BEHIND THE NUMBERS
EARNINGS QUALITY & DIVIDEND SUSTAINABILITY RESEARCH

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Philip Morris (PM) EQ Review- 6/18 Quarter

Current EQ Rating*	Previous EQ Rating
3-	NA

*For an explanation of the EQ Review Rating scale, please refer to the end of this report

We initiate coverage of Philip Morris with a 3- (Minor Concern)

We have done more work on the fundamentals of PM in our Part 2 piece below. This review focuses on PM's accounting. The company beat forecasts in 2Q18 and 1Q18 after missing in 7 of the prior 8 quarters. More surprising is PM gave 2018 guidance with a 28% tax rate after 4Q17, 26% after 1Q18, and 24% after 2Q18 plus reduced capital spending forecasts – and still reduced guidance after last quarter. The actual accounting issues are mild such as stretching working capital to boost cash flow and FX hedging becoming a large cash drain at times. There is not much nefarious about that other than it appears that PM has pulled in incremental cash flow from short-lived sources and without those recurring, the dividend coverage could easily rise over 100% of EPS and free cash flow.

The company does essentially all its business overseas yet has sizeable US Dollar obligations in debt and dividends. It has some conservative hedging, but the cost of the hedge appears to be rising over time and becoming a cash drain too. There is not much cushion between cash in and cash out. Moreover, working with several depreciating currencies can make it tough to keep translating a smaller business back into enough dollars. At this point, PM has responded by boosting prices to offset lost volume, FX losses, and higher costs. The biggest near-term risks are missed forecasts and much slower dividend growth.

- Dividend coverage is masked by stretching working capital.

- Selling Accounts Receivable has helped Cash Flow but appears to have leveled off at 13% of sales. This could become a headwind for cash flow – Concern Medium

- Favorable FX in 2017 and 2018 helped Cash Flow also, but seems unlikely to repeat after PM lowered guidance with FX noted – Concern High

- Inventory fell while payables rose in 2017 to help cash flow – that is tough to repeat and is already reversing – Concern High

- Debt looks low at 2.5x EBITDA and the cash balance is adequate with credit lines available

- Cash flow from foreign operations services almost $8 billion in US Dollar obligations

- Many key currencies for PM have become volatile including significant devaluations against the US Dollar. That could reduce operating income before FX transactions and make it tough to translate foreign earnings into the same amount of dollars – Concern Medium

- Price hikes are carrying the day so far and offsetting lower volumes and negative FX issues. Price hikes tend to hurt volume more – Concern Medium

- Without initial stocking of heated tobacco products in Asia in 2017 and 2018 plus European FX gain in 2018, negative operating results may already be offsetting the price increases – Concern Medium

- Hedging transactions aren't free. PM has seen negative cash impacts of $2.5 billion in the last 3.5 years in this area – Concern Medium

Basic Cash Flow Model:

Philip Morris looks stronger than Altria (MO) at first glance. At no time has the dividend exceeded free cash flow, as has been the case at Altria. However, the company has already essentially discontinued share repurchases. This is starting to make the dividend growth in total dollars ramp up more quickly and led to a slowdown in dividend per share growth. The forward annual dividend is now $7.1 billion.

	TTM 2Q18	2017	2016	2015	2014	2013
Adj. EBITDA	$12,854	$12,378	$11,558	$11,445	$13,126	$14,706
Cash Ops	$10,214	$8,912	$8,077	$7,865	$7,739	$10,135
Cap. Exp.	$1,762	$1,548	$1,172	$960	$1,153	$1,200
Acquisitions	$122	$111	$41	$55	$139	$1,418
Free Cash Flow	$8,330	$7,253	$6,864	$6,850	$6,447	$7,517
Dividend	$6,616	$6,520	$6,378	$6,250	$6,035	$5,720
Repurchases	0	0	0	$48	$3,833	$5,963
Hedges *	-$927	-$1,527	$295	$239	$266	-$62

Hedges represent a cash cost in the investing section when negative and a source of cash when positive

We will explore FX more in this report – but notice that hedging has become a considerable cash expense for PM. Adjusting for this, suddenly paying out a $7.1 billion dividend becomes closer to 100% payout. From an earnings standpoint, PM routinely loses money on FX, but the amount can vary considerably.

	TTM 2Q18	2017	2016	2015	2014	2013
Adj. EPS	$5.00	$4.72	$4.48	$4.42	$4.76	$5.40
Dividend/share	$4.35	$4.22	$4.12	$4.04	$3.88	$3.58
Dividend/EPS	87%	89%	92%	91%	82%	66%
Dividend/FCF	79%	90%	93%	91%	94%	76%
FX EPS	$0.00	-$0.21	-$0.46	-$1.20	-$0.80	-$0.34
FX % EPS	0%	-4%	-9%	-21%	-14%	-6%

Several Areas Are Stretching Cash Flow:

PM has an Accounts Receivable Securitization Program in place with several banks. This allows the company to collect cash faster. It should also help speed some FX translation. This has been in place for many years. The amount of receivables sold during the various periods has been rising for years. Plus, the amount of receivables sold at the end of the period has effectively added to cash flow in several years by having receivables off the balance sheet.

	1H 18	2017	2016	2015	2014
Sales	39,526	78,098	74,953	73,908	80,106
Accounts Sold during period	5,300	10,003	9,447	3,299	1,569
% Sales Sold	13%	13%	13%	4%	2%
A/R sold at period end	600	1,092	729	888	120
A/R on Bal. Sheet	3,772	3,738	3,499	2,778	4,004

Selling receivables generates cash. It appears to be topping out at about 13% of total sales. Philip Morris has added basically $1 billion in cash flow over the last 3 years. This may not show as much growth going forward and it may become a headwind the first part of 2018 is becoming.

