available to it: (i) management has not concluded that it is probable that a loss has been incurred in any of the pending tobacco-related cases; (ii) management is unable to estimate the possible loss or range of loss for any of the pending tobacco-related cases; and (iii) accordingly, no estimated loss has been accrued in the consolidated financial statements for unfavorable outcomes in these cases, if any. Legal defense costs are expensed as incurred.

Consolidated Operating Results

Our net revenues and operating income by segment were as follows:

(in millions)	2018	2017	2016
Net Revenues			
European Union	**$ 9,298**	$ 8,318	$ 8,162
Eastern Europe	**2,921**	2,711	2,484
Middle East & Africa	**4,114**	3,988	4,516
South & Southeast Asia	**4,656**	4,417	4,396
East Asia & Australia	**5,580**	6,373	4,285
Latin America & Canada	**3,056**	2,941	2,842
Net revenues	**$ 29,625**	$ 28,748	$ 26,685
Operating Income			
European Union	**$ 4,105**	$ 3,691	$ 3,920
Eastern Europe	**902**	887	890
Middle East & Africa	**1,627**	1,884	1,990
South & Southeast Asia	**1,747**	1,514	1,474
East Asia & Australia	**1,851**	2,608	1,691
Latin America & Canada	**1,145**	997	938
Operating income	**$ 11,377**	$ 11,581	$ 10,903

As discussed in Item 8, Note 12. *Segment Reporting* to our consolidated financial statements, effective January 1, 2018, we began using operating income to evaluate segment performance and allocate resources, replacing operating companies income used previously.

Our net revenues by product category were as follows:

PMI Net Revenues by Product Category

(in millions)	2018	2017	2016
Combustible Products			
European Union	**$ 8,433**	$ 8,048	$ 8,105
Eastern Europe	**2,597**	2,657	2,478
Middle East & Africa	**3,732**	3,893	4,513
South & Southeast Asia	**4,656**	4,417	4,396
East Asia & Australia	**3,074**	3,156	3,619
Latin America & Canada	**3,037**	2,937	2,841
Total Combustible Products	**$ 25,529**	$ 25,107	$ 25,952
Reduced-Risk Products			
European Union	**$ 865**	$ 269	$ 57
Eastern Europe	**324**	55	6
Middle East & Africa	**382**	94	4
South & Southeast Asia	**—**	—	—
East Asia & Australia	**2,506**	3,218	666
Latin America & Canada	**19**	4	1
Total Reduced-Risk Products	**$ 4,096**	$ 3,640	$ 733
Total PMI Net Revenues	**$ 29,625**	$ 28,748	$ 26,685

Note: Sum of product categories or Regions might not foot to total PMI due to rounding.

Net revenues related to combustible products refer to the operating revenues generated from the sale of these products, including shipping and handling charges billed to customers, net of sales and promotion incentives, and excise taxes. These net revenue amounts consist of the sale of our cigarettes and other tobacco products combined. Other tobacco products primarily include roll-your-own and make-your-own cigarettes, pipe tobacco, cigars and cigarillos and do not include reduced-risk products.

Net revenues related to reduced-risk products refer to the operating revenues generated from the sale of these products, including shipping and handling charges billed to customers, net of sales and promotion incentives, and excise taxes. These net revenue amounts consist of the sale of our heated tobacco units, *IQOS* devices and related accessories, and other nicotine-containing products, which primarily include our e-vapor products.

We recognize revenue when control is transferred to the customer, typically either upon shipment or delivery of goods.

Our shipment volume by segment for cigarettes and heated tobacco units was as follows:

PMI Shipment Volume (Million Units)

	2018	2017	2016
Cigarettes			
European Union	**179,622**	187,293	193,586
Eastern Europe	**108,718**	119,398	129,456
Middle East & Africa	**136,605**	136,759	141,937
South & Southeast Asia	**178,469**	171,600	185,279
East Asia & Australia	**56,163**	62,653	74,750
Latin America & Canada	**80,738**	84,223	87,938
Total Cigarettes	**740,315**	761,926	812,946
Heated Tobacco Units			
European Union	**5,977**	1,889	224
Eastern Europe	**4,979**	674	64
Middle East & Africa	**3,403**	907	36
South & Southeast Asia	**—**	—	—
East Asia & Australia	**26,866**	32,729	7,070
Latin America & Canada	**147**	27	—
Total Heated Tobacco Units	**41,372**	36,226	7,394
Cigarettes and Heated Tobacco Units			
European Union	**185,599**	189,182	193,810
Eastern Europe	**113,697**	120,072	129,520
Middle East & Africa	**140,008**	137,666	141,973
South & Southeast Asia	**178,469**	171,600	185,279
East Asia & Australia	**83,029**	95,382	81,820
Latin America & Canada	**80,885**	84,250	87,938
Total Cigarettes and Heated Tobacco Units	**781,687**	798,152	820,340

Heated tobacco units ("HTU") is the term we use to refer to heated tobacco consumables, which for us include our *HEETS*, *HEETS Marlboro* and *HEETS FROM MARLBORO*, defined collectively as *HEETS*, as well as *Marlboro HeatSticks* and *Parliament HeatSticks.*

References to total international market, defined as worldwide cigarette and heated tobacco unit volume excluding the United States, total industry, total market and market shares throughout this *"Discussion and Analysis"* are our estimates for tax-paid products based on the latest available data from a number of internal and external sources and may, in defined instances, exclude the People's Republic of China and/or our duty free business.

In-market sales ("IMS") is defined as sales to the retail channel, depending on the market and distribution model.

North Africa is defined as Algeria, Egypt, Libya, Morocco and Tunisia.

Unless otherwise stated, references to total industry, total market, our shipment volume and our market share performance reflect cigarettes and heated tobacco units.

From time to time, PMI's shipment volumes are subject to the impact of distributor inventory movements, and estimated total industry/market volumes are subject to the impact of inventory movements in various trade channels that include estimated trade inventory movements of PMI's competitors arising from market-specific factors that significantly distort reported volume disclosures. Such factors may include changes to the manufacturing supply chain, shipment methods, consumer demand, timing of excise tax increases or other influences that may affect the timing of sales to customers. In such instances, in addition to reviewing PMI shipment volumes and certain estimated total industry/market volumes on a reported basis, management reviews these measures on an adjusted basis that excludes the impact of distributor and/or estimated trade inventory movements. Management also believes that disclosing PMI shipment volumes and estimated total industry/market volumes in such circumstances on a basis that excludes the impact of distributor and/or estimated trade inventory movements improves the comparability of performance and trends for these measures over different reporting periods.

2018 compared with 2017

The following discussion compares our consolidated operating results for the year ended December 31, 2018, with the year ended December 31, 2017.

Estimated international cigarette and heated tobacco unit volume, excluding China and the United States, of 2.8 trillion, decreased by 1.6%, mainly due to the EU, EE, EA&A and LA&C, partly offset by ME&A and S&SA, as described in the Regional sections below.

Our total shipment volume decreased by 2.1%, principally due to:

- the EU, primarily reflecting lower cigarette shipment volume in France, Germany and Italy, partly offset by higher heated tobacco unit shipment volume across the Region, notably in Italy;
- Eastern Europe, reflecting lower cigarette shipment volume, principally in Russia and Ukraine, partly offset by higher heated tobacco unit shipment volume across the Region, notably in Russia;
- East Asia & Australia, reflecting lower cigarette shipment volume, principally in Japan and Korea; lower heated tobacco unit shipment volume in Japan, reflecting the net impact of estimated distributor inventory movements described in the East Asia & Australia Region section below; partly offset by higher heated tobacco unit shipment volume in Korea; and
- Latin America & Canada, reflecting lower cigarette shipment volume, notably in Argentina and Colombia;

partly offset by

- Middle East & Africa, reflecting essentially flat cigarette shipment volume, with declines, notably in Saudi Arabia and the UAE, almost completely offset by higher cigarette shipment volume, notably in Turkey, as well as by higher heated tobacco unit shipment volume, mainly in PMI Duty Free; and
- South & Southeast Asia, reflecting higher cigarette shipment volume, principally in Pakistan, the Philippines and Thailand.

Excluding the net impact of estimated distributor inventory movements of approximately 16.6 billion units, due primarily to heated tobacco unit inventories in Japan, reflecting unfavorable cigarette and heated tobacco unit inventory movements of approximately 0.4 billion and 16.2 billion units, respectively, our total shipment volume was flat.

Our cigarette shipment volume by brand and heated tobacco unit shipment volume was as follows:

PMI Shipment Volume by Brand (Million Units)

	Full-Year		
	2018	**2017**	**Change**
Cigarettes			
Marlboro	**264,423**	270,366	(2.2)%
L&M	**89,789**	90,817	(1.1)%
Chesterfield	**59,452**	55,075	7.9 %
Philip Morris	**49,864**	48,522	2.8 %
Sampoerna A	**39,522**	42,736	(7.5)%
Parliament	**41,697**	43,965	(5.2)%
Bond Street	**32,173**	37,987	(15.3)%
Dji Sam Soe	**29,195**	22,757	28.3 %
Lark	**23,021**	24,530	(6.2)%
Fortune	**16,596**	13,451	23.4 %
Others	**94,583**	111,720	(15.3)%
Total Cigarettes	**740,315**	761,926	(2.8)%
Heated Tobacco Units	**41,372**	36,226	14.2 %
Total Cigarettes and Heated Tobacco Units	**781,687**	798,152	(2.1)%

Note: *Sampoerna A* includes *Sampoerna*; *Philip Morris* includes *Philip Morris/Dubliss*; and *Lark* includes *Lark Harmony*.

Our cigarette shipment volume decreased, partly reflecting the impact of out-switching to heated tobacco units largely from premium and mid-price cigarette brands. Our cigarette shipment volume of the following brands decreased:

- *Marlboro*, mainly due to France, the GCC, notably Saudi Arabia and the UAE, Italy, Japan and Korea, partly offset by Indonesia, North Africa and Turkey;
- *L&M*, mainly due to the GCC, notably Saudi Arabia, as well as North Africa, Russia and Turkey, partly offset by Kazakhstan, Serbia and Thailand;
- *Sampoerna A* in Indonesia, mainly reflecting the impact of its retail price increasing past its round pack price point in the fourth quarter of 2017;
- *Parliament*, mainly due to Korea and Russia, partly offset by Turkey;
- *Bond Street*, mainly due to Kazakhstan, Russia and Ukraine;
- *Lark*, mainly due to Japan, partly offset by Turkey; and
- "Others," mainly due to: mid-price brands, notably *Sampoerna U* in Indonesia, partly reflecting the impact of above-inflation retail price increases; the successful portfolio consolidation of local brands into international trademarks, notably in Brazil, Colombia, Mexico and Russia; low-price *Jackpot* in the Philippines, reflecting up-trading as a result of narrowed price gaps; partly offset by low-price *Hope* in the Philippines and *Morven* in Pakistan.

Our cigarette shipment volume of the following brands increased:

- *Chesterfield,* mainly driven by Argentina, Brazil, Colombia, the GCC, notably Saudi Arabia, Mexico and Turkey, partly offset by Portugal, Russia and Venezuela;
- *Philip Morris*, mainly driven by Russia, partly offset by Argentina, Italy and the Philippines;
- *Dji Sam Soe* in Indonesia, notably reflecting the continued strong performance of its *Magnum Mild 16s* variant launched in the second quarter of 2017; and
- *Fortune* in the Philippines, reflecting the favorable impact of its narrowed retail price gap to competitors' products.

Our heated tobacco unit shipment volume increased, reflecting favorable heated tobacco unit volume across the EU, notably Italy, as well as Korea, PMI Duty Free and Russia, partly offset by unfavorable heated tobacco unit volume in Japan, reflecting the net impact of estimated distributor inventory movements.

2018 International Share of Market (excluding China and the United States)

Our 2018 total international market share, defined as our cigarette and heated tobacco unit sales volume as a percentage of total industry cigarette and heated tobacco unit sales volume, increased by 0.5 points to 28.4%, reflecting:

- Total international cigarette market share of 26.8%, down by 0.3 points; and
- Total international heated tobacco unit market share of 1.6%, up by 0.8 points.

Our total international cigarette market share, defined as our cigarette sales volume as a percentage of total industry cigarette sales volume, was flat at 27.4%.

In 2018, we owned six of the world's top 15 international cigarette brands, with international cigarette market shares as follows: *Marlboro*, 9.7%; *L&M*, 3.3%; *Chesterfield*, 2.2%; *Philip Morris*, 1.8%; *Parliament*, 1.6%; and *Bond Street*, 1.2%.

Key Market Data

Key market data regarding total market size, our shipments and market share were as follows:

			PMI Shipments (billion units)						PMI Market Share (%)[1]			
Market	**Total Market (billion units)**		**Total**		**Cigarette**		**Heated Tobacco Unit**		**Total**		**Heated Tobacco Unit**	
	2018	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**
European Union												
France	40.9	45.1	18.5	19.7	18.4	19.7	—	—	45.5	43.5	0.1	—
Germany	75.2	76.9	28.1	28.6	27.7	28.5	0.4	0.1	37.3	37.2	0.5	0.2
Italy	69.0	69.8	35.2	36.8	33.5	36.1	1.7	0.7	51.8	52.2	2.2	0.7
Poland	43.2	41.7	17.9	17.8	17.6	17.7	0.4	0.1	41.5	42.7	0.9	0.2
Spain	45.0	45.0	14.1	14.5	13.9	14.4	0.2	0.1	32.1	32.3	0.4	0.1
Eastern Europe												
Russia	238.1	260.0	68.0	72.4	64.6	72.1	3.4	0.3	28.4	27.8	1.0	0.1
Middle East & Africa												
Saudi Arabia	20.6	26.1	7.4	10.9	7.4	10.9	—	—	41.5	45.2	—	—
Turkey	118.5	106.2	55.0	49.6	55.0	49.6	—	—	46.4	46.7	—	—
South & Southeast Asia												
Indonesia	307.0	307.4	101.4	101.3	101.4	101.3	—	—	33.0	33.0	—	—
Philippines	73.2	74.9	51.2	50.6	51.2	50.6	—	—	69.9	67.6	—	—
East Asia & Australia												
Australia	12.8	13.9	3.8	4.3	3.8	4.3	—	—	29.7	30.6	—	—
Japan	167.3	171.5	52.3	66.1	30.8	34.9	21.4	31.3	34.0	32.1	15.5	10.8
Korea	69.5	70.6	17.4	14.9	12.0	13.5	5.4	1.4	25.0	21.2	7.8	2.0
Latin America & Canada												
Argentina	35.0	36.2	25.8	27.0	25.8	27.0	—	—	73.7	74.7	—	—
Canada	23.4	24.6	8.9	9.3	8.9	9.3	—	—	38.1	37.3	0.1	—
Mexico	35.5	35.8	24.2	24.4	24.2	24.4	—	—	68.0	68.1	—	—

(1) Market share estimates are calculated using IMS data
Note: % change for Total Market and PMI shipments in the discussion below is computed based on millions of units

Financial Summary

Financial Summary - Years Ended December 31, (in millions)	**2018**	**2017**	**Change Fav./(Unfav.) Total**	**Change Fav./(Unfav.) Excl. Curr.**	**Variance Fav./(Unfav.) Total**	**Cur-rency**	**Price**	**Vol/ Mix**	**Cost/ Other**
Net Revenues	**$ 29,625**	$ 28,748	3.1 %	3.4 %	$ 877	$ (103)	$ 1,488	$ (724)	$ 216
Cost of Sales	**(10,758)**	(10,432)	(3.1)%	(2.3)%	(326)	(83)	—	(180)	(63)
Marketing, Administration and Research Costs	**(7,408)**	(6,647)	(11.4)%	(11.0)%	(761)	(29)	—	—	(732)
Amortization of Intangibles	**(82)**	(88)	6.8 %	5.7 %	6	1	—	—	5
Operating Income	**$ 11,377**	$ 11,581	(1.8)%	0.1 %	$ (204)	$ (214)	$ 1,488	$ (904)	$ (574)

"Cost/Other" in the above table reflects the currency-neutral variances of: cost of sales (excluding the volume/mix cost component); marketing, administration and research costs; asset impairment and exit costs; and amortization of intangibles. "Cost/Other" also includes the currency-neutral net revenue variance, unrelated to volume/mix and price components, attributable to fees for certain distribution rights billed to customers in certain markets in the ME&A Region. This immaterial presentational change, made in conjunction with the new revenue recognition standard, is prospective only.