Favorable currency movements helped cash from operations in the first half of 2018 by $355 million and in 2017 by $392 million. That's a big swing from -$409 million in 2016 and -$1.9 billion in 2015. Several other common cash items have also been moving through the cash flow statement and helping much more of late.

	1H 18	2017	2016	2015
Cash From Ops	5,373	8,912	8,077	7,865
FX +/-	355	392	-409	-1,900
Inventory +/-	-526	730	-695	-841
Accts Payable +/-	-120	425	373	310
Pension funding	-41	-66	-191	-154
Adj Cash from Ops	5,041	7,431	8,999	10,450

We don't want to focus on each of these items in a major way. But, we do see that the company benefited in 2017 from having inventories fall while payables still grew along with receivables sold increase. That is reversing in 2018 so far. Also, pension funding has dropped versus 2016 and 2015.

Philip Morris guidance is for Cash from Operations to come in about $9 billion before changes in working capital and currency benefits/headwinds. It is also forecasting $1.5 billion in capital spending, which has already been cut by $200 million. That gives PM a pro forma free cash flow of $7.5 billion before working capital and FX impacts. The forward dividend is $7.1 billion and they are not buying back shares. That's a 95% payout ratio, up from 89% last year. It looks like inventory and receivables will be headwinds that will raise that figure even higher. Also, if currency hedges cost more in 2018 and the favorable benefits drop back, this ratio could easily push over 100%.

We will talk about the New Tax Law later, which has been favorable to 2017's cash flow and a headwind in 2018, but should level out as a net positive to cash flow going forward. It helped drive the dividend growth up to 6.5% recently from 2.9% and 2.0% for the previous hikes.

The point we want to make is the FX hedges are now costing cash, selling receivables may only move at the speed of sales growth at this point, inventories and payables may cost cash flow. The coverage on the dividend is tighter than it appears to be at first glance.

The Company's Balance Sheet Also Looks Fine at First Glance

	1H 18	2017	2016	2015
Cash	6,587	8,447	4,239	3,417
Gross Debt	31,665	34,339	29,067	28,480
Net Debt	25,078	25,892	24,828	25,063
Adj. EBITDA	12,854	12,378	11,558	11,445
Gross Debt/EBITDA	2.5	2.8	2.5	2.5
Net Debt/EBITDA	2.0	2.1	2.1	2.2

PM is not broke by any means and it's an A-rated credit with a stable outlook from two ratings agencies and a negative outlook from Fitch. This certainly does not appear to be a leveraged company at 2.0-2.5x debt to EBITDA. EBITDA used to be $14.7 billion in 2013 so it has come down as sales volumes have fallen and the company stopped buying back shares in any material way in 2014, which preserves cash and slows debt growth.

Enter Foreign Exchange….

The basic issue for PM is it operates all over the world – yet most of its debt, interest, dividends, and some taxes are paid in US Dollars. As of June 2018, 67% of the debt ($20.8 billion) was in US Dollars along with $691 million of interest expense. The dividend is $7.1 billion on a going forward basis and is paid in US dollars.

The new tax law has US companies paying a 15.5% repatriation rate on accumulated foreign earnings that were not reinvested and 8% on foreign earnings that were. These taxes can be paid over eight years in installments of 8% of the total for the first five years, then 15%, 20% and 25% for the final three. These taxes will also need to be paid in US Dollars.

From an earnings standpoint, PM expects a 21% US tax rate that will get about 2% more taxation due to a difference in foreign tax rates. Then, there are issues with non-deductibility of interest expense and potential disallowance of foreign tax credits. In 4Q17, they assumed that later catch-all would be about 5% and give PM a 28% tax rate. It has since reduced that guidance to 26% and now 24%.

Our reading is that foreign dividends paid to a US company can be deducted and that is how PM is paid – via dividends from the foreign subsidiaries. So, the best case for PM would be it pays its $1.7 billion repatriation tax as $136 million for each of the first five years. So, it needs to basically raise nearly $8 billion in dollars annually to pay interest, taxes, and dividends assuming it essentially rolls over most US debt at maturity.

The company has operated like this for years, so we certainly are not going to say it cannot be done. It maintains numerous hedges specifically to service US dollar debt, it routinely forecasts its currency needs and puts hedges in place to ensure it can cover those needs and PM has $8 billion in credit lines available, which can smooth out some of the swings. The company has plenty of cash flow in Euros to handle the Euro debt. Also, with capital spending being largely in foreign currencies that should not be an issue. Unlike Facebook, which derives much of its revenue from overseas while the production aspect is largely US, PM does not have much transfer pricing issues that could cause significant tax issues. Even the potential lawsuits are in foreign currency.

In our view, FX risk comes from two areas: many currencies are depreciating rapidly, which means revenues need to grow to still convert into the same number of dollars and the cost of hedging appears to be getting larger, which becomes a drag on cash flow also.

The Countries Where PM Operates:

Philip Morris sells cigarettes in 180 countries around the world. Indonesia is over 10% of sales and Germany about 9%-10%. The company lists the following as key currencies it works with:

"The primary currencies to which PMI is exposed include the Australian dollar, Canadian dollar, Euro, Indonesian rupiah, Japanese yen, Mexican peso, Philippine peso, Russian ruble, Swiss franc and Turkish lira. At June 30, 2018, PMI had contracts with aggregate notional amounts of $31.3 billion of which $4.2 billion related to cash flow hedges, $9.9 billion related to hedges of net investments in foreign operations and $17.2 billion related to other derivatives that primarily offset currency exposures on intercompany financing."