Net revenues, excluding unfavorable currency, increased by 3.4%, reflecting: a favorable pricing variance, notably in Argentina, Australia, Canada, Egypt, Germany, Indonesia, Italy, Japan, Mexico, the Philippines, Russia, Turkey, and Ukraine, partly offset by France, Korea, Saudi Arabia and Thailand; as well as a favorable "cost/other" variance as described above.

These favorable variances were partly offset by unfavorable volume/mix, primarily reflecting unfavorable cigarette volume/mix, notably in Australia, the GCC, notably Saudi Arabia and the UAE, Indonesia, Italy, Japan and Russia, partly offset by Pakistan, Thailand and Turkey. The unfavorable cigarette volume/mix was partly offset by favorable heated tobacco unit volume in the EU, notably the Czech Republic, Germany and Italy, as well as Korea, PMI Duty Free and Russia, partly offset by unfavorable heated tobacco unit volume in Japan, reflecting the net impact of estimated distributor inventory movements.

The unfavorable currency in net revenues was due primarily to the Argentine peso, Indonesian rupiah, Philippine peso, Russian ruble and Turkish lira, partially offset by the Euro, Japanese yen and Polish zloty.

Net revenues include $4.1 billion in 2018 and $3.6 billion in 2017 related to the sale of RRPs. In 2018, approximately $0.9 billion of our $4.1 billion in RRP net revenues were from *IQOS* devices and accessories.

Operating income, excluding unfavorable currency, was essentially flat, reflecting: a favorable pricing variance; partly offset by unfavorable volume/mix, due mainly to lower volume in Japan and Saudi Arabia and lower mix in Indonesia and Russia, partly offset by higher volume in the EU, driven by heated tobacco units, as well as Korea, PMI Duty Free, Thailand and Turkey. The favorable pricing variance was also partly offset by higher marketing, administration and research costs, primarily related to increased investment behind reduced-risk products across all Regions, predominantly the EU and EA&A.

Interest expense, net, of $665 million decreased by $249 million (27.2%), due primarily to our ongoing efforts to optimize our capital structure following the passage of the Tax Cuts and Jobs Act. This included the decision to use existing cash to repay the $2.5 billion principal for our matured May 2018 ten-year U.S. bond, which had a coupon of 5.65%.

Our effective tax rate decreased by 17.8 percentage points to 22.9%. The change in the effective tax rate for 2018, as compared to 2017, was primarily due to the Tax Cuts and Jobs Act, which reduced the U.S. federal income tax rate from 35% to 21%, in addition to repatriation cost differences and earnings mix by taxing jurisdiction. We completed our analysis of the Tax Cuts and Jobs Act during 2018 and adjusted the 2017 provisional estimates to the final amounts based on our 2017 U.S. federal income tax return as filed. Accordingly, we recorded in our income tax provision a charge of $31 million representing a current income tax charge of $185 million primarily due to an increase in our final 2017 transition tax liability, mostly offset by a deferred income tax benefit of $154 million primarily due to the recognition of deferred tax assets for net operating losses in the state of New York. The effective tax rate in 2017 was unfavorably impacted by $1.6 billion due to the Tax Cuts and Jobs Act. We estimate that our 2019 effective tax rate will be approximately 23%, subject to future regulatory developments and earnings mix by taxing jurisdiction. For further details, see Item 8, Note 11. *Income Taxes*.

We are regularly examined by tax authorities around the world, and we are currently under examination in a number of jurisdictions. It is reasonably possible that within the next 12 months certain tax examinations will close, which could result in a change in unrecognized tax benefits along with related interest and penalties. An estimate of any possible change cannot be made at this time.

Net earnings attributable to PMI of $7.9 billion increased by $1.9 billion (31.1%). This increase was due primarily to a lower effective tax rate and lower interest expense, net, partially offset by lower operating income. Diluted and basic EPS of $5.08 increased by 30.9%. Excluding a net favorable tax impact of $0.82 primarily related to the implementation of the Tax Cuts and Jobs Act and an unfavorable currency impact of $0.11, diluted EPS increased by 10.4%.

2017 compared with 2016

The following discussion compares our consolidated operating results for the year ended December 31, 2017, with the year ended December 31, 2016.

Estimated international cigarette and heated tobacco unit volume, excluding China and the United States, of 2.8 trillion was down by 2.8%.

Our total shipment volume decreased by 2.7%, principally due to:

- European Union, notably reflecting lower cigarette shipment volume in Greece, Italy and Spain, partly offset by higher heated tobacco unit shipment volume;
- Eastern Europe, notably reflecting lower cigarette shipment volume in Russia and Ukraine; partly offset by higher heated tobacco unit shipment volume;
- Middle East & Africa, notably reflecting lower cigarette shipment volume in Saudi Arabia - where our cigarette shipment volume declined by 35.8%, impacted by the new excise tax implemented in June 2017 that resulted in the doubling of retail prices; partly offset by higher cigarette shipment volume in North Africa, notably Algeria, and higher heated tobacco unit shipment volume;
- South & Southeast Asia, notably reflecting lower cigarette shipment volume in Indonesia and Pakistan - impacted by excise tax-driven price increases and an increase in the prevalence of illicit trade - and the Philippines; and
- Latin America & Canada, notably reflecting lower cigarette shipment volume in Argentina, Brazil, Canada, Colombia and Mexico;

partially offset by:

- East Asia & Australia, notably reflecting higher heated tobacco unit shipment volume, mainly in Japan and Korea, partly offset by lower cigarette shipment volume in Japan and Korea.

Excluding the favorable net impact of estimated cigarette and heated tobacco unit inventory movements of approximately 3.3 billion units, our total shipment volume decreased by 3.1%. The favorable inventory movements were driven primarily by approximately 8.5 billion units net in Japan reflecting: the increasing demand for *HeatSticks*, anticipated to further increase in the first quarter of 2018 following a planned lifting of the restriction on *IQOS* device sales; the establishment of appropriate distributor inventory levels of heated tobacco units, given the current high dependence on a single manufacturing center; and the transition from air freight to sea freight of heated tobacco units, largely completed in the fourth quarter of 2017. These favorable inventory movements were partly offset by a reduction of combustible product inventory levels, mainly in Italy, North Africa, Russia, Saudi Arabia and Spain.

Our cigarette shipment volume by brand and heated tobacco unit shipment volume was as follows:

PMI Cigarette Shipment Volume by Brand (Million Units)

	Full-Year		
	2017	**2016**	**Change**
Cigarettes			
Marlboro	270,366	281,720	(4.0)%
L&M	90,817	96,770	(6.2)%
Chesterfield	55,075	46,291	19.0 %
Philip Morris	48,522	35,914	35.1 %
Parliament	43,965	45,671	(3.7)%
Bond Street	37,987	44,567	(14.8)%
Lark	24,530	27,571	(11.0)%
Others*	190,664	234,442	(18.7)%
Total Cigarettes	761,926	812,946	(6.3)%
Heated Tobacco Units	36,226	7,394	+100.0%
Total Cigarettes and Heated Tobacco Units	798,152	820,340	(2.7)%

*Others above also include cigarette shipment volumes of *Sampoerna A* (including *Sampoerna*) of 42,736 million units in 2017 and 44,548 million units in 2016; *Dji Sam Soe* of 22,757 million units in 2017 and 20,411 million units in 2016; and *Fortune* of 13,451 million units in 2017 and 18,570 million units in 2016.

Note: *Philip Morris* includes *Philip Morris/Dubliss*; and *Lark* includes *Lark Harmony*.

Cigarette shipment volume of *Marlboro* decreased in: the EU, mainly due to Greece, Italy and Spain; ME&A, predominantly due to Saudi Arabia, reflecting the impact of the new excise tax implemented in June 2017 that resulted in the doubling of the retail price of *Marlboro* from SAR 12 to SAR 24 per pack, partly offset by North Africa, notably Algeria and Egypt, and Turkey; EA&A, mainly due to Japan and Korea, principally reflecting out-switching to heated tobacco products; and LA&C, mainly due to Argentina and Brazil; partly offset by an increase in S&SA, mainly due to Indonesia and the Philippines.

Cigarette shipment volume of the following brands decreased: *L&M*, mainly due to Russia, Saudi Arabia and Turkey, partly offset by Algeria, Argentina, Colombia and Kazakhstan; *Parliament*, mainly due to Japan, Russia and Saudi Arabia, partly offset by Kazakhstan; *Bond Street*, mainly due to Kazakhstan, Russia and Ukraine; *Lark*, principally due to Japan; and "Others," mainly due to low-price brands in Indonesia, Pakistan, the Philippines, Russia and Ukraine.

Cigarette shipment volume of the following brands increased: *Chesterfield,* notably driven by Argentina, Brazil, Colombia, Saudi Arabia, Turkey and Venezuela, partly offset by Italy and Russia; and *Philip Morris*, mainly driven by Russia and Ukraine, notably reflecting successful portfolio consolidation of local, low-price brands in "Others," partly offset by Argentina and Italy.

Key market data regarding total market size, our shipments and market share were as follows:

Market	Total Market (billion units)		PMI Shipments (billion units)						PMI Market Share (%)[1]			
			Total		Cigarette		Heated Tobacco Unit		Total		Heated Tobacco Unit	
	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016
European Union												
France	45.1	45.7	19.7	19.7	19.7	19.7	—	—	43.5	42.8	—	—
Germany	76.9	78.1	28.6	29.0	28.5	29.0	0.1	—	37.2	37.1	0.2	—
Italy	69.8	72.1	36.8	38.7	36.1	38.6	0.7	0.1	52.2	52.5	0.7	0.1
Poland	41.7	41.3	17.8	17.5	17.7	17.5	0.1	—	42.7	42.3	0.2	—
Spain	45.0	46.7	14.5	16.4	14.4	16.4	0.1	—	32.3	33.9	0.1	—
Eastern Europe												
Russia	260.0	280.0	72.4	79.7	72.1	79.7	0.3	0.1	27.8	27.9	0.1	—
Middle East & Africa												
Saudi Arabia	26.1	31.6	10.9	17.0	10.9	17.0	—	—	45.2	52.1	—	—
Turkey	106.2	105.5	49.6	49.6	49.6	49.6	—	—	46.7	47.0	—	—
South & Southeast Asia												
Indonesia	307.4	315.6	101.3	105.5	101.3	105.5	—	—	33.0	33.4	—	—
Philippines	74.9	79.3	50.6	56.6	50.6	56.6	—	—	67.6	71.3	—	—
East Asia & Australia												
Australia	13.9	15.7	4.3	5.1	4.3	5.1	—	—	30.6	32.8	—	—
Japan	171.5	179.0	66.1	51.0	34.9	43.9	31.3	7.1	32.1	27.1	10.8	2.9
Korea	70.6	73.6	14.9	15.5	13.5	15.5	1.4	—	21.2	21.0	2.0	—
Latin America & Canada												
Argentina	36.2	36.1	27.0	27.5	27.0	27.5	—	—	74.7	76.3	—	—
Canada	24.6	26.3	9.3	10.0	9.3	10.0	—	—	37.3	38.4	—	—
Mexico	35.8	36.2	24.4	25.1	24.4	25.1	—	—	68.1	69.3	—	—

(1) Market share estimates are calculated using IMS data
Note: % change for Total Market and PMI shipments in the discussion below is computed based on millions of units

Financial Summary - Years Ended December 31, (in millions)	2017	2016	Change Fav./(Unfav.) Total	Change Fav./(Unfav.) Excl. Curr.	Variance Fav./(Unfav.) Total	Cur-rency	Price	Vol/ Mix	Cost/ Other
Net Revenues	$ 28,748	$ 26,685	7.7 %	9.4 %	$2,063	$ (437)	$1,386	$1,114	$ —
Cost of Sales	(10,432)	(9,391)	(11.1)%	(11.4)%	(1,041)	30	—	(1,107)	36
Marketing, Administration and Research Costs	(6,647)	(6,317)	(5.2)%	(9.2)%	(330)	250	—	—	(580)
Amortization of Intangibles	(88)	(74)	(18.9)%	(18.9)%	(14)	—	—	—	(14)
Operating Income	$ 11,581	$ 10,903	6.2 %	7.7 %	$ 678	$ (157)	$1,386	$ 7	$ (558)

"Cost/Other" in the above table reflects the currency-neutral variances of: cost of sales (excluding the volume/mix cost component); marketing, administration and research costs; asset impairment and exit costs; and amortization of intangibles.

Net revenues increased by 7.7%, due to price increases and favorable volume/mix, partially offset by unfavorable currency.