Several of these currencies have seen big depreciations against the US dollar this year. Turkey is down 73%, Russian about 18%, the Philippines 8%, Indonesia 10%, Australia 8%. Argentina is now classified as a highly inflationary and PM noted that it would now see its currency-neutral revenue growth forecast fall by 0.5% due to this. What if one of the bigger countries causes a larger problem?

Revenues are not growing at these rates, and volumes are declining in many of these markets too.

Volume y/y	1H 18	2017	2016
Germany	-5.8%	-1.3%	-2.8%
Indonesia	-0.4%	-4.0%	-3.9%
Russia	-14.3%	-9.1%	-5.7%
Turkey	13.6%	0.1%	1.2%
Philippines	1.7%	-10.6%	-14.5%
Mexico	-8.3%	-2.9%	7.9%
Canada	0.0%	-7.9%	1.2%
Argentina	-3.0%	-1.9%	-13.8%

These are some decent headwinds to fight. Some of this is due to higher excise taxes in various markets, which leads to lower volume and more illicit trade. Higher excise taxes are added into gross revenues for PM, but it's a pass-through – PM doesn't keep that revenue. The company is boosting prices as well, which further hurts volume but does help create higher revenue in local currencies to translate into US Dollars. But, PM has to overcome the lower volumes and FX depreciation all with price hikes. There is already evidence that showing up in the operating income figures. What should scare investors is the company started the year guiding to a 28% tax rate. After 1Q18, it was guiding to 26% and then 24% after 2Q18. 200bp on the tax rate is worth about 3-4 cents per share per quarter. That's a big tailwind in PM's favor. Yet the company cut guidance after 2Q. That likely is the result of volume, pricing, and FX issues.

6 Months 2018 Segment Operating Income Changes

6 mths 2018	FX	Price	Vol	Cost	Total
Europe	279	117	-48	-123	225
East Europe	-13	152	-88	-22	29
Mideast/Africa	-46	-51	-50	-44	-191
S&SE Asia	-31	251	-72	32	180
East Asia/Aust.	11	-21	145	-104	31
Lat Am & Can.	-37	234	-41	-64	92
Total	163	682	-154	-325	366

These are the major reasons cited for the change in operating income for each segment. The numbers may not add up due to minor issues not specified. The volume in East Asia was up with initial stocking of new heated tobacco products in Japan and Korea. Also, a rebound in the European currency helped on FX. Even with those positives, total volume was a negative drag on operating income and pricing drove all the results. The company noted that the build-up of heated tobacco units in the channel is now having negative impacts on growth in its 2Q18 guidance,

> *"While the inventory build of approximately 13 billion heated tobacco units was appropriate at the time given that then forecasted demand, our heavy reliance on a single production center and the shirt from air to heat rate, it is now resulting in lower heated tobacco unit shipments in the third quarter."*

We should note that PM is losing volume faster than the market, so pricing has longer-term negative impacts.

2017 Y/Y Segment Operating Income Changes

2017 y/y	FX	Price	Vol	Cost	Total
Europe	-43	156	-119	-209	-219
EE/ME Africa	81	364	-344	-201	-128
Asia	-123	559	622	101	953
Lat Am & Can.	-70	307	-152	-17	64
Total	-155	1,386	7	-326	670

In 2017, pricing was the only driver of income growth. The stocking of heated tobacco products in Asia drove volume and without that initial stocking, the decay here could already look much worse.

This is something we want to explore much more in a deeper report on the fundamental issues for Philip Morris and we will review that in a future report. We are talking about this as an accounting issue because PM relies on the ability to convert foreign currency back to US dollars to service its obligations. They look to have an extensive and well-run hedging system. They do not speculate or use leverage in that area. However, it is not possible to turn a shrinking income number into a larger source of income simply by translating the currency. Here, there is shrinking volume that is reducing operating income and currency headwinds cutting operating income. The only real item holding up operating income and offsetting these problems is pricing hikes. Yet even PM will admit and notes in its various commentaries that raising prices and/or higher taxes resulting in raising prices – hurts volume. In the 2Q18 call, management called out a 40% drop in volume for PM in Saudi Arabia due to higher excise taxes.

This may not be at a critical stage yet, but this is becoming a problem for a company that doesn't have much cushion between cash inflow and cash outflow.

All this FX hedging has a cost

Cash flow hedges designed around forecasted transactions such as exchanging currencies in the dollars at a later date impact cash flow from operations. Gains and losses are deferred and reported until the transaction is complete and runs through the income statement.

PM also has hedges against the asset values of foreign operations – mostly in Europe. Most of the gains and losses here are netted against the value of the assets and likely offset gains and losses when those are marked to a different value based on the exchange rate. There are some of these gains and losses that can make it into income statement as well as part of interest expense. The cost and proceeds from these hedges are netted as a line item in the investing section of the cash flow statement.

Finally, there are hedges on intercompany loans and these gains and losses show up in marketing and administration costs.

Costs associated with FX have – here are the expenses for the income statement.

	TTM 2Q18	2017	2016	2015
Adj. EPS	$5.00	$4.72	$4.48	$4.42
FX impact on EPS	$0.00	-$0.21	-$0.46	-$1.20
% of FX impact	0%	-4%	-9%	-21%

And here are the components of FX for the cash flow statement.

	1H 18	2017	2016	2015
Cash From Ops	5,373	8,912	8,077	7,865
FX +/-	355	392	-409	-1,900
Hedges	77	-1,527	295	239

In the last 3.5 years, hedging has been a cumulative drain on cash flow of $2.5 billion. This is another potential headwind to cash for a company that doesn't have much cushion.