The unfavorable currency in net revenues was due primarily to the Argentine peso, Egyptian pound, Japanese yen, Philippine peso and Turkish lira, partially offset by the Russian ruble.

Net revenues for RRPs were $3.6 billion in 2017 and $733 million in 2016 mainly in Japan. In 2017, approximately $0.9 billion of our $3.6 billion in RRP net revenues were from *IQOS* devices and accessories.

Cost of sales increased by 11.1%, due to higher cost of sales resulting from volume/mix, partly offset by lower manufacturing costs and favorable currency.

Marketing, administration and research costs increased by 5.2%, largely reflecting increased investment behind reduced-risk products, predominately in the European Union and East Asia & Australia, partly offset by favorable currency.

Operating income increased by 6.2%, due primarily to price increases, partly offset by higher marketing, administration and research costs and unfavorable currency.

Interest expense, net, of $914 million increased by $23 million, due primarily to unfavorable currency and higher average debt levels, partly offset by higher interest income.

Our effective tax rate increased by 12.8 percentage points to 40.7%. The 2017 effective tax rate was unfavorably impacted by $1.6 billion due to the Tax Cuts and Jobs Act. For further details, see Item 8, Note 11. *Income Taxes* to our consolidated financial statements.

Net earnings attributable to PMI of $6.0 billion decreased by $932 million (13.4%). This decrease was due primarily to a higher effective tax rate as discussed above, partly offset by higher operating income. Diluted and basic EPS of $3.88 decreased by 13.4%. Excluding an unfavorable tax impact of $0.84 primarily related to the implementation of the Tax Cuts and Jobs Act and an unfavorable currency impact of $0.21, diluted EPS increased by 10.0%.

Operating Results by Business Segment

Business Environment

Taxes, Legislation, Regulation and Other Matters Regarding the Manufacture, Marketing, Sale and Use of Tobacco Products

The tobacco industry and our business face a number of challenges that may adversely affect our business, volume, results of operations, cash flows and financial position. These challenges, which are discussed below and in "*Cautionary Factors That May Affect Future Results*," include:

- regulatory restrictions on our products, including restrictions on the packaging, marketing, and sale of tobacco or other nicotine-containing products that could reduce our competitiveness, eliminate our ability to communicate with adult consumers, or even ban certain of our products;
- fiscal challenges, such as excessive excise tax increases and discriminatory tax structures;
- illicit trade in cigarettes and other tobacco products, including counterfeit, contraband and so-called "illicit whites";
- intense competition, including from non-tax paid volume by certain local manufacturers;
- pending and threatened litigation as discussed in Item 8, Note 18. *Contingencies*; and
- governmental investigations.

<u>Regulatory Restrictions:</u> The tobacco industry operates in a highly regulated environment. The well-known risks of smoking have led regulators to impose significant restrictions and high excise taxes on cigarettes.

We support a comprehensive regulatory framework for tobacco products based on the principle of harm reduction, including mandated health warnings, minimum age laws, restrictions on advertising, and public place smoking restrictions. We also support regulatory measures that help reduce illicit trade.

Much of the regulation that shapes the business environment in which we operate is driven by the World Health Organization's ("WHO") Framework Convention on Tobacco Control ("FCTC"), which entered into force in 2005. The FCTC has as its main objective to establish a global agenda for tobacco regulation, with the purpose of reducing tobacco use. To date, 180 countries and the European Union are Parties to the FCTC. The treaty requires Parties to have in place various tobacco control measures and recommends others. The FCTC governing body, the Conference of the Parties ("CoP"), has also adopted non-binding guidelines and policy recommendations related to certain articles of the FCTC that go beyond the text of the treaty. In October 2018, the CoP recognized the need for more scientific assessment and improved reporting to define policy on heated tobacco products. Similar to its previous policy recommendations on e-cigarettes, the CoP invited countries to regulate, restrict or prohibit heated tobacco products, as appropriate under their national laws. It is not possible to predict whether or to what extent measures recommended by CoP, including the FCTC guidelines, will be implemented.

We continue to seek to engage in a dialogue with regulators with respect to those measures that we do not believe would protect public health and, if implemented, could disrupt competition, severely limit our ability to market and sell our products (including our RRPs) to adult smokers, or increase illicit trade. We advocate for measures that would accelerate switching to better alternatives to continued smoking and embrace a regulatory framework that recognizes a risk continuum of tobacco and other nicotine-containing products.

Certain measures are discussed in more detail below and in the *Reduced-Risk Products (RRPs)* section.

<u>*Fiscal Challenges:*</u> Excessive and disruptive excise, sales and other tax increases and discriminatory tax structures are expected to continue to have an adverse impact on our profitability, due to lower consumption and consumer down-trading to non-premium, discount, other low-price or low-taxed combustible tobacco products such as fine cut tobacco and illicit cigarettes. In addition, in certain jurisdictions, some of our combustible products are subject to tax structures that discriminate against premium-price products and manufactured cigarettes. We believe that such tax policies undermine public health by encouraging consumers to turn to illicit trade, and ultimately undercut government revenue objectives, disrupt the competitive environment, and encourage criminal activity. Other jurisdictions have imposed, or are seeking to impose, levies or other taxes specifically on tobacco companies, such as taxes on revenues and/or profits.

<u>*EU Tobacco Products Directive:*</u> In April 2014, the EU adopted a significantly revised EU Tobacco Products Directive (TPD), which entered into force in May 2016. All 28 Member States and Norway have adopted laws transposing the TPD. The TPD sets forth a comprehensive set of regulatory requirements for tobacco products, including:

- health warnings covering 65% of the front and back panels of cigarette packs, with an option for Member States to further standardize tobacco packaging, including the introduction of plain packaging;
- a ban on characterizing flavors in some tobacco products, with a transition period for menthol expiring in May 2020;
- security features and tracking and tracing measures that will become effective on May 20, 2019, and will increase our operating expenses; and
- a framework for the regulation of novel tobacco products and e-cigarettes, including requirements for health warnings and information leaflets, a prohibition on product packaging text related to reduced risk, and the introduction of notification requirements or authorization procedures in advance of commercialization.

<u>*Plain Packaging and Other Packaging Restrictions:*</u> Plain packaging legislation bans the use of branding, logos and colors on packaging other than the brand name and variant that may be printed only in specified locations and in a uniform font. To date, plain packaging

laws have been adopted in certain markets in all of our reporting segments, including the key markets of Australia, France, Saudi Arabia and Turkey, and are in various degrees of implementation. Some countries, such as New Zealand and Israel, adopted plain packaging regulations that apply to all tobacco products, including RRPs. Other countries, including Canada, are also considering plain packaging legislation.

Some countries have adopted, or are considering adopting, packaging restrictions that could have an impact similar to plain packaging. Examples of such restrictions include standardizing the shape and size of packages, prohibiting certain colors or the use of certain descriptive phrases on packaging, and requiring very large graphic health warnings that leave little space for branding.

Restrictions and Bans on the Use of Ingredients: The WHO and others in the public health community have recommended restrictions or total bans on the use of some or all ingredients in tobacco products, including menthol. Broad restrictions and ingredient bans would require us to reformulate our American blend tobacco products and could reduce our ability to differentiate these products in the market in the long term. Menthol bans would eliminate the entire category of mentholated tobacco products. The European Union has banned flavored tobacco products, subject to an exemption until May 2020 for menthol. Other countries may follow the EU's approach. For instance, Turkey has banned menthol as of May 2020. Broader ingredient bans have been adopted by Canada and Brazil. Canada banned menthol in cigarettes as of October 2017 and in all tobacco products as of November 2018. In Brazil, an ingredient ban is currently on appeal by a tobacco industry union, of which our Brazilian subsidiary is a member. The tobacco union requested a stay of the enforcement of the ingredient ban while the appeal is pending. It is not possible to predict the outcome of these legal proceedings.

Bans on Display of Tobacco Products at Retail: In a number of our markets, including, but not limited to, Australia, Canada, Norway, Russia, and Singapore, governments have banned the display of tobacco products at the point of sale. Other countries are considering similar bans.

Bans and Restrictions on Advertising, Marketing, Promotions and Sponsorships: For many years, the FCTC has called for, and countries have imposed, partial or total bans on tobacco advertising, marketing, promotions and sponsorships, including bans and restrictions on advertising on radio and television, in print and on the Internet. The FCTC's non-binding guidelines recommend that governments prohibit all forms of communication with adult smokers.

Restrictions on Product Design: Some members of the public health community are calling for the further standardization of tobacco products by requiring, for example, that cigarettes have a certain minimum diameter, which would amount to a ban on slim cigarettes, or requiring the use of standardized filter and cigarette paper designs. In addition, at its meeting in November 2016, the CoP adopted non-binding guidelines recommending that countries regulate product design features that increase the attractiveness of tobacco products, such as the diameter of cigarettes and the use of flavor capsules.

Restrictions on Public Smoking: The pace and scope of public smoking restrictions have increased significantly in most of our markets. Many countries around the world have adopted, or are likely to adopt, regulations that restrict or ban smoking in public and/or work places, restaurants, bars and nightclubs. Some public health groups have called for, and some countries, regional governments and municipalities have adopted or proposed, bans on smoking in outdoor places, as well as bans on smoking in cars (typically, when minors are present) and private homes.

Other Regulatory Issues: Some regulators are considering, or in some cases have adopted, regulatory measures designed to reduce the supply of tobacco products. These include regulations intended to reduce the number of retailers selling tobacco products by, for example, reducing the overall number of tobacco retail licenses available or banning the sale of tobacco products within specified distances of certain public facilities.

In a limited number of markets, most notably Japan, we are dependent on governmental approvals that may limit our pricing flexibility.

On December 19, 2018, the EU Council and the EU Parliament provisionally agreed on the Single-Use Plastics Directive, which would require tobacco manufacturers and importers to cover the costs of public collection systems for cigarette butts. The directive is expected to be finalized in the first half of 2019 and subsequently transposed by Member States into national law within two years. We cannot predict the impact of this initiative on our business at this time.

Illicit Trade: The illicit tobacco trade creates a cheap and unregulated supply of tobacco products, undermines efforts to reduce smoking prevalence, especially among youth, damages legitimate businesses, stimulates organized crime, increases corruption and reduces government tax revenue. Illicit trade may account for as much as 10% of global cigarette consumption; this includes counterfeit, contraband and the growing problem of "illicit whites," which are cigarettes legally produced in one jurisdiction for the sole purpose of being exported and illegally sold in another jurisdiction where they have no legitimate market. We estimate that illicit trade in the European Union accounted for approximately 10% of total cigarette consumption in 2018.

A number of jurisdictions are considering actions to prevent illicit trade. In November 2012, the FCTC adopted the Protocol to Eliminate Illicit Trade in Tobacco Products (the "Protocol"), which includes supply chain control measures, such as licensing of manufacturers and distributors, enforcement in free trade zones, controls on duty free and Internet sales and the implementation of tracking and tracing technologies. To date, 54 Parties have signed the Protocol, and 48 Parties, including the European Union, have ratified it. The Protocol came into force on September 25, 2018. Parties must now start implementing its measures via national legislation. In October 2018, the first Meeting of the Parties to the Protocol decided to produce a comprehensive report on good practices for the implementation of tracking and tracing systems and to prepare a conceptual framework for global information sharing to combat illicit tobacco trade. We welcome this decision and expect that other Parties will ratify the Protocol.

The tracking and tracing regulations for cigarettes and roll-your-own products manufactured or destined for the EU will become effective on May 20, 2019. The effective date for other tobacco-containing products, including some of our RRPs such as the heated tobacco units used with *IQOS*, is May 20, 2024.

In 2009, our Colombian subsidiaries entered into an Investment and Cooperation Agreement with the national and regional governments of Colombia to promote investment in, and cooperation on, anti-contraband and anti-counterfeit efforts. The agreement provides $200 million in funding over a 20-year period to address issues such as combating the illegal cigarette trade and increasing the quality and quantity of locally-grown tobacco.

In May 2016, PMI launched PMI IMPACT, a global initiative that supports third-party projects dedicated to fighting illegal trade and related crimes such as corruption, organized criminal networks and money laundering. The centerpiece of PMI IMPACT is a council of external independent experts in the fields of law, anti-corruption and law enforcement. The experts are responsible for evaluating and approving funding proposals for PMI IMPACT grants. PMI has pledged $100 million to fund projects within PMI IMPACT over three funding rounds. Substantially all grants under the first and second funding round were awarded in 2017 and 2018, respectively.

Reduced-Risk Products (RRPs)

<u>*Our Approach to RRPs:*</u> We recognize that smoking cigarettes causes serious diseases and that the best way to avoid the harms of smoking is never to start or to quit. Nevertheless, it is predicted that over the next decade the number of smokers will remain largely unchanged from the current estimate of 1.1 billion, despite the considerable efforts to discourage smoking.

Cigarettes burn tobacco, which produces smoke. As a result of the combustion process, the smoker inhales various toxic substances. In contrast, RRPs do not burn tobacco and produce an aerosol that contains significantly lower levels of harmful and potentially harmful constituents ("HPHCs") than found in cigarette smoke.

For smokers who would otherwise continue to smoke, we believe that RRPs, while not risk-free, offer a much better consumer choice. Accordingly, our key strategic priorities are: to develop and commercialize products that present less risk of harm to adult smokers who switch to those products versus continued smoking; and to convince current adult smokers who would otherwise continue to smoke to switch to those products.

We recognize that this transformation from cigarettes to RRPs will take time and that the speed of transformation will depend in part upon factors beyond our control, such as the willingness of governments, regulators and other policy groups to embrace RRPs as a desired alternative to continued cigarette smoking. We also recognize that our part in this transformation must be funded from our existing cigarette business. For as long as a significant number of adult smokers continues to smoke, it is critical that the industry be led by responsible and ethical manufacturers. Therefore, during the transformation, we intend to remain a leading international cigarette manufacturer.

We have a range of RRPs in various stages of development, scientific assessment and commercialization. We conduct rigorous scientific assessments of our RRP platforms to substantiate that they reduce exposure to HPHCs and, ultimately, that these products present, are likely to present, or have the potential to present less risk of harm to adult smokers who switch to them versus continued smoking. We draw upon a team of expert scientists and engineers from a broad spectrum of scientific disciplines and our extensive learnings of adult consumer preferences to develop and assess our RRPs. Our efforts are guided by the following key objectives:

- to develop RRPs that adult smokers who would otherwise continue to smoke find to be satisfying alternatives to smoking;
- for those adult smokers, our goal is to offer RRPs with a scientifically substantiated risk-reduction profile that approaches as closely as possible that associated with smoking cessation;
- to substantiate the reduction of risk for the individual adult smoker and the reduction of harm to the population as a whole, based on scientific evidence of the highest standard that is made available for scrutiny and review by external independent scientists and relevant regulatory bodies; and
- to advocate for the development of science-based regulatory frameworks for the development and commercialization of RRPs, including the communication of scientifically substantiated information to enable adult smokers to make better consumer choices.