Lawsuits Have Been On-Going for Some Time

While the potential is here for multi-billion dollar payments to smokers claiming health problems from smoking, so far those cases have not resulted in much to date and have been outstanding for over a decade. In two cases in Canada, PM has posted $180 million of security at this point and the appeal was heard in November 2016.

Most of the other smokers' health claims have either been dismissed, awaiting appeal or have not started yet. They are also largely in Canada where the population is small. At this point, we would consider PM adequately reserved having posted cash security in a couple of cases.

Much of the rest of the claims are coming from governments – primarily states in Canada and Nigeria – seeking recovery of health payments made on behalf of smokers. Again, there is one case in Canada with a trial scheduled for November 2019 and either some pre-trial discovery or nothing has started for others. In many of the Nigerian cases, PM is still waiting to be served.

We will explore more of this in a report looking at fundamental issues for PM. On the surface, we see little to complain about from an accounting standpoint. PM has won several lawsuits in the past and many of these pending cases have already had victories for PM. Thus, it is difficult to make a case that there is a probable event that is material and determinable for PM to deal with on the financial statements.

Pension Assumptions Are Conservative

PM has a pension plan with a PBO of essentially $9 billion and Assets of $7.6 billion. We noted above that the cash funding has been declining here and creating a small tailwind for cash flow.

We see no reason for that to reverse and it could actually become a bigger tailwind. The discount rate to determine the PBO is 1.5%. It would come down quickly with some interest rate increases. Also, the expense is being calculated using a 4.8% rate of return and 1.7% interest cost on a high PBO figure. Those are about as low as we remember seeing in recent memory.

We are not going to find fault with this at all.

Philip Morris (PM) – Part Two – Neutral Rating

Philip Morris is definitely a company showing signs of decay in its basic business of selling cigarettes. Following some acquisitions to gain market share in places like the Philippines, Pakistan, Mexico, and Canada in the period of 2007-11, volumes peaked at 927 billion cigarettes in 2012. By 2017, volume had dropped 21.5% and the decline is accelerating:

	1H8	2017	2016	2015	2014	2013
Vol drop %	-3.3%	-6.3%	-4.0%	-0.1%	-2.8%	-5.0%

The company has countered this with price increases and rolling out a new product that heats the tobacco rather than burning it. In fact, the company wants to introduce the heated tobacco to new markets and is actively touting that it will transition to safer tobacco products. We see several potential headwinds for PM.

We are rating it a Neutral for now with the stock already down 34% and the valuation of about 15x EPS. Two of the more immediate risks are slower dividend growth and growing FX problems in our view. The company has already missed forecasts and reduced guidance fairly regularly, so investors are unlikely expecting too much from PM. The rollout of *HEETS* and the *IQOS* System gives the company some initial stocking orders and helps improve volume growth. PM also wants to roll out those products in the US via a deal with Altria. PM is touting its own studies of reduced risk to people who use HEETs over traditional cigarettes and this could enable the company to recover market share in the short-term. Longer-term, we do not think this saves the tobacco market.

We would recommend clients read our EQ Review Rating on Philip Morris first to see several areas where the accounting has been stretched to help cash flow in the last 18 months. It also shows how much the decay in volumes has already tightened the dividend coverage and is only being offset by price increases.

- Higher taxes are likely to continue cutting demand for tobacco. The goal is to make tobacco unaffordable to the poor and after large tax hikes, keep boosting taxes faster than income growth.

- PM has seen higher taxes cut demand in many countries in recent years. Russia is a good illustration of tax hikes, smoking bans, and other restrictions turning a growth market into one that consistently declines annually.

- PM's growth plan is to convert smokers of traditional cigarettes to heated tobacco and boost prices to offset volume decay.

- Heated tobacco is supposed to be paid for with cash flow from traditional cigarettes and produce healthier smokers who remain customers longer.

- We question how much spare free cash flow the traditional cigarette business is still producing and note that the heated tobacco has less nicotine. Studies have shown that lowering nicotine levels can cause smoking rates to crater.

- The Japanese experience shows that heated tobacco allowed PM to gain volume, pricing, and market share in 2017. A similar pop in revenue and earnings could follow the rollout in more markets.

- We question the sustainability of Japan as initial stocking drove much of the gains, competitors are cutting prices, and already revenues and income are declining. Japan also wants to boost taxes on heated tobacco and PM benefited from Japan's laws making it hard to use nicotine in vapor cigarettes.

- Looking at recent results, we think a case can be made that price hikes are already NOT offsetting the decay. Initial stocking of heated tobacco in Japan drove Asian pricing and volumes up. Without that short-lived stocking, income growth may already be negative.

World Health Organization Wants Higher Tobacco Taxes And Countries Have Signed On

The WHO and the World Bank have written copiously on the hazards of tobacco and smoking. Both see smoking as something that hurts all users and bystanders for health reasons. It also sees it as a reason many poor people stay poor as buying cigarettes consumes a high percentage of their income. Their studies and data have encouraged governments to invoke smoking bans in public places, create minimum legal ages to buy tobacco, and to boost taxes.

The general thinking by making cigarettes more expensive via higher taxes it will simply price many out of the market altogether and cause others to cut back or quit smoking. The World Bank published a report in September 2017 noting:

1) Poor people can least afford to smoke and 80% of the world's smokers are in Low to Middle-Income Countries.
2) All countries have joined UN goals to reduce death rates by 30% from non-communicable diseases like cancer, stroke, and heart disease by 2030 – all three with strong ties to smoking.
3) Evidence from numerous countries shows a 50% increase in cigarette prices leads to a 20% drop in usage – both existing smokers quitting or smoking less and younger people not starting.