Our RRP Platforms: Our product development is based on the elimination of combustion via tobacco heating and other innovative systems for aerosol generation, which we believe is the most promising path to providing a better consumer choice for those who would otherwise continue to smoke. We recognize that no single product will appeal to all adult smokers. Therefore, we are developing a portfolio of products intended to appeal to a variety of distinct adult consumer preferences.

Four RRP platforms are in various stages of development and commercialization readiness:

Platform 1 uses a precisely controlled heating device that we are commercializing under the *IQOS* brand name, into which a specially designed and proprietary tobacco unit is inserted and heated to generate an aerosol. We have conducted a series of clinical studies for this platform, the results of which were included in our submission to the U.S. Food and Drug Administration ("FDA") described below. The results of the first six-month term of the 6+6 month exposure response study were received at the end of 2017, and the related report was completed and submitted to the FDA in the second quarter of 2018. The study showed that all eight of the co-primary clinical risk endpoints moved in the same direction in the group that switched to *IQOS* as observed for smoking cessation, with statistically significant changes in five of the eight endpoints compared with on-going smoking. The results of the second six-month term of the 6+6 month exposure response study were received for analysis in the second quarter of 2018; the related report is under preparation. In addition, as set out in our submission to the FDA referenced above, we completed an 18-month combined chronic toxicity and carcinogenicity study in mice, which was ongoing at the time of our FDA submission. We shared the results with the FDA in August 2018.

Platform 2 uses a pressed carbon heat source which, when ignited, generates a nicotine-containing aerosol by heating tobacco. The results of our pharmacokinetic study (that measured the nicotine pharmacokinetic profile as well as subjective effects) and of our five-day reduced exposure study indicate that this platform could be an acceptable substitute for adult smokers who seek an alternative to cigarettes. The reduced exposure study results showed a substantial reduction in relevant biomarkers of exposure to the measured HPHCs in those who switched to *Platform 2* compared to those who continued to smoke cigarettes over a five-day period. The sustainability of this reduction as well as changes in clinical risk markers were assessed in a three-month reduced exposure study. The results of this study were received at the end of 2017, and the related report was finalized in the second quarter of 2018.

Platform 3 provides an aerosol of nicotine salt formed by the chemical reaction of nicotine with a weak organic acid. We have explored two routes for this platform, one with electronics and one without, and conducted nicotine pharmacokinetic studies with both versions. The results of the pharmacokinetic study related to the version without electronics were received, and the related report was finalized in the fourth quarter of 2018. The results indicate this product's potential as an acceptable alternative to continued cigarette smoking in terms of product satisfaction. We will also initiate a clinical product use and adaptation study.

Platform 4 covers e-vapor products, which are battery-powered devices that produce an aerosol by vaporizing a nicotine-containing liquid solution. Our e-vapor products comprise devices using current generation technology and our new e-vapor mesh technology that addresses certain challenges presented by some e-vapor products currently on the market. Our *IQOS MESH* products are designed to ensure the consistency and quality of the generated aerosol. We conducted a nicotine pharmacokinetic study in 2017. The results of this study were received in the second quarter of 2018 for analysis, and the related report was finalized in the fourth quarter of 2018. The results of this study indicate that *IQOS MESH* products are an effective means of nicotine delivery while being a satisfying alternative for e-cigarette users. We will also initiate a clinical reduced exposure study to measure selected biomarkers of exposure to HPHCs and assess changes in clinical risk markers.

After we receive the results of our scientific studies mentioned above, in accordance with standard scientific practices, we intend to share the conclusions in scientific forums and to submit them for inclusion in peer-reviewed publications.

The research and development expense for our RRP portfolio accounted for 92%, 74% and 72% of our total research and development expense for the years ended December 31, 2018, 2017 and 2016, respectively. The research and development expense for the years ended December 31, 2018, 2017 and 2016, is set forth in Item 8, Note 14. *Additional Information* to the consolidated financial statements.

Commercialization of RRPs: We are building a new product category and tailor our commercialization strategy to the characteristics of each specific market. We focus our commercialization efforts on consumer retail experience, guided consumer trials and customer care, as well as digital communication programs. In order to accelerate switching to *IQOS*, our initial market introductions typically entail one-on-one consumer engagement and introductory device discounts. These initial commercialization efforts require substantial investment, which we believe will moderate over time.

In 2014, we introduced the *IQOS* heated tobacco system in pilot city launches in Nagoya, Japan, and in Milan, Italy. Since then, we have continuously expanded our commercialization activities, and *IQOS* is currently available for sale in 44 markets in key cities or nationwide.

In Japan, we observed a slower-than-initially-projected growth in the first half of 2018, as we are now reaching different socio-economic strata with more conservative consumers who show a slower pace of adoption than early adopters. In late 2018 we began implementing a number of initiatives intended to specifically address the needs of these adult smokers.

We estimate that while some *IQOS* users are experimenting with competitive products, only a very small percentage of converted *IQOS* users in Japan switch to those products.

We estimate that only a very small percentage of adult smokers who convert to *IQOS* switch back to cigarettes.

We have been integrating the production of our heated tobacco units into a number of our existing manufacturing facilities and progressing with our plans to build manufacturing capacity for our other RRP platforms.

An adequate supply chain for our RRP portfolio, including the supply of electronic devices, is important to our business. We work with two electronics manufacturing service providers for the supply of our *IQOS* devices and a small number of other providers for other products in our RRP portfolio and related accessories. Although we work closely with these service providers on monitoring their production capability and financial health, the commercialization of our RRPs could be adversely affected if they are unable to meet their commitments. The production of our RRP portfolio requires various metals, and we believe that there is an adequate supply of such metals in the world markets to satisfy our current and anticipated production requirements. However, some components and materials necessary for the production of our RRPs, including those for the electronic devices, are obtained from single or limited sources, and can be subject to industry-wide shortages and price fluctuations. Our inability to secure an adequate supply of such components and materials could negatively impact the commercialization of our RRPs.

Our *IQOS* devices are subject to standard product warranties generally for a period of 12 months from the date of purchase or such other periods as required by law. We discuss product warranties in more detail in Note 5. *Product Warranty*. The significance of warranty claims is dependent on a number of factors including warranty policies and product failure rates and may increase with the number of devices sold.

Our commercialization efforts for the other RRP platforms are as follows:

- We currently market our e-vapor products in several markets, including Ireland and the U.K. In July 2018, we pilot-launched *IQOS MESH*, one of our Platform 4 products, in London, U.K.
- We completed a small-scale city test of *TEEPS*, our Platform 2 product, that we had initiated in December 2017 in Santo Domingo, the Dominican Republic, and are working on improving this product and incorporating our learnings into our future plans.
- Depending on the outcome of the use and adaptation study described above, we plan to conduct a consumer test of our Platform 3 product.

RRP Regulation and Taxation: RRPs contain nicotine and are not risk-free. We therefore support science-based regulation and taxation of RRPs. Regulation and taxation should differentiate between cigarettes and products that present, are likely to present, or have the potential to present less risk of harm to adult smokers who switch to these products versus continued smoking and recognize a continuum of risk for tobacco and other nicotine-containing products. Regulation should provide minimum standards for RRPs and specific rules for product assessment methodologies, ingredients, labelling and consumer communication, and should ensure that the public is informed about the health risks of all combustible and non-combustible tobacco and nicotine-containing products. Regulation, as well as industry practices, should reflect the fact that youth should not consume nicotine in any form.

Some governments have banned or are seeking to ban or severely restrict emerging tobacco and nicotine-containing products such as our RRPs and communication of truthful and non-misleading information about such products. These regulations might foreclose or unreasonably restrict adult consumer access even to products that might be shown to be a better consumer choice than continuing to smoke. We oppose such blanket bans and unreasonable restrictions of products that have the potential to present less risk of harm compared to continued smoking. By contrast, we support regulation that sets clear standards and propels innovation to benefit adult smokers who would otherwise continue to smoke.

In the United States, an established regulatory framework for assessing "Modified Risk Tobacco Products" and "New Tobacco Products" exists under the jurisdiction of the FDA. We submitted to the FDA a Modified Risk Tobacco Product Application ("MRTPA") for *IQOS* in December 2016, and a Premarket Tobacco Product Application ("PMTA") for *IQOS* in March 2017. In May 2017, the FDA formally accepted and filed our MRTPA for substantive scientific review and, in June 2017, the FDA opened the period for the public to provide comments on our application. The FDA recently announced the public comment period would close on February 11, 2019. In August 2017, the FDA completed a preliminary review of our PMTA and accepted our application for substantive review. The FDA referred our MRTPA to the Tobacco Product Scientific Advisory Committee ("TPSAC"). TPSAC held a meeting on January 24 and January 25, 2018 to discuss our MRTPA. The recommendations and votes of TPSAC are not binding on the FDA. By regulation, the FDA's decision on our MRTPA will take into account, in addition to the views of TPSAC, scientific evidence as well as comments, data and information submitted by interested persons.

Separately, in July 2017, the FDA issued a policy announcement aiming to explore the potential of nicotine reduction in cigarettes in conjunction with the availability of less harmful products that deliver nicotine for adults who choose to use such products. In July 2018, as part of a public consultation procedure, we submitted our views on this topic to the FDA.

Following a rise in the use of e-vapor products among minors in the U.S., in November 2018, the FDA announced a policy framework for the prevention of the use of tobacco and nicotine-containing products by youth. Under the policy framework, flavored e-vapor products, other than tobacco, mint and menthol flavors, may be sold only in age-restricted retail outlets or through online sites with heightened age verification requirements. The FDA also announced its intention to remove from the market certain e-vapor products that are appealing or marketed to youth. While we do not sell products in the U.S. and therefore are not subject to these actions, we continue to support regulation and industry practices that reflect the fact that youth should not consume nicotine in any form.

Future FDA actions may influence the regulatory approach of other governments.

Until recently, there were no countries with specific product standards for heated tobacco products. Effective July 2017 and March 2018, respectively, Russia and Ukraine adopted standards that set minimum quality and safety requirements for the consumables and defined methods for demonstrating the absence of combustion, and the product standards in Kazakhstan that come into force in March 2019, also cover devices. We expect and encourage other governments to consider similar product standards going forward.

In the EU, all EU Member States and Norway have transposed the EU Tobacco Products Directive, including the provisions on novel tobacco products, such as heated tobacco units, and e-cigarettes. Most of the EU Member States require a notification submitted six months before the intended placing on the market of a novel tobacco product, while some require pre-market authorizations for the introduction of such products. To date, we have filed a comprehensive dossier summarizing our scientific assessment of *IQOS* in 22 Member States.

In addition, in Italy, in April 2018, we submitted under recent legislation an application for *HEETS*, used with the *IQOS* device, requesting regulatory recognition of the reduction of toxic substances and potential risk reduction resulting from switching to this product compared to continued cigarette smoking. In January 2019, our application was not granted primarily on the grounds of insufficient data and questions of methodology. Due to the constraints of the review process, we had been unable to supplement the application with all the data we subsequently filed with the FDA and to address methodological questions during the review. We plan to submit a new application where we will clarify the concerns raised by the decision and further strengthen our application by submitting additional evidence that became available since we submitted our first application, consistent with our FDA filing. We are confident that our evidence supports our application.

Also, pursuant to local regulations, in May 2018, we submitted a scientific dossier to regulatory authorities in Bulgaria with the notification of our intent to communicate to adult smokers the reduction of measured HPHCs and potential risk reduction resulting from switching to *IQOS* compared to continued cigarette smoking.

To date, several governmental agencies published their scientific findings that pertain to our RRPs.

On December 12, 2017, at the request of the U.K. Department of Health and Public Health England, the U.K. Committee on Toxicity published its assessment of the risk of heated tobacco products relative to cigarette smoking. This assessment included analysis of scientific data for two heated tobacco products, one of which was *IQOS*. The assessment concluded that, while still harmful to health, compared with the known risks from cigarettes, heated tobacco products are probably less harmful. Subsequently, on February 6, 2018, Public Health England published a report stating that the available evidence suggests that heated tobacco products may be considerably less harmful than cigarettes and more harmful than e-cigarettes.

On May 5, 2018, the German Federal Institute for Risk Assessment ("BfR") published a study on the *IQOS* aerosol relative to cigarette smoke using the Health Canada Intense Smoking Regimen. BfR found reductions in selected HPHCs in a range of 80-99%. This publication indicates that significant reductions in the levels of selected toxicants are likely to reduce toxicant exposure, which BfR stated might be regarded as a discrete benefit compared to combustible cigarettes.

On May 15, 2018, the Dutch National Institute for Public Health and Environment ("RIVM") published a factsheet on novel tobacco products that heat rather than burn tobacco, focusing on *IQOS*. RIVM analyzed the *IQOS* aerosol and concluded that the use of heated tobacco units with *IQOS*, while still harmful to health, is probably less harmful than continued smoking.

On June 7, 2018, the Korean Food and Drug Administration ("KFDA") issued a statement on products that heat rather than burn tobacco. The KFDA tested three heat-not-burn products, one of which was *IQOS*. The KFDA confirmed that the levels of the nine HPHCs tested in the aerosol of these products were on average approximately 90% lower compared to those measured in the cigarette smoke of the top five cigarette brands in South Korea. However, the KFDA stated that it could not establish that the tested heat-not-burn products are less harmful than cigarettes. In October 2018, our Korean affiliate filed a request with a local court seeking information underlying KFDA's analysis, conclusions and public statements.

On August 17, 2018, the Science & Technology Committee of the U.K. House of Commons published a report of its inquiry into e-cigarettes and heat-not-burn tobacco products. The report concluded that e-cigarettes are significantly less harmful to health than smoking tobacco. The report also observed that for those smokers who don't accept e-cigarettes, heat-not-burn tobacco products may offer a public health benefit despite their relative risk. The report called for a risk-proportionate regulatory environment for both e-cigarettes and heat-not-burn tobacco products and noted that e-cigarettes should remain the least taxed, cigarettes the most taxed, with heat-not-burn products falling between the two. The U.K. Committee on Advertising Practice announced the removal of a prohibition of health claims in the advertising of e-cigarettes in the U.K. effective November 2018, with a review of the impact of this decision on market practices 12 months thereafter.