Their recommendations are to boost taxes in a big way and keep doing it. The tax increase needs to exceed income growth and consumers should understand that the tax hikes are not a one-time event. Also, it recommends taxing based on quantity of cigarettes rather than a percentage of price to avoid people trading down to cheaper brands.

The WHO has a recent report on raising taxes specifically for Indonesia from April 2018. We added this, as Indonesia is the largest market for PM. It is noted that the country has a complex system of low taxes designed to preserve a domestic industry of hand-rolling cigarettes. However, even modest tax hikes hurt consumption and the WHO recommends larger hikes to curb usage.

PM notes that this type of research has already taken hold of its markets and has a sizable impact. From the latest 10-Q:

> *"**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 is the first international public health treaty and 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. It is not possible to predict whether or to what extent measures recommended in the FCTC guidelines will be implemented.*

We continue 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."

As a result, there have been many increases in excise taxes on cigarettes, which triggered a drop in demand. Here is just some of PM's commentary about excise tax actions in the recent years:

2Q18 -- France, down by 12.4%, primarily reflecting the impact of significant excise-tax driven price increases in November 2017 and March 2018; Ukraine, down by 8.6%, primarily reflecting the timing and impact of excise-tax driven retail price increases; Saudi Arabia and the UAE, down by 23.8%, and 28.3%, respectively, reflecting the impact of retail price increases in 2017 and the quarter following the introduction of the new excise tax in June and October 2017, respectively, and VAT in January 2018; Thailand, down by 8.5%, primarily reflecting the impact of excise tax-driven price increases; Australia, down by 11.7%, primarily reflecting the impact of excise tax-driven retail price increases in 2017 and in the first quarter of 2018; Taiwan, down by 57.7%, primarily reflecting the impact of excise tax-driven retail price increases in June 2017; Brazil, down by 8.5%, primarily reflecting the impact of retail price increases in 2017;

2017 -- The estimated total Russian market decreased by 7.2%, reflecting the impact of excise tax-driven price increases; The estimated total Indonesian cigarette market decreased by 2.6%, reflecting a soft economic environment and the impact of above-inflation excise tax-driven price increases; The decline of the estimated total Philippine cigarette market of 6.7% excluding the net impact of estimated trade inventory movements, was mainly due to the impact of excise tax-driven price increases;

2016 -- The decrease in our cigarette shipment volume reflected lower market share, mainly due to Marlboro in Algeria, principally resulting from the impact of excise tax-driven price increases; The estimated total Russian cigarette market decreased by 4.8%, mainly due to the impact of excise tax-driven price increases; Our cigarette shipment volume decreased by 7.6% to 260.0 billion units, mainly due to: Indonesia; Pakistan, reflecting a lower total estimated cigarette market resulting from excise tax-driven price increases and the growth of illicit trade; the Philippines; and Thailand, primarily reflecting the impact of excise tax-driven price increases in the first quarter of 2016; The estimated total cigarette Philippine market decreased by 12.0%, mainly due to the impact of excise tax-driven price increases;

The decline of the estimated total Argentine cigarette market of 11.6% mainly reflected a soft economic environment and the impact of the May 2016 excise tax increase that drove a more than 50% increase in average industry retail prices.

2015 -- The decline of the estimated total North African market was principally due to Egypt, reflecting the impact of excise tax-driven price increases; The decline of the estimated total Russian cigarette market was mainly due to the unfavorable impact of excise tax-driven price increases; The 23.6% decline of the estimated total Korean cigarette market reflected the impact of the January 2015 excise tax increase and related retail price increases; The estimated total Philippine cigarette market decreased by 4.9%, mainly due to the impact of price increases; the total Canadian market declined by 4.6%, mainly due to the impact of tax-driven price increases.

Russia Is A Good Case in Point

Russia decided that having a high percentage of smokers in the population was not a desirable trait. The country was seeing smoking volumes increase until 2007 and started to boost excise taxes. According to a review looking at the impact of Russian taxes on smoking, the number of packs sold started declining rapidly. Packs sold hit 424 billion packs in 2007 and fell to 398 billion in 2008 and 363 billion by 2012. That's a 14% drop in just a few years. Early on, PM saw huge trading down to cheaper cigarettes such as a 20% drop in Marlboro volumes in 2009 and 11% more in 2010, while its cheaper brand in Russia – Bond St was up 33% and 21% in those years.

That was not enough for Russia who rolled out anti-tobacco measures in 2013. Production of cigarettes fell 20% in 1Q13. In the *The Voice of Russia July 2014,* Marina Lapenkova, Client Business Partner for Alco, Beer and Tobacco group, Nielsen, said, ***"We do expect the market to decline around 10 percent in 2014 year-on-year due to all current regulations. The decline will be mostly triggered by decreasing tobacco points of sale, consumption and growth of illicit trade in Russia."*** The level of taxes jumped considerably in the future too. Taxes per pack were 100 RUB in 200 and jumped to 550 RUB. In 2015, the tax rose to 1,250 RUB.

Plus, Russia copied the US too and not only making it more expensive to smoke, but also making it tough to find a place to smoke. In June 2013, Russia banned smoking on trains and planes as well as stations, schools, workplaces, elevators, and state buildings. The state stats group Rosstat claimed smoking rates fell about 12%.

The first part of the ban, which went into effect in June 2013, officially outlawed lighting up in public transport services, train stations and airports, schools, universities, healthcare and sports facilities, workplaces, state administrations premises as well as in elevators and housing block stairwells. Within a year the number of cigarette smokers in Russia decreased by 12 percent, according to the state statistics agency Rosstat. The bans increased noticeably in June 2014. Now, smoking is banned in restaurants, hotels, ships, and public areas in apartment buildings. Street kiosks can no longer sell tobacco and that will also make it tougher for kids to buy cigarettes. It will only be sold in large stores and the government is requiring a minimum price be set so people cannot trade down to cheaper brands to mitigate the tax hike. The large stores cannot have tobacco in public sight at the cash register either.

Other bans included advertising by tobacco companies and prevent them from sponsoring events. Cafes need to post no smoking signs and eliminate all ashtrays. Smoking is not allowed by actors in movies or plays either. This is going to become like the US where the only place someone can smoke is his own house or on the loading dock outside at work. There simply are not enough hours in the day for someone to smoke two packs per day under the new rules. Officials at the Russian Ministry of Health expect that, in 2018, the various measures initiated under the Tobacco Act will have cut the number of smokers in Russia by between 23–25%. PM's negative growth in Russia shows this plan in action.

PM share	1H8	2017	2016	2015	2014	2013	2012
Vol drop %	-11.9%	-7.2%	-4.8%	-6.4%	-3.5%	-6.7%	3.8%

As noted above and in our EQ report on PM, this decay in volume is widespread and in many places accelerating whenever taxes are increased. PM has a two-part plan to counter this – introduce heated tobacco products called HEETs in many markets and raise prices to offset falling volume. We are not sure either plan will be effective for long.

Heated Tobacco – the Safer Cigarette

Much like the US FDA – PM has also concluded and is marketing that much of the cancerous and other health problems come from combustible cigarettes. It means more toxins are inhaled along with nicotine. The company has rolled out a new system where smokers can heat tobacco to get nicotine by inhaling. Because the tobacco is not burning, it reduces many of the other negatives such as second-hand smoke for non-smokers, and according to PM Studies, it cuts harmful and potentially harmful toxins by about 90% compared to regular cigarettes.

The way this works is smokers buy a device called an IQOS and refill it with something that looks similar to a cigarette called a HEET. The IQOS heats the tobacco and the HEET is disposable and is sold like a pack of cigarettes with 20 units inside. The company has found that many smokers did convert to HEETs in Japan in the first year of the rollout. PM's current case to investors is that HEETs will replace combustible cigarettes going forward. Smokers will live longer and use HEETs and thus create more business and cash flow from the current cigarettes will pay for the transition. We see several problems with this plan:

1. What cash flow? As we talked about in our EQ report, PM is forecasting $9 billion in cash from operations before FX and working capital changes. FX, inventory, and receivables all look to be headwinds for the company to reduce the $9 billion figure. Capital spending is $1.5 billion and the dividend is $7.1 billion now. There just isn't much cash flow to tap.

2. The HEETs have lower nicotine levels. According to PM's research, it presented to the FDA a HEET has 1.2-1.3mg of nicotine vs. a regular cigarette at 1.8mg. We have seen other reports state that regular cigarettes are closer to 2.0mg. In our reports on Altria, we cited the risk that the US FDA wants to decrease the nicotine levels in cigarettes to help people quit altogether and cited studies showing that 16% could quit in one year of reducing nicotine levels and 40% over five years. So reduced nicotine levels in HEETs could actually cause more people to stop smoking altogether – not become safer smokers for a longer time. We have seen other comments that smokers actually get even less nicotine than the 1.2-1.3mg because the delivery mechanism is less efficient and also the heat stick does not last very long. Reducing nicotine seems to be a key way to get people to stop using tobacco completely.

3. There are other groups debating PM's studies about the level of reduced risk. The Guardian looked at research by Tobacco Control who found unless smokers clean the device thoroughly after each HEET, debris would build up and create more health

issues. Also, people may try to increase their puff rate to beat the clock on the shorter HEET life.

4. The Japan Effect – See Next section

IQOS and HEETs in Japan

There was tremendous fanfare when PM rolled out the heated tobacco products in Japan. PM was taking market share, seeing volumes increase, and profits were rising. Here are the volumes for Japan:

Units in bill	2Q18	1Q18	2Q17	1Q17	2017	2016	2015
Cigarette Vol	8.7	8.0	8.3	10.7	234.8	260.0	281.4
Heated Vol	6.4	6.2	5.7	4.1	32.7	7.1	0.4
Total	15.1	14.2	14.0	14.8	267.5	267.1	281.7

So, rolling out heated tobacco accelerated the decay of cigarette volumes, but the total volume actually increased. Looking at it from a revenue and earnings standpoint, it's not as easy to completely isolate Japan. In 2018, it became lumped into a segment called East Asia & Australia and prior to 2018; it was part of a larger segment called Asia. However, the vast bulk of the results given for heated tobacco came from Japan in both cases:

	2Q18	1Q18	2Q17	1Q17	2017	2016	2015
Cig. Rev.	$822	$737	$790	$813	$19,325	$19,865	$19,434
Heated Rev.	$656	$854	$549	$396	$3,310	$666	$35
Op. Income	$498	$515	$510	$472	$4,149	$3,196	$2,886

Heated revenue grew quickly and only recently has it started to disappoint. There are several reasons for this and is **a key issue for us in giving this a Neutral rating at the moment. First, revenue and volumes benefited from initial stocking.** PM sells through distributors for the most part and so it had to fill the channel to support the rollout. That creates revenue and income before the product is sold on to end consumers. This initial stocking is likely to help results as heated tobacco is introduced in other markets. Second, customers need to buy a device to use the heat sticks in. For PM, this is called an IQOS. It was selling for about 11,000 Yen. By comparison, a pack of Marlboros in Tokyo is about 459

Yen and a pack of heat sticks about $435-$460 Yen. So buying the device effectively added the revenue of buying 24 packs of cigarettes as a one-time event for the customer. So considering those two points, something similar seems likely to happen in other new markets in terms of revenue growth.