We make our scientific findings publicly available for scrutiny and peer review through several channels, including our websites. From time to time, adult consumers, competitors, members of the scientific community, and others inquire into our scientific methodologies, challenge our scientific conclusions or request further study of certain aspects of our RRPs and their health effects. We are committed to a robust and open scientific debate but believe that such debate should be based on accurate and reliable scientific information. We seek to provide accurate and reliable scientific information about our RRPs; nonetheless, we may not be able to prevent third-party dissemination of false, misleading or unsubstantiated information about these products. The dissemination of scientifically unsubstantiated information or studies with a strong confirmation bias by third parties may cause confusion among adult smokers and affect their decision to switch to better alternatives to continued smoking, such as our RRPs.

To date, we have been largely successful in demonstrating to regulators that our RRPs are not cigarettes due to the absence of combustion, and as such they are generally taxed either as a separate category or as other tobacco products, which typically yields more favorable tax rates than cigarettes. Although we believe that this is sensible from the public health perspective, we cannot guarantee that regulators will continue this approach.

There can be no assurance that we will succeed in our efforts to replace cigarettes with RRPs or that regulation will allow us to commercialize RRPs in all markets, to communicate scientifically substantiated risk-reduction claims, or to treat RRPs differently from cigarettes.

<u>Legal Challenges to RRPs:</u> We face various administrative and legal challenges related to certain RRP activities, including allegations concerning product classification, advertising restrictions, corporate communications, *IQOS* coach activities, scientific substantiation, product liability, and unfair competition. While we design our programs to comply with relevant regulations, we expect these or similar challenges to continue as we expand our efforts to commercialize RRPs and to communicate publicly. The outcomes of these matters may affect our RRP commercialization and public communication activities and performance in one or more countries.

<u>Our RRP Business Development Initiatives:</u> In December 2013, we established a strategic framework with Altria Group, Inc. ("Altria") setting out terms on how the parties would collaborate to develop and commercialize e-vapor products and commercialize two of our RRPs in the U.S. In late 2018, Altria announced that it will participate in the e-vapor category only through another e-vapor company in

which Altria has agreed to acquire a minority interest. We intend to hold discussions with Altria about e-vapor products following completion of its investment. Regarding heated tobacco products, as discussed above, we are seeking regulatory approval from the FDA to market *IQOS* in the U.S., and these efforts are not affected by Altria's e-vapor announcement.

Other Developments: On September 12, 2017, we announced our support of the Foundation for a Smoke-Free World. We agreed to contribute $80 million per year over the next 12 years, as specified in the agreement. We made an initial contribution of $4.5 million in 2017, the first annual contribution of $80 million in the first quarter of 2018 and the second annual contribution of $80 million in the first quarter of 2019. The Foundation is an independent body and is governed by its independent Board of Directors. The Foundation's role, as set out in its corporate charter, includes funding research in the field of tobacco harm reduction, encouraging measures that reduce the harm caused by smoking, and assessing the effect of reduced cigarette consumption on the industry value chain.

Governmental Investigations

From time to time, we are subject to governmental investigations on a range of matters, including tax, customs, antitrust, advertising, and labor practices. We describe certain matters pending in Thailand and South Korea in Item 8, Note 18. *Contingencies*.

In November 2010, a WTO panel issued its decision in a dispute relating to facts that arose from August 2006 between the Philippines and Thailand concerning a series of Thai customs and tax measures affecting cigarettes imported by PM Thailand into Thailand (see Item 8, Note 18. *Contingencies* for additional information). The WTO panel decision, which was upheld by the WTO Appellate Body, concluded that Thailand had no basis to find that PM Thailand's declared customs values and taxes paid were too low, as alleged by the DSI in 2009. The decision also created obligations for Thailand to revise its laws, regulations, or practices affecting the customs valuation and tax treatment of future cigarette imports. Thailand agreed in September 2011 to fully comply with the decision by October 2012. The Philippines asserts that to date Thailand has not fully complied with the WTO panel decision. The Philippines has repeatedly expressed concerns with ongoing investigations by Thailand of PM Thailand, including those that led to the criminal charges described in Item 8, Note 18. *Contingencies*, and has commenced two formal proceedings at the WTO to challenge criminal charges against PM Thailand arguing that the criminal charges appear to be based on grounds not supported by WTO customs valuation rules and inconsistent with several decisions already taken by Thai Customs and other Thai governmental agencies. The Philippines has also asserted that the demand notices received by PM Thailand from the Thai Customs Department in November 2017, described in Note 8. *Contingencies*, are inconsistent with Thailand's WTO obligations. On November 12, 2018, the WTO issued its decision agreeing with the Philippines that criminal charges against PM Thailand and seven former and current employees in connection with import entries of cigarettes from the Philippines during the period of July 2003 to June 2006 are inconsistent with WTO customs valuation rules. In January 2019, Thailand appealed this decision.

U.S. GAAP Treatment of Argentina as a Highly Inflationary Economy

Following the categorization of Argentina by the International Practices Task Force of the Center for Audit Quality as a country with a three-year cumulative inflation rate greater than 100%, the country is considered highly inflationary in accordance with U.S. GAAP. Consequently, we began to account for the operations of our Argentinian affiliates as highly inflationary, and to treat the U.S. dollar as the functional currency of the affiliates, effective July 1, 2018. The move to highly inflationary accounting in Argentina reduced our currency-neutral net revenue growth by approximately 0.6 points in 2018.

Acquisitions

We discuss our acquisitions in Item 8, Note 6. *Acquisitions* to our consolidated financial statements.

Investments in Unconsolidated Subsidiaries and Equity Securities

We discuss our investments in unconsolidated subsidiaries and equity securities in Item 8, Note 4. *Investments in Unconsolidated Subsidiaries and Other Related Party* and Item 8, Note 16. *Fair Value Measurements* to our consolidated financial statements.

Trade Policy

We are subject to various trade restrictions imposed by the United States of America and countries in which we do business ("Trade Sanctions"), including the trade and economic sanctions administered by the U.S. Department of the Treasury's Office of Foreign Assets Control and the U.S. Department of State. It is our policy to comply fully with these Trade Sanctions.

Tobacco products are agricultural products under U.S. law and are not technological or strategic in nature. From time to time we make sales in countries subject to Trade Sanctions, either where such sanctions do not apply to our business or pursuant to exemptions or licenses.

To our knowledge, none of our commercial arrangements results in the governments of any country identified by the U.S. government as a state sponsor of terrorism, nor entities controlled by those governments, receiving cash or acting as intermediaries in violation of U.S. laws.

We do not sell products in Iran, Sudan, North Korea and Syria. From time to time, we explore opportunities to sell our products in one or more of these countries, as permitted by law.

Certain states within the U.S. have enacted legislation permitting state pension funds to divest or abstain from future investment in stocks of companies that do business with certain countries that are sanctioned by the U.S. We do not believe such legislation has had a material effect on the price of our shares.

2018 compared with 2017

The following discussion compares operating results within each of our reportable segments for 2018 with 2017.

Unless otherwise stated, references to total industry, total market, our shipment volume and our market share performance reflect cigarettes and heated tobacco units.

European Union:

Financial Summary - Years Ended December 31,			Change Fav./(Unfav.)		Variance Fav./(Unfav.)				
(in millions)	**2018**	**2017**	**Total**	**Excl. Curr.**	**Total**	**Cur-rency**	**Price**	**Vol/ Mix**	**Cost/ Other**
Net Revenues	**$ 9,298**	$ 8,318	11.8%	5.9%	$ 980	$ 489	$ 248	$ 243	$ —
Operating Income	**$ 4,105**	$ 3,691	11.2%	2.9%	$ 414	$ 308	$ 248	$ 116	$ (258)

"Cost/Other" in the above table reflects the currency-neutral variances of: cost of sales (excluding the volume/mix cost component); marketing, administration and research costs; asset impairment and exit costs; and amortization of intangibles.

Net revenues, excluding favorable currency, increased by 5.9%, reflecting a favorable pricing variance, driven notably by Germany and Italy, partly offset by France, and favorable volume/mix, driven predominantly by heated tobacco unit volume, notably in the Czech Republic, Germany and Italy, partly offset by unfavorable cigarette volume in France, Germany and Italy.

The net revenues of the European Union segment include $865 million in 2018 and $269 million in 2017 related to the sale of RRPs.

Operating income, excluding favorable currency, increased by 2.9%, reflecting: a favorable pricing variance; favorable volume/mix, notably in Bulgaria, the Czech Republic and Poland, partly offset by France, Norway and the United Kingdom; partly offset by higher manufacturing costs and marketing, administration and research costs, primarily related to investments behind reduced-risk products across the Region.

European Union - Total Market, PMI Shipment & Market Share Commentaries

Total market, PMI shipment volume and market share performance are shown in the table below:

European Union Key Data	**Full-Year**		
	2018	**2017**	**Change % / pp**
Total Market (billion units)	**484.3**	492.4	(1.7)%
PMI Shipment Volume (million units)			
Cigarettes	**179,622**	187,293	(4.1)%
Heated Tobacco Units	**5,977**	1,889	+100.0%
Total European Union	**185,599**	189,182	(1.9)%
PMI Market Share			
Marlboro	**18.5%**	18.8%	(0.3)
L&M	**6.9%**	6.9%	—
Chesterfield	**5.9%**	6.0%	(0.1)
Philip Morris	**2.9%**	3.1%	(0.2)
HEETS	**1.2%**	0.3%	0.9
Others	**3.1%**	3.2%	(0.1)
Total European Union	**38.5%**	38.3%	0.2

The estimated total market in the EU decreased by 1.7% to 484.3 billion units, or by 1.5% excluding the net impact of estimated trade inventory movements, notably due to:

- France, down by 9.2%, primarily reflecting the impact of significant excise tax-driven price increases and an increase in the prevalence of illicit trade;
- Germany, down by 2.2%, primarily reflecting the impact of price increases;
- Italy, down by 1.3%, primarily reflecting the impact of price increases; and
- the United Kingdom, down by 6.9%, primarily reflecting the impact of price increases;

partly offset by

- Poland, up by 3.7%, primarily driven by a decrease in the prevalence of illicit trade.

Our total shipment volume decreased by 1.9% to 185.6 billion units, or by 1.0% excluding the net impact of estimated distributor inventory movements, notably due to:

- France, down by 6.4%, or by 5.0% excluding the net impact of estimated distributor inventory movements, primarily due to a lower total market, partly offset by higher market share, notably of *Marlboro* and *Philip Morris*;
- Germany, down by 1.8%, primarily due to the lower total market, partly offset by higher market share; and
- Italy, down by 4.1%, or by 1.9% excluding the net impact of estimated distributor inventory movements, primarily due to the lower total market and lower cigarette market share.

Our Regional market share increased by 0.2 points to 38.5%, with gains in Belgium, Bulgaria, the Canary Islands, Croatia, Denmark, France, Germany, Greece, Hungary, Latvia, Lithuania, Luxembourg, Portugal, Romania, the Slovak Republic and Slovenia.

Eastern Europe:

Financial Summary - Years Ended December 31,			Change Fav./(Unfav.)		Variance Fav./(Unfav.)				
(in millions)	2018	2017	Total	Excl. Curr.	Total	Cur-rency	Price	Vol/Mix	Cost/Other
Net Revenues	**$ 2,921**	$ 2,711	7.7%	12.1%	$ 210	$ (118)	$ 286	$ 42	$ —
Operating Income	**$ 902**	$ 887	1.7%	13.1%	$ 15	$ (101)	$ 286	$ (92)	$ (78)

"Cost/Other" in the above table reflects the currency-neutral variances of: cost of sales (excluding the volume/mix cost component); marketing, administration and research costs; asset impairment and exit costs; and amortization of intangibles.

Net revenues, excluding unfavorable currency, increased by 12.1%, reflecting a favorable pricing variance, mainly driven by Russia and Ukraine, and favorable volume/mix, primarily driven by heated tobacco unit volume, notably in Russia, partly offset by unfavorable cigarette volume/mix, notably in Russia.

The net revenues of the Eastern Europe segment include $324 million in 2018 and $55 million in 2017 related to the sale of RRPs.

Operating income, excluding unfavorable currency, increased by 13.1%, mainly reflecting a favorable pricing variance, partly offset by: unfavorable volume/mix, predominantly due to unfavorable mix in Russia, and higher manufacturing and marketing, administration and research costs, notably reflecting increased investments behind reduced-risk products, primarily in Russia.

Eastern Europe - Total Market, PMI Shipment Volume and Market Share Commentaries

The estimated total market in Eastern Europe decreased by 7.1% to 416.7 billion units, notably due to:

- Russia, down by 8.4%, primarily reflecting the timing and impact of excise tax-driven retail price increases, as well as an increase in the prevalence of illicit trade; and
- Ukraine, down by 8.1%, primarily reflecting the timing and impact of excise tax-driven retail price increases and an increase in the prevalence of illicit trade.

Our Regional market share increased by 0.6 points to 27.3%.

PMI Shipment Volume (million units)	Full-Year		
	2018	2017	Change
Cigarettes	**108,718**	119,398	(8.9)%
Heated Tobacco Units	**4,979**	674	+100.0%
Total Eastern Europe	**113,697**	120,072	(5.3)%

Our total shipment volume decreased by 5.3% to 113.7 billion units, notably in:

- Russia, down by 6.1%, due to the lower total market, partly offset by higher total market share driven by heated tobacco unit share, partially offset by lower cigarette market share, notably due to mid-price *L&M* and low-price *Bond Street*, reflecting the impact of down-trading to competitive products, partly offset by *Philip Morris*; and
- Ukraine, down by 8.8%, mainly due to the lower total market, partly offset by higher total market share driven by heated tobacco unit volume.

Middle East & Africa:

Financial Summary - Years Ended December 31,			Change Fav./(Unfav.)		Variance Fav./(Unfav.)				
(in millions)	2018	2017	Total	Excl. Curr.	Total	Cur-rency	Price	Vol/Mix	Cost/Other
Net Revenues	**$ 4,114**	$ 3,988	3.2 %	8.0%	$ 126	$ (193)	$ 19	$ 84	$ 216
Operating Income	**$ 1,627**	$ 1,884	(13.6)%	0.3%	$ (257)	$ (263)	$ 19	$ 13	$ (26)

"Cost/Other" in the above table reflects the currency-neutral variances of: cost of sales (excluding the volume/mix cost component); marketing, administration and research costs; asset impairment and exit costs; and amortization of intangibles. "Cost/Other" also includes the currency-neutral net revenue variance, unrelated to volume/mix and price components, attributable to fees for certain distribution rights billed to customers in certain markets in the ME&A Region. This immaterial presentational change, made in conjunction with the new revenue recognition standard, is prospective only.