The next thing to consider with the success in Japan is it is illegal to buy and sell liquids with nicotine in Japan. Thus, vaping is legal but has not taken off like in other countries because it is difficult to do it with nicotine and thus isn't seen as a smoking substitute. That means heated tobacco really only faced competition from regular cigarettes when it was introduced. That helped the IQOS catch-on. It is also important to note that the profit on heat sticks is higher because the tax rate is lower. Japan taxes cigarettes by tobacco weight and has an excise tax of about 240 Yen per pack. The tax on PM's heat sticks is about 225 Yen even though they sell at the same price as regular cigarettes.

These positives are already starting to reverse in Japan. The price of the devices is falling. Japan Tobacco cut its Ploom Tech device to 3,000 Yen down from 4,000 and British American Tobacco is charging $2,980 Yen on its Glo down from 5,980. PM cut its price for IQOS by 30% to 7,980 Yen. That should reverse some of the revenue and profit gains. Also, the other companies are not taxed as much. Japan Tobacco is paying about 68 Yen per pack and British American about 151 Yen per pack because they contain less tobacco, which is what is being taxed. Those competitors currently have more room to cut prices on refills than PM and take market share back since PM is paying about 225 Yen per pack. The growth of heated tobacco in volume slowed considerably in 2Q18 for PM and the revenue figure fell as well.

Finally, the government is already eyeing tax increases on the heated tobacco. They don't want to give up 240 Yen per back for a smaller amount and want to raise taxes sooner rather than later. This follows the WHO's recommendations that raising taxes and driving down affordability should be the goal for all tobacco. Plus, one source at the Finance Ministry said it will be easier to raise tax rates when the market is still small, "Opposition to a tax hike will be stronger (once heated cigarettes become widespread). It is better to raise taxes before that happens." If heated tobacco gets priced higher than regular cigarettes, will people switch back? If the taxes rise on both products, does that strip out the windfall profits PM has seen on HEETS vs. regular cigarettes?

We have not yet seen anyone indicating that the lower nicotine levels are causing more people to stop using tobacco altogether in Japan. But, it appears that without initial stocking, falling prices and potentially higher taxes – the growth in this market could be stalling only a few quarters into the master plan of switching smokers to heated tobacco.

Raising Prices is the Rest of the Plan

As excise taxes rise, it costs PM volume – even the company admits that. What it often tries to is piggyback off the tax increase and add a few cents per pack for itself in the form of higher prices. We're not sure that this hasn't already reached the critical stage. Here are the operating results from 2006 before heated tobacco was in full swing:

2016 y/y	FX	Price	Vol	Cost	Total
Europe	34	390	-168	164	418
EE/ME Africa	-839	584	-333	170	-409
Asia	52	335	-106	28	310
Lat Am & Can.	-282	312	-85	-92	-147
Total	-1035	1,621	-692	270	172

And here are 2017 results:

2017 y/y	FX	Price	Vol	Cost	Total
Europe	-43	156	-119	-209	-219
EE/ME Africa	81	364	-344	-201	-128
Asia	-123	559	622	101	953
Lat Am & Can.	-70	307	-152	-17	64
Total	-155	1,386	7	-326	670

In 2016, the price increases were $1.6 billion and operating income was essentially flat with an increase of only 1.6% from 2015. In 2017, another $1.4 billion in price hikes produced $670 million or a 6.0% increase in operating income. We think it is clear that it came from higher volume in stocking Japan with heated tobacco and the higher prices on the IQOS devices adding to revenue. Adjusting for those items, operating income likely declined in 2017.

In the first half of 2018, the price hikes are falling in East Asia, and some stocking in Korea helped volume. Other than that only a rebound in the Euro allowed PM to post operating income growth.

6 Months 2018 Segment Operating Income Changes

6 mths 2018	FX	Price	Vol	Cost	Total
Europe	279	117	-48	-123	225
East Europe	-13	152	-88	-22	29
Mideast/Africa	-46	-51	-50	-44	-191
S&SE Asia	-31	251	-72	32	180
East Asia/Aust.	11	-21	145	-104	31
Lat Am & Can.	-37	234	-41	-64	92
Total	163	682	-154	-325	366

Conclusions:

We think the headwinds are established here in terms of higher taxes hurting demand, greater costs to FX going forward and some working capital sources of cash that are reversing. Even with price hikes to manage the decay, we do not see PM generating much if any growth from the base operations. That causes us to question future dividend growth and believe more earnings disappointments can easily happen.

The only source of upside surprises seems likely to come from rolling out heated tobacco to new markets and benefiting from higher pricing of devices and stocking the channel. Japan seems to indicate the positive gain may be short-lived. However, rolling it out to bigger markets like the EU, Russia, and perhaps getting it into the US market via Altria could give PM a series of these types of pops to earnings. That is why we are neutral for now. The analogy we are always asked is "what inning is this story in?" On the base business, we think the 8th inning. On heated tobacco, it's probably 3rd inning. As heated tobacco matures in additional markets, the Japanese experience could make this quickly move to later innings.

Longer term, we think there may be a potential wildcard of lower nicotine in heated cigarettes leading to people reducing or quitting tobacco use altogether. We are simply focusing on the studies the FDA is using to suggest that it may cut nicotine levels in cigarettes as a way to drive more smokers to quit.

Medtronic (MDT) EQ Review Update- 7/18 Quarter

Current EQ Rating*	Previous EQ Rating
4-	NA

*For an explanation of the *EQ Review Rating* scale, please refer to the end of this report

We initiate coverage of Medtronic (MDT) with a 4- (Acceptable)

MDT reported adjusted EPS of $1.17 in the 7/18 quarter, $0.06 ahead of consensus expectations. However, the company pointed out that $0.03 came from a stronger-than-expected FX tailwind and $0.01 from lower-than-expected taxes.