Net revenues, excluding unfavorable currency, increased by 8.0%, reflecting: a favorable "cost/other" variance, as described above; a favorable pricing variance, driven notably by Egypt and Turkey, partly offset by Saudi Arabia; and favorable volume/mix, primarily driven by PMI Duty Free, reflecting higher heated tobacco unit volume, and Turkey, partly offset by the GCC, notably Saudi Arabia and the UAE, reflecting the impact of retail price increases following the introduction of excise tax in June and October 2017, respectively, and VAT in January 2018.

The net revenues of the Middle East & Africa segment include $382 million in 2018 and $94 million in 2017 related to the sale of RRPs.

Operating income, excluding unfavorable currency, increased by 0.3%, mainly reflecting: a favorable pricing variance, and favorable volume/mix, primarily driven by PMI Duty Free and Turkey, partly offset by Saudi Arabia and the UAE. These favorable variances were partly offset by higher manufacturing costs predominantly related to reduced-risk products, partly offset by lower marketing, administration and research costs.

Middle East & Africa - Total Market, PMI Shipment Volume and Market Share Commentaries

The estimated total market in the Middle East & Africa increased by 0.4% to 590.1 billion units, notably driven by:

- Turkey, up by 11.6%, primarily reflecting a reduction in the prevalence of illicit trade;

partly offset by

- Algeria, down by 8.5%, or by 0.6% excluding the net impact of estimated trade inventory movements mainly associated with the timing of excise tax announcements in 2018 compared to 2017; and
- The GCC, notably Saudi Arabia and the UAE, down by 21.1% and 23.9%, respectively, primarily reflecting the impact of price increases and the introduction of the new excise tax in 2017, and VAT in January 2018.

Our Regional market share increased by 0.3 points to 23.8%.

PMI Shipment Volume (million units)	Full-Year		
	2018	2017	Change
Cigarettes	**136,605**	136,759	(0.1)%
Heated Tobacco Units	**3,403**	907	+100.0%
Total Middle East & Africa	**140,008**	**137,666**	**1.7 %**

Our total shipment volume increased by 1.7% to 140.0 billion units, notably in:

- Turkey, up by 10.8%, reflecting a higher total market, partly offset by lower market share; and
- PMI Duty Free, up by 6.6%, reflecting higher heated tobacco shipment volume;

partly offset by

- the GCC, notably Saudi Arabia and the UAE, down by 32.5% and 55.6%, respectively, reflecting the lower total market and market share due to the impact of excise tax and VAT-driven price increases.

South & Southeast Asia:

Financial Summary - Years Ended December 31,			**Change Fav./(Unfav.)**		**Variance Fav./(Unfav.)**				
(in millions)	**2018**	**2017**	**Total**	**Excl. Curr.**	**Total**	**Cur-rency**	**Price**	**Vol/ Mix**	**Cost/ Other**
Net Revenues	**$ 4,656**	$ 4,417	5.4%	10.9%	$ 239	$ (244)	$ 548	$ (65)	$ —
Operating Income	**$ 1,747**	$ 1,514	15.4%	23.6%	$ 233	$ (124)	$ 548	$ (126)	$ (65)

"Cost/Other" in the above table reflects the currency-neutral variances of: cost of sales (excluding the volume/mix cost component); marketing, administration and research costs; asset impairment and exit costs; and amortization of intangibles.

Net revenues, excluding unfavorable currency, increased by 10.9%, reflecting: a favorable pricing variance, driven principally by Indonesia and the Philippines, partly offset by Thailand; partly offset by unfavorable volume/mix, mainly due to unfavorable mix in Indonesia, partly offset by favorable volume in Pakistan, the Philippines and Thailand.

Operating income, excluding unfavorable currency, increased by 23.6%, mainly driven by a favorable pricing variance, partly offset by unfavorable volume/mix, mainly due to Indonesia, partly offset by Pakistan and Thailand, and higher manufacturing and marketing, administration and research costs.

South & Southeast Asia - Total Market, PMI Shipment Volume and Market Share Commentaries

The estimated total market in South & Southeast Asia increased by 1.8% to 756.7 billion, notably driven by:

- Pakistan, up by 31.2% or approximately 14.1 billion units, notably reflecting an increase in the duty-paid market driven by a reduction in the prevalence of illicit trade. Excluding the net impact of estimated trade inventory movements, the total market was up by 17.7%;

partly offset by

- the Philippines, down by 2.2%, primarily reflecting the impact of excise tax-driven retail price increases; and
- Thailand, down by 2.7%, primarily reflecting the impact of excise tax-driven price increases.

Our Regional market share increased by 0.4 points to 23.5%.

PMI Shipment Volume (million units)	**Full-Year**		
	2018	**2017**	**Change**
Cigarettes	**178,469**	171,600	4.0 %
Heated Tobacco Units	**—**	—	— %
Total South & Southeast Asia	**178,469**	**171,600**	**4.0%**

Our total shipment volume increased by 4.0% to 178.5 billion units, notably driven by:

- Pakistan, up by 27.0%, reflecting the higher total market, partly offset by lower market share;
- the Philippines, up by 1.1%, mainly reflecting higher market share, driven by *Marlboro* and *Fortune*, partly offset by a lower total market; and
- Thailand, up by 67.1%, mainly reflecting higher market share driven by the price repositioning of the *L&M 7.1* variant in 2017 and its subsequent distribution expansion during 2018.

East Asia & Australia:

Financial Summary - Years Ended December 31, (in millions)	2018	2017	Change Fav./(Unfav.) Total	Change Fav./(Unfav.) Excl. Curr.	Variance Fav./(Unfav.) Total	Cur-rency	Price	Vol/ Mix	Cost/ Other
Net Revenues	**$ 5,580**	$ 6,373	(12.4)%	(13.4)%	$ (793)	$ 62	$ 55	$ (910)	$ —
Operating Income	**$ 1,851**	$ 2,608	(29.0)%	(28.9)%	$ (757)	$ (2)	$ 55	$ (704)	$ (106)

"Cost/Other" in the above table reflects the currency-neutral variances of: cost of sales (excluding the volume/mix cost component); marketing, administration and research costs; asset impairment and exit costs; and amortization of intangibles.

Net revenues, excluding favorable currency, decreased by 13.4%, reflecting an unfavorable volume/mix, substantially due to Japan, primarily related to the net impact of estimated distributor inventory movements described below, as well as Australia, partly offset by favorable heated tobacco unit volume in Korea. The unfavorable volume/mix was partly offset by a favorable pricing variance, driven by: Australia and Japan; partly offset by Korea, mainly due to higher excise tax.

The net revenues of the East Asia & Australia segment include $2,506 million in 2018 and $3,218 million in 2017 related to the sale of RRPs.

Operating income, excluding unfavorable currency, decreased by 28.9%, mainly reflecting: unfavorable volume/mix, substantially due to Japan, as well as Australia, partly offset by favorable heated tobacco unit volume in Korea; and higher marketing, administration and research costs, primarily related to investments behind reduced-risk products. These unfavorable variances were partly offset by a favorable pricing variance, as well as favorable manufacturing costs related to Japan.

East Asia & Australia - Total Market, PMI Shipment Volume and Market Share Commentaries

The estimated total market in East Asia & Australia, excluding China, decreased by 3.4% to 311.5 billion units, notably due to:

- Australia, down by 8.4%, primarily reflecting the impact of excise tax-driven retail price increases;
- Japan, down by 2.4%, or down by 2.8% excluding the impact of estimated trade and consumer inventory movements following the October 1 excise tax-driven retail price increases;
- Korea, down by 1.5%, or by 2.2% excluding the net impact of estimated trade inventory movements, partly related to the implementation of graphic health warnings in December 2018; and
- Taiwan, down by 13.5%, or by 12.7% excluding the net impact of estimated trade inventory movements, mainly due to excise tax-driven retail price increases in 2017.

Our Regional market share, excluding China, increased by 2.0 points to 27.4%.

PMI Shipment Volume (million units)	Full-Year 2018	Full-Year 2017	Full-Year Change
Cigarettes	**56,163**	62,653	(10.4)%
Heated Tobacco Units	**26,866**	32,729	(17.9)%
Total East Asia & Australia	**83,029**	95,382	(13.0)%

Our total shipment volume decreased by 13.0% to 83.0 billion units, due to lower cigarette shipment volume, principally in Japan and Korea, and lower heated tobacco unit shipment volume in Japan, reflecting the net impact of estimated distributor inventory movements, partly offset by higher heated tobacco unit shipment volume in Korea.

Excluding the net impact of an estimated 15.5 billion units of total distributor inventory movements, primarily due to Japan, reflecting net unfavorable heated tobacco unit inventory movements of approximately 17.3 billion units, partly offset by net favorable cigarette inventory movements of approximately 1.8 billion units, our total shipment volume increased by 3.7%.

Our total shipment volume in Japan was down by 21.0%. Excluding the net impact of estimated distributor inventory movements of approximately 15.6 billion units, our total shipment volume in Japan was up by 3.1%, reflecting an increase of heated tobacco unit volume of 40.3%, partly offset by a decline of cigarette volume of 15.8%.

Latin America & Canada:

Financial Summary - Years Ended December 31,			**Change Fav./(Unfav.)**		**Variance Fav./(Unfav.)**				
(in millions)	**2018**	**2017**	**Total**	**Excl. Curr.**	**Total**	**Cur-rency**	**Price**	**Vol/ Mix**	**Cost/ Other**
Net Revenues	**$ 3,056**	$ 2,941	3.9%	7.3%	$ 115	$ (99)	$ 332	$ (118)	$ —
Operating Income	**$ 1,145**	$ 997	14.8%	18.1%	$ 148	$ (32)	$ 332	$ (111)	$ (41)

"Cost/Other" in the above table reflects the currency-neutral variances of: cost of sales (excluding the volume/mix cost component); marketing, administration and research costs; asset impairment and exit costs; and amortization of intangibles.

Net revenues, excluding unfavorable currency, increased by 7.3%, reflecting a favorable pricing variance across the Region, notably in Argentina, Canada and Mexico, partly offset by unfavorable volume/mix, mainly due to Argentina and Canada.

The net revenues of the Latin America & Canada segment include $19 million in 2018 and $4 million in 2017 related to the sale of RRPs.

Operating income, excluding unfavorable currency, increased by 18.1%, largely reflecting a favorable pricing variance, partly offset by: unfavorable volume/mix, mainly in Argentina and Canada, as well as higher marketing, administration and research costs, primarily related to increased investment behind reduced-risk products in the Region, coupled with an unfavorable comparison to 2017 related to the sale of assets, primarily in the Dominican Republic.

Latin America & Canada - Total Market, PMI Shipment Volume and Market Share Commentaries

The estimated total market in Latin America & Canada decreased by 4.8% to 202.7 billion units, primarily due to the impact of cumulative price increases in Argentina, down by 3.2%, Brazil, down by 6.2%, Canada, down by 5.1% and Colombia, down by 12.1%, where excise tax reform drove an approximate 25% increase in retail prices in January 2018.

Our Regional market share increased by 0.4 points to 40.0%.

PMI Shipment Volume (million units)	**Full-Year**		
	2018	**2017**	**Change**
Cigarettes	**80,738**	84,223	(4.1)%
Heated Tobacco Units	**147**	27	+100.0%
Total Latin America & Canada	**80,885**	84,250	(4.0)%

Our total shipment volume decreased by 4.0% to 80.9 billion units, notably due to:

- Argentina, down by 4.6%, reflecting the lower total market and lower market share; and
- Colombia, down by 11.0%, reflecting the lower total market.

2017 compared with 2016

The following discussion compares operating results within each of our reportable segments for 2017 with 2016.

Unless otherwise stated, references to total industry, total market, our shipment volume and our market share performance reflect cigarettes and heated tobacco units.

European Union:

Financial Summary - Years Ended December 31,			**Change Fav./(Unfav.)**		**Variance Fav./(Unfav.)**				
(in millions)	**2017**	**2016**	**Total**	**Excl. Curr.**	**Total**	**Cur-rency**	**Price**	**Vol/ Mix**	**Cost/ Other**
Net Revenues	$ 8,318	$ 8,162	1.9 %	1.4 %	$ 156	$ 45	$ 156	$ (45)	$ —
Operating Income	$ 3,691	$ 3,920	(5.8)%	(4.7)%	$ (229)	$ (43)	$ 156	$ (119)	$ (223)

"Cost/Other" in the above table reflects the currency-neutral variances of: cost of sales (excluding the volume/mix cost component); marketing, administration and research costs; asset impairment and exit costs; and amortization of intangibles.

Net revenues, excluding favorable currency, increased by 1.4%, due to price increases, partially offset by unfavorable volume/mix.

The net revenues of the European Union segment include $269 million in 2017 and $57 million in 2016 related to the sale of RRPs.

Operating income, excluding unfavorable currency, decreased by 4.7%, due primarily to higher marketing, administration and research costs (primarily related to increased investment behind reduced-risked products) and unfavorable volume/mix, partly offset by price increases and lower manufacturing costs.

European Union - Total Market, PMI Shipment & Market Share Commentaries

Total market, PMI shipment volume and market share performance were as follows:

European Union Key Data	**Full-Year**		
	2017	**2016**	**Change % / pp**
Total Market (billion units)	492.4	501.8	(1.9)%
PMI Shipment Volume (million units)			
Cigarettes	187,293	193,586	(3.3)%
Heated Tobacco Units	1,889	224	+100.0%
Total European Union	189,182	193,810	(2.4)%
PMI Market Share			
Marlboro	18.8%	19.0%	(0.2)
L&M	6.9%	6.9%	—
Chesterfield	6.0%	5.9%	0.1
Philip Morris	3.1%	3.2%	(0.1)
HEETS	0.3%	—%	0.3
Others	3.2%	3.3%	(0.1)
Total European Union	38.3%	38.3%	—

The estimated total market in the European Union decreased by 1.9% to 492.4 billion units. Our Regional market share was flat at 38.3%, with gains in France, Germany and Poland offset by declines in Italy and Spain.

Our total shipment volume decreased by 2.4% to 189.2 billion units, or by 1.9% excluding estimated net inventory movements, notably in Italy and Spain.

Eastern Europe:

Financial Summary - Years Ended December 31,			**Change Fav./(Unfav.)**		**Variance Fav./(Unfav.)**				
(in millions)	**2017**	**2016**	**Total**	**Excl. Curr.**	**Total**	**Cur-rency**	**Price**	**Vol/ Mix**	**Cost/ Other**
Net Revenues	$ 2,711	$ 2,484	9.1 %	(0.1)%	$ 227	$ 229	$ 157	$ (159)	$ —
Operating Income	$ 887	$ 890	(0.3)%	(9.8)%	$ (3)	$ 84	$ 157	$ (164)	$ (80)

"Cost/Other" in the above table reflects the currency-neutral variances of: cost of sales (excluding the volume/mix cost component); marketing, administration and research costs; asset impairment and exit costs; and amortization of intangibles.

Net revenues, excluding favorable currency, decreased by 0.1%, due to unfavorable volume/mix, partially offset by price increases.

The net revenues of the Eastern Europe segment include $55 million in 2017 and $6 million in 2016 related to the sale of RRPs.

Operating income, excluding favorable currency, decreased by 9.8%, due primarily to unfavorable volume/mix and higher marketing, administration and research costs, partly offset by price increases.

Eastern Europe - Total Market, PMI Shipment Volume & Market Share Commentaries

The estimated total market in Eastern Europe decreased by 6.2% to 448.4 billion units. Our Regional market share was down at 26.7%.

PMI Shipment Volume (million units)	**Full-Year**		
	2017	**2016**	**Change**
Cigarettes	119,398	129,456	(7.8)%
Heated Tobacco Units	674	64	+100.0%
Total Eastern Europe	120,072	129,520	(7.3)%

Our total shipment volume decreased by 7.3% to 120.1 billion units, mainly reflecting: lower cigarette shipment volume in Russia and Ukraine; partly offset by higher heated tobacco unit shipment volume.

Middle East & Africa:

Financial Summary - Years Ended December 31,			**Change Fav./(Unfav.)**		**Variance Fav./(Unfav.)**				
(in millions)	**2017**	**2016**	**Total**	**Excl. Curr.**	**Total**	**Cur-rency**	**Price**	**Vol/ Mix**	**Cost/ Other**
Net Revenues	$ 3,988	$ 4,516	(11.7)%	(0.2)%	$ (528)	$ (520)	$ 207	$ (215)	$ —
Operating Income	$ 1,884	$ 1,990	(5.3)%	(5.0)%	$ (106)	$ (6)	$ 207	$ (180)	$ (127)

"Cost/Other" in the above table reflects the currency-neutral variances of: cost of sales (excluding the volume/mix cost component); marketing, administration and research costs; asset impairment and exit costs; and amortization of intangibles.

Net revenues, excluding unfavorable currency, decreased by 0.2% due to unfavorable volume/mix, partially offset by price increases.

The net revenues of the Middle East & Africa segment include $94 million in 2017 and $4 million in 2016 related to the sale of RRPs.

Operating income, excluding unfavorable currency, decreased by 5.0%, due primarily to unfavorable volume/mix and higher marketing, administration and research costs, partly offset by price increases.

Middle East & Africa - Total Market, PMI Shipment Volume & Market Share Commentaries

The estimated total market in Middle East & Africa was flat at 587.5 billion units. Our Regional market share decreased by 0.4 points to 23.5%.

PMI Shipment Volume (million units)	**Full-Year**		
	2017	**2016**	**Change**
Cigarettes	136,759	141,937	(3.6)%
Heated Tobacco Units	907	36	+100.0%
Total Middle East & Africa	137,666	141,973	(3.0)%

Our total shipment volume decreased by 3.0% to 137.7 billion units, mainly reflecting: lower cigarette shipment volume in Saudi Arabia - where our cigarette shipment volume declined by 35.8%, impacted by the new excise tax implemented in June 2017 that resulted in the doubling of retail prices; partly offset by higher cigarette shipment volume in North Africa, notably Algeria, and higher heated tobacco unit shipment volume.

South & Southeast Asia:

Financial Summary - Years Ended December 31,			**Change Fav./(Unfav.)**		**Variance Fav./(Unfav.)**				
(in millions)	**2017**	**2016**	**Total**	**Excl. Curr.**	**Total**	**Cur-rency**	**Price**	**Vol/ Mix**	**Cost/ Other**
Net Revenues	$ 4,417	$ 4,396	0.5%	1.9%	$ 21	$ (63)	$ 353	$ (269)	$ —
Operating Income	$ 1,514	$ 1,474	2.7%	5.9%	$ 40	$ (47)	$ 353	$ (236)	$ (30)

"Cost/Other" in the above table reflects the currency-neutral variances of: cost of sales (excluding the volume/mix cost component); marketing, administration and research costs; asset impairment and exit costs; and amortization of intangibles.

Net revenues, excluding unfavorable currency, increased by 1.9%, due to price increases, partially offset by unfavorable volume/mix.

Operating income, excluding unfavorable currency, increased by 5.9%, due primarily to price increases, partially offset by unfavorable volume/mix, higher marketing, administration and research costs and higher manufacturing costs.

South & Southeast Asia - Total Market, PMI Shipment Volume & Market Share Commentaries

The estimated total market in South & Southeast Asia decreased by 2.5% to 743.6 billion units. Our Regional market share decreased by 1.2 points to 23.1%.

PMI Shipment Volume (million units)	Full-Year		
	2017	2016	Change
Cigarettes	171,600	185,279	(7.4)%
Heated Tobacco Units	—	—	— %
Total South & Southeast Asia	171,600	185,279	(7.4)%

Our total shipment volume decreased by 7.4% to 171.6 billion units, mainly reflecting: lower cigarette shipment volume in Indonesia, Pakistan - impacted by excise tax-driven price increases in 2017 and an increase in the prevalence of illicit trade - and the Philippines.

East Asia & Australia:

Financial Summary - Years Ended December 31, (in millions)	2017	2016	Change Fav./(Unfav.) Total	Change Fav./(Unfav.) Excl. Curr.	Variance Fav./(Unfav.) Total	Variance Fav./(Unfav.) Cur-rency	Variance Fav./(Unfav.) Price	Variance Fav./(Unfav.) Vol/Mix	Variance Fav./(Unfav.) Cost/Other
Net Revenues	$ 6,373	$ 4,285	48.7%	50.5%	$ 2,088	$ (74)	$ 206	$ 1,956	$ —
Operating Income	$ 2,608	$ 1,691	54.2%	58.7%	$ 917	$ (75)	$ 206	$ 858	$ (72)

"Cost/Other" in the above table reflects the currency-neutral variances of: cost of sales (excluding the volume/mix cost component); marketing, administration and research costs; asset impairment and exit costs; and amortization of intangibles.

Net revenues, excluding unfavorable currency, increased by 50.5%, due to favorable volume/mix and price increases.

The net revenues of the East Asia & Australia segment include $3.2 billion in 2017 and $666 million in 2016 related to the sale of RRPs.

Operating income, excluding unfavorable currency, increased by 58.7%, due primarily to favorable volume/mix, price increases and lower manufacturing costs, partially offset by higher marketing, administration and research costs (principally related to increased investment behind reduced-risk products).

East Asia & Australia - Total Market, PMI Shipment Volume & Market Share Commentaries

The estimated total market in East Asia & Australia, excluding China, decreased by 4.5% to 322.5 billion units. Our Regional market share, excluding China, increased by 2.6 points to 25.4%.

PMI Shipment Volume (million units)	Full-Year		
	2017	2016	Change
Cigarettes	62,653	74,750	(16.2)%
Heated Tobacco Units	32,729	7,070	+100.0%
Total East Asia & Australia	95,382	81,820	16.6 %

Our total shipment volume increased by 16.6% to 95.4 billion units, reflecting: higher heated tobacco unit shipment volume, mainly in Japan and Korea, partly offset by lower cigarette shipment volume in Japan and Korea.

Our total shipment volume benefited from the favorable net impact of estimated combustible and heated tobacco unit inventory movements, which were driven by approximately 8.5 billion units net in Japan, reflecting: the increasing demand for *HeatSticks*, anticipated to further increase in the first quarter of 2018 following a planned lifting of the restriction on *IQOS* device sales; the establishment of appropriate distributor inventory levels of heated tobacco units, given the current high dependence on a single manufacturing center; and the transition from air freight to sea freight of heated tobacco units, largely completed in the fourth quarter of 2017. Excluding the impact of total estimated net inventory movements, our total shipment volume increased by 6.3%.

Latin America & Canada:

Financial Summary - Years Ended December 31,			**Change Fav./(Unfav.)**		**Variance Fav./(Unfav.)**				
(in millions)	**2017**	**2016**	**Total**	**Excl. Curr.**	**Total**	**Cur-rency**	**Price**	**Vol/ Mix**	**Cost/ Other**
Net Revenues	$ 2,941	$ 2,842	3.5%	5.4%	$ 99	$ (54)	$ 307	$ (154)	$ —
Operating Income	$ 997	$ 938	6.3%	13.8%	$ 59	$ (70)	$ 307	$ (152)	$ (26)

"Cost/Other" in the above table reflects the currency-neutral variances of: cost of sales (excluding the volume/mix cost component); marketing, administration and research costs; asset impairment and exit costs; and amortization of intangibles.

Net revenues, excluding unfavorable currency, increased by 5.4%, due to price increases, partially offset by unfavorable volume/mix.

The net revenues of the Latin America & Canada segment include $4 million in 2017 and $1 million in 2016 related to the sale of RRPs.

Operating income, excluding unfavorable currency, increased by 13.8%, due primarily to price increases, partially offset by unfavorable volume/mix and higher manufacturing costs.

Latin America & Canada - Total Market, PMI Shipment Volume & Market Share Commentaries

The estimated total market in Latin America & Canada decreased by 3.9% to 212.9 billion units. Our Regional market share decreased by 0.1 point to 39.6%.

PMI Shipment Volume (million units)	**Full-Year**		
	2017	**2016**	**Change**
Cigarettes	84,223	87,938	(4.2)%
Heated Tobacco Units	27	—	— %
Total Latin America & Canada	84,250	87,938	(4.2)%

Our total shipment volume decreased by 4.2% to 84.3 billion units, mainly due to lower cigarette shipment volume in Argentina, Brazil, Canada, Colombia and Mexico.

Financial Review

- **Net Cash Provided by Operating Activities**

Net cash provided by operating activities of $9.5 billion for the year ended December 31, 2018, increased by $0.6 billion from the comparable 2017 period. Excluding the 2017 cash flow movements resulting from the Tax Cuts and Jobs Act as described below, as well as unfavorable currency movements of $0.2 billion, the increase in cash flows provided by operating activities was attributable to higher net earnings and the 2017 payment in the South Korean tax matter (see Item 8, Note 18. *Contingencies* for additional information), partially offset by other movements.

The variance in our working capital movements was essentially flat, excluding the 2017 movements related to the Tax Cuts and Jobs Act, as the positive impact of timing of receivables collections and the timing of inventory movements and related excise tax payments were largely offset by the transition tax installment payments in 2018 of $0.2 billion and cash used for accounts payable in 2018 reflecting higher *IQOS* device purchases in the fourth quarter of 2017.

Net cash provided by operating activities of $8.9 billion for the year ended December 31, 2017, increased by $0.8 billion from the comparable 2016 period. While the impacts of the Tax Cuts and Jobs Act reduced net earnings by $1.6 billion, there was no net impact on operating cash flows for the year, as the changes in deferred taxes and income taxes payable offset the net earnings impact. Excluding the impact of the Tax Cuts and Jobs Act as well as favorable currency movements of $0.4 billion, the increase in cash flows provided by operating activities can be attributed to higher net earnings offset by working capital and other movements.

At December 31, 2017, PMI recorded an income tax payable of $1.7 billion representing the transition tax of $2.2 billion, partially offset by foreign tax credits related to foreign withholding taxes previously paid of $0.5 billion. The income tax payable is due over an 8-year period beginning in 2018. For further details, see Item 8, Note 11. *Income Taxes* to our consolidated financial statements.

- **Net Cash Used in Investing Activities**

Net cash used in investing activities of $1.0 billion for the year ended December 31, 2018, decreased by $2.1 billion from the comparable 2017 period. This decrease was due principally to lower cash collateral posted to secure derivatives designated as net investment hedges of Euro assets principally related to changes in exchange rates between the Euro and the U.S. dollar, and lower capital expenditures. For further details on our derivatives designated as net investment hedges, see Item 8, Note 15. *Financial Instruments*.

Net cash used in investing activities of $3.1 billion for the year ended December 31, 2017, increased by $2.2 billion from the comparable 2016 period. This increase in net cash used of $2.2 billion was due principally to cash collateral posted to secure derivatives designated as net investment hedges of Euro assets following the strengthening of the Euro versus the U.S. dollar, and higher capital expenditures. For further details on our derivatives designated as net investment hedges, see Item 8, Note 15. *Financial Instruments*.

Our capital expenditures were $1.4 billion in 2018, $1.5 billion in 2017 and $1.2 billion in 2016. The 2018 expenditures were primarily related to our ongoing investments in RRPs to support capacity expansion (notably for heated tobacco units). We expect total capital expenditures in 2019 of approximately $1.1 billion (including capital expenditures related to our ongoing investment in RRPs), to be funded by operating cash flows.

- **Net Cash Used in Financing Activities**

During 2018, net cash used in financing activities was $9.7 billion, compared with net cash used in financing activities of $2.8 billion during 2017 and $5.4 billion in 2016.

The 2018 change was due primarily to lower proceeds from long-term debt issuances (primarily the $6.9 billion proceeds in 2017 from our U.S. dollar and Euro debt issuances), and the purchase of the remaining 49% interest in our Costa Rican affiliates in 2018. For further details on the purchase of the remaining 49% interest in our Costa Rican affiliates, see Item 8, Note 6. *Acquisitions*.

The 2017 change was due primarily to higher proceeds from long-term debt issuances (primarily the $6.9 billion proceeds in 2017 from our U.S. dollar and Euro debt issuances versus the $3.5 billion proceeds in 2016 from our U.S. dollar and Euro debt issuances).

Dividends paid in 2018, 2017 and 2016 were $6.9 billion, $6.5 billion and $6.4 billion, respectively.

- **Debt and Liquidity**

We define cash and cash equivalents as short-term, highly liquid investments, readily convertible to known amounts of cash that mature within a maximum of three months and have an insignificant risk of change in value due to interest rate or credit risk changes. As a policy, we do not hold any investments in structured or equity-linked products. Our cash and cash equivalents are predominantly held in demand deposits with institutions that have investment-grade long-term credit rating. As part of our cash management strategy and in order to manage counterparty exposure, we also enter into reverse repurchase agreements. Such agreements are collateralized with government or corporate securities held by a custodial bank and, at maturity, cash is paid back to PMI, and the collateral is returned to the bank. While we entered into these agreements during the periods and had an average balance during 2018 and 2017 of $0.3 billion and $0.9 billion, respectively, we had a zero balance both at December 31, 2018, and December 31, 2017.