We do not have much concern with the quality of the company's earnings, but do note the following minor red flags:

- Inventory days of sales (DSI) continued to increase. Management gave no explanation in the call or the 10-Q. This could have been due to rising raw materials costs along with new product introductions. Also, finished goods as a percentage of sales remained flat versus the year-ago period which does much to alleviate our concerns that there is an unexpected buildup of product which could lead to discounting or write-offs. Regardless, further increases will result in us lowering our rating.

- Regarding inventory, the company uses FIFO (first-in, first out) inventory accounting which matches older, lower-cost inventories against current sales. In addition, the company takes about 150 days to turn its inventory, meaning the impact of rising raw materials costs have been considerably delayed from hitting the income statement. This could lead to higher-than-expected cost of sales in the upcoming quarters.

- MDT is stretching payables to boost cash flow, with days payable up about 6 days from the year-ago period. Management is quite candid about this being a part of its strategy to boost free cash conversion. Our only concern is that with payable days now around 70 the "low-hanging fruit" is close to being picked.

- The company adopted ASU 2016-01 which requires equity investments to be marked to fair value every quarter with gains and losses recognized in net income. This will increase the volatility of reported results. To the company's credit, it has excluded these amounts from its adjusted EPS figures.

- Under ASC 606, the company has reported deferred revenue for the last two quarters. The fact that deferred revenue was flat sequentially is somewhat concerning at first glance, but two quarters is hardly enough to make an analytical conclusion. This will be a key account to monitor going forward.

Inventory Remains Elevated

The only real red flag in MDT's result that we consider to be somewhat concerning is the rise in inventory balances. The following table shows the calculation of inventory days of sales (DSIs) for the last eight quarters:

	7/27/2018	4/27/2018	1/26/2018	10/27/2017
COGS	$2,204	$2,392	$2,191	$2,120
Inventory	$3,681	$3,579	$3,751	$3,638
DSI	152.4	136.5	156.2	156.6

	7/28/2017	4/28/2017	1/27/2017	10/28/2016
	$2,352	$2,436	$2,268	$2,326
Inventory Composition	$3,538	$3,338	$3,720	$3,717
DSI	137.3	125.0	149.7	145.8

Management indicated in the 10-Q filing for the 10/17 quarter that increased cash spending on inventories was due to sensor supply constraints and a buildup in preparation for new product releases. However, two quarters later DSIs are still elevated versus the year-ago period. Management made no reference to inventories in the last two 10-Qs or conference calls. However, a close look at the components of inventory reduces our concern that there is an unexpected buildup in inventory:

	7/27/2018	4/27/2018	1/26/2018	10/27/2017
Finished Goods % of inventory	65.7%	67.3%	65.9%	65.1%
In-Progress % of inventory	14.7%	13.9%	13.9%	14.2%
Raw Materials % of inventory	19.5%	18.9%	20.2%	20.8%
	100.0%	100.0%	100.0%	100.0%

	7/28/2017	4/28/2017	1/27/2017	10/28/2016
Finished Goods % of inventory	65.7%	66.2%	64.0%	65.1%
In-Progress % of inventory	13.8%	13.7%	14.4%	14.3%
Raw Materials % of inventory	20.4%	20.0%	21.6%	20.6%
	100.0%	100.0%	100.0%	100.0%

Finished goods inventory as a percentage of total inventory was flat compared to the year-ago period after increasing slightly in the previous two quarters. If unsold inventory was accumulating and about to lead to large discounts or write-offs, we would expect to see a pronounced increase in the finished good percentage. Nevertheless, the trend in inventories should continue to be monitored going forward and a continued increase in DSIs could result in us lowering our rating on the company.

A more pressing concern we have regarding inventory is the slow speed at which the company turns its inventories coupled with the use of FIFO (first-in, first-out) inventory accounting. FIFO matches older, lower-cost inventory against current sales. In an environment of rising raw materials costs, this will boost profits as the more expensive, newly replenished inventories are delayed in hitting the income statement. It takes MDT over 150 days to turn its inventory, meaning the cost amounts on the inventory currently being expensed is about five months old. Steel and resin (a derivation of oil) are both important components in the company's products and the prices of both are higher than they were five months ago. This means much of that impact has yet to be felt in cost of sales which heightens the risk of higher costs than some analysts might be expecting over the next couple of quarters. If the company is able to increase prices to offset this, its margins will continue to benefit. However, if raw materials prices level off or decline and the company cannot push through price increases, FIFO accounting will actually turn against it when the higher costs are expensed.

Stretching Payables

MDT's accounts payable balances have also been on the rise. The following table shows accounts payable days (DSPs) for the last eight quarters:

	7/27/2018	4/27/2018	1/26/2018	10/27/2017
COGS	$2,204	$2,392	$2,191	$2,120
Accounts payable	$1,789	$1,628	$1,809	$1,718
DSPs	74.1	62.1	75.3	73.9

	7/28/2017	4/28/2017	1/27/2017	10/28/2016
COGS	$2,352	$2,436	$2,268	$2,326
Accounts payable	$1,759	$1,555	$1,557	$1,659
DSPs	68.2	58.2	62.6	65.1

Some of this increase is to be expected given the rise in inventories. However, the company specifically cited extending payment terms as being a boost to cash flow growth in the period, saying *"the decrease in cash paid to suppliers is primarily due to our continued progress in extending supplier payment terms*." MDT is focusing on its free cash flow conversion and has both extended payment terms along with improving receivables collections. We do not have an issue with this as management has been very forthcoming about the progress in those areas. However, we observe that with DSPs up about five days versus