We utilize long-term and short-term debt financing, including a commercial paper program that is regularly used to finance ongoing liquidity requirements, as part of our overall cash management strategy. Our ability to access the capital and credit markets as well as overall dynamics of these markets may impact borrowing costs. We expect that the combination of our long-term and short-term debt financing, the commercial paper program and the committed credit facilities, coupled with our operating cash flows, will enable us to meet our liquidity requirements.

Credit Ratings – The cost and terms of our financing arrangements as well as our access to commercial paper markets may be affected by applicable credit ratings. On March 1, 2018, Standard & Poor's affirmed our long-term credit rating at "A" and short-term at "A-1", and revised our outlook to "Stable" from "Negative." On August 3, 2018, Fitch affirmed our long-term credit rating at "A" and short-term at "F1", and revised our outlook to "Stable" from "Negative." At February 7, 2019, our credit ratings and outlook by major credit rating agencies were as follows:

	Short-term	Long-term	Outlook
Moody's	P-1	A2	Stable
Standard & Poor's	A-1	A	Stable
Fitch	F1	A	Stable

Credit Facilities – On January 28, 2019, we entered into an agreement to extend the term of our $2.0 billion 364-day revolving credit facility from February 5, 2019, to February 4, 2020.

At February 7, 2019, our committed credit facilities were as follows:

(in billions)		
Type		**Committed Credit Facilities**
364-day revolving credit, expiring February 4, 2020	**$**	**2.0**
Multi-year revolving credit, expiring February 28, 2021		**2.5**
Multi-year revolving credit, expiring October 1, 2022		**3.5**
Total facilities	**$**	**8.0**

At February 7, 2019, there were no borrowings under the committed credit facilities, and the entire committed amounts were available for borrowing.

All banks participating in our committed credit facilities have an investment-grade long-term credit rating from the credit rating agencies. We continuously monitor the credit quality of our banking group, and at this time we are not aware of any potential non-performing credit provider.

Each of these facilities requires us to maintain a ratio of consolidated earnings before interest, taxes, depreciation and amortization ("consolidated EBITDA") to consolidated interest expense of not less than 3.5 to 1.0 on a rolling four-quarter basis. At December 31, 2018, our ratio calculated in accordance with the agreements was 10.5 to 1.0. These facilities do not include any credit rating triggers, material adverse change clauses or any provisions that could require us to post collateral. We expect to continue to meet our covenants. The terms "consolidated EBITDA" and "consolidated interest expense," both of which include certain adjustments, are defined in the facility agreements previously filed with the U.S. Securities and Exchange Commission.

In addition to the committed credit facilities discussed above, certain of our subsidiaries maintain short-term credit arrangements to meet their respective working capital needs. These credit arrangements, which amounted to approximately $3.3 billion at December 31, 2018, and $2.8 billion at December 31, 2017, are for the sole use of our subsidiaries. Borrowings under these arrangements amounted to $730 million at December 31, 2018, and $499 million at December 31, 2017.

Commercial Paper Program – We continue to have access to liquidity in the commercial paper market through programs in place in the U.S. and in Europe having an aggregate issuance capacity of $8.0 billion. At December 31, 2018, and December 31, 2017, we had no commercial paper outstanding. The average commercial paper balance outstanding during 2018 and 2017 was $3.4 billion and $5.2 billion, respectively.

Sale of Accounts Receivable – To mitigate credit risk and enhance cash and liquidity management we sell trade receivables to unaffiliated financial institutions. These arrangements allow us to sell, on an ongoing basis, certain trade receivables without recourse. The trade receivables sold are generally short-term in nature and are removed from the consolidated balance sheets. We sell trade receivables under two types of arrangements, servicing and nonservicing.

Our operating cash flows were positively impacted by the amount of the trade receivables sold and derecognized from the consolidated balance sheets, which remained outstanding with the unaffiliated financial institutions. The trade receivables sold that remained outstanding under these arrangements as of December 31, 2018, 2017 and 2016, were $1.0 billion, $1.1 billion and $0.7 billion, respectively. The net proceeds received are included in cash provided by operating activities in the consolidated statements of cash flows.

For further details, see Item 8, Note 20. *Sale of Accounts Receivable* to our consolidated financial statements.

Debt – Our total debt was $31.8 billion at December 31, 2018, and $34.3 billion at December 31, 2017. Our total debt is primarily fixed rate in nature. For further details, see Item 8, Note 7. *Indebtedness*. The weighted-average all-in financing cost of our total debt was 2.5% in 2018, compared to 2.6% in 2017. See Item 8, Note 16. *Fair Value Measurements* to our consolidated financial statements for a discussion of our disclosures related to the fair value of debt. The amount of debt that we can issue is subject to approval by our Board of Directors.

On February 14, 2017, we filed a shelf registration statement with the U.S. Securities and Exchange Commission, under which we may from time to time sell debt securities and/or warrants to purchase debt securities over a three-year period.

During 2018, we had no public debt issuances.

The weighted-average time to maturity of our long-term debt was 9.6 years at the end of 2018 and 9.4 years at the end of 2017.

- **Off-Balance Sheet Arrangements and Aggregate Contractual Obligations**

We have no off-balance sheet arrangements, including special purpose entities, other than guarantees and contractual obligations discussed below.

Guarantees – At December 31, 2018, we were contingently liable for $0.3 billion of guarantees of our own performance, which were primarily related to excise taxes on the shipment of our products. There is no liability in the consolidated financial statements associated with these guarantees. At December 31, 2018, our third-party guarantees were insignificant.

***Aggregate Contractual Obligations* –** The following table summarizes our contractual obligations at December 31, 2018:

		Payments Due			
(in millions)	**Total**	**2019**	**2020-2021**	**2022-2023**	**2024 and Thereafter**
Long-term debt [(1)]	$31,268	$4,054	$7,098	$4,358	$15,758
Interest on borrowings [(2)]	10,360	902	1,542	1,258	6,658
Operating leases [(3)]	772	147	176	95	354
Purchase obligations [(4)]:					
Inventory and production costs	4,217	2,492	1,165	406	154
Other	2,629	1,070	842	227	490
	6,846	3,562	2,007	633	644
Other long-term liabilities [(5)]	1,916	78	346	448	1,044
	$51,162	$8,743	$11,169	$6,792	$24,458

(1) Amounts represent the expected cash payments at the face value of our long-term debt and capital lease obligations. For further details, see Item 8, Note 7. *Indebtedness* to our consolidated financial statements.

(2) Amounts represent the expected cash payments of our interest expense on our long-term debt, including the current portion of long-term debt. Interest on our fixed-rate debt is presented using the stated interest rate. Interest on our variable debt is estimated using the rate in effect at December 31, 2018. Amounts exclude the amortization of debt discounts, the amortization of loan fees and fees for lines of credit that would be included in interest expense in the consolidated statements of earnings.

(3) Amounts represent the minimum rental commitments under non-cancelable operating leases.

(4) Purchase obligations for inventory and production costs (such as raw materials, indirect materials and supplies, packaging, co-manufacturing arrangements, storage and distribution) are commitments for projected needs to be utilized in the normal course of business. Other purchase obligations include commitments for marketing, advertising, capital expenditures, information technology and professional services. Other purchase obligations also include the expected future contributions to the Foundation for a Smoke-Free World. For further details see *Business Environment—Other Developments*. Arrangements are considered purchase obligations if a contract specifies all significant terms, including fixed or minimum quantities to be purchased, a pricing structure and approximate timing of the transaction. Amounts represent the minimum commitments under non-cancelable contracts. Any amounts reflected on the consolidated balance sheet as accounts payable and accrued liabilities are excluded from the table above.

(5) Other long-term liabilities consist primarily of transition tax (as discussed in Item 8, Note 11. *Income Taxes* to our consolidated financial statements), postretirement health care costs and accruals established for employment costs. The following long-term liabilities included on the consolidated balance sheet are excluded from the table above: accrued pension and postemployment costs, tax contingencies, insurance accruals and other accruals. We are unable to estimate the timing of payments (or contributions in the case of accrued pension costs) for these items. Currently, we anticipate making pension contributions of approximately $119 million in 2019, based on current tax and benefit laws (as discussed in Item 8, Note 13. *Benefit Plans* to our consolidated financial statements).

- **Equity and Dividends**

We discuss our stock awards as of December 31, 2018, in Item 8, Note 9. *Stock Plans* to our consolidated financial statements.

During 2018, 2017 and 2016, we did not repurchase any shares under a share repurchase program, and we do not presently intend to repurchase shares of our common stock in 2019.

Dividends paid in 2018 were $6.9 billion. During the second quarter of 2018, our Board of Directors approved a 6.5% increase in the quarterly dividend to $1.14 per common share. As a result, the present annualized dividend rate is $4.56 per common share.

Market Risk

- ***Counterparty Risk* -** We predominantly work with financial institutions with strong short- and long-term credit ratings as assigned by Standard & Poor's and Moody's. These banks are also part of a defined group of relationship banks. Non-investment grade institutions are only used in certain emerging markets to the extent required by local business needs. We have a conservative approach when it comes to choosing financial counterparties and financial instruments. As such we do not invest or hold investments in any structured or equity-linked products. The majority of our cash and cash equivalents is currently invested in demand deposits maturing within less than 30 days.

We continuously monitor and assess the credit worthiness of all our counterparties.

• ***Derivative Financial Instruments*** **-** We operate in markets outside of the U.S., with manufacturing and sales facilities in various locations throughout the world. Consequently, we use certain financial instruments to manage our foreign currency and interest rate exposure. We use derivative financial instruments principally to reduce our exposure to market risks resulting from fluctuations in foreign exchange and interest rates by creating offsetting exposures. We are not a party to leveraged derivatives and, by policy, do not use derivative financial instruments for speculative purposes.

See Item 8, Note 15. *Financial Instruments,* Item 8, Note 16. *Fair Value Measurements* and Item 8, Note 19. *Balance Sheet Offsetting* to our consolidated financial statements for further details on our derivative financial instruments and the related collateral arrangements.

• ***Value at Risk*** **-** We use a value at risk computation to estimate the potential one-day loss in the fair value of our interest-rate-sensitive financial instruments and to estimate the potential one-day loss in pre-tax earnings of our foreign currency price-sensitive derivative financial instruments. This computation includes our debt, short-term investments, and foreign currency forwards, swaps and options. Anticipated transactions, foreign currency trade payables and receivables, and net investments in foreign subsidiaries, which the foregoing instruments are intended to hedge, were excluded from the computation.

The computation estimates were made assuming normal market conditions, using a 95% confidence interval. We use a "variance/co-variance" model to determine the observed interrelationships between movements in interest rates and various currencies. These interrelationships were determined by observing interest rate and forward currency rate movements over the preceding quarter for determining value at risk at December 31, 2018 and 2017, and over each of the four preceding quarters for the calculation of average value at risk amounts during each year. The values of foreign currency options do not change on a one-to-one basis with the underlying currency and were valued accordingly in the computation.

The estimated potential one-day loss in fair value of our interest-rate-sensitive instruments, primarily debt, under normal market conditions and the estimated potential one-day loss in pre-tax earnings from foreign currency instruments under normal market conditions, as calculated in the value at risk model, were as follows:

	Pre-Tax Earnings Impact			
(in millions)	**At December 31, 2018**	**Average**	**High**	**Low**
Instruments sensitive to:				
Foreign currency rates	**$19**	**$20**	**$23**	**$19**

	Fair Value Impact			
(in millions)	**At December 31, 2018**	**Average**	**High**	**Low**
Instruments sensitive to:				
Interest rates	**$142**	**$132**	**$152**	**$96**

	Pre-Tax Earnings Impact			
(in millions)	**At December 31, 2017**	**Average**	**High**	**Low**
Instruments sensitive to:				
Foreign currency rates	$27	$49	$58	$27

	Fair Value Impact			
(in millions)	**At December 31, 2017**	**Average**	**High**	**Low**
Instruments sensitive to:				
Interest rates	$118	$150	$173	$118

The value at risk computation is a risk analysis tool designed to statistically estimate the maximum probable daily loss from adverse movements in interest and foreign currency rates under normal market conditions. The computation does not purport to represent actual losses in fair value or earnings to be incurred by us, nor does it consider the effect of favorable changes in market rates. We cannot predict actual future movements in such market rates and do not present these results to be indicative of future movements in market rates or to be representative of any actual impact that future changes in market rates may have on our future results of operations or financial position.

Contingencies

See Item 3 and Item 8, Note 18. *Contingencies* to our consolidated financial statements for a discussion of contingencies.

Cautionary Factors That May Affect Future Results

Forward-Looking and Cautionary Statements

We may from time to time make written or oral forward-looking statements, including statements contained in filings with the SEC, in reports to stockholders and in press releases and investor webcasts. You can identify these forward-looking statements by use of words such as "strategy," "expects," "continues," "plans," "anticipates," "believes," "will," "estimates," "intends," "projects," "goals," "targets" and other words of similar meaning. You can also identify them by the fact that they do not relate strictly to historical or current facts.

We cannot guarantee that any forward-looking statement will be realized, although we believe we have been prudent in our plans and assumptions. Our RRPs constitute a new product category in its early stages that is less predictable than our mature cigarette business. Achievement of future results is subject to risks, uncertainties and inaccurate assumptions. Should known or unknown risks or uncertainties materialize, or should underlying assumptions prove inaccurate, actual results could vary materially from those anticipated, estimated or projected. Investors should bear this in mind as they consider forward-looking statements and whether to invest in or remain invested in our securities. In connection with the “safe harbor” provisions of the Private Securities Litigation Reform Act of 1995, we are identifying important factors that, individually or in the aggregate, could cause actual results and outcomes to differ materially from those contained in any forward-looking statements made by us; any such statement is qualified by reference to the following cautionary statements. We elaborate on these and other risks we face throughout this document, particularly in Item 1A. *Risk Factors* and *Business Environment* of this section. You should understand that it is not possible to predict or identify all risk factors. Consequently, you should not consider this discussion of potential risks or uncertainties to be complete. We do not undertake to update any forward-looking statement that we may make from time to time, except in the normal course of our public disclosure obligations.

Item 7A. *Quantitative and Qualitative Disclosures About Market Risk.*

The information called for by this Item is included in Item 7, *Market Risk*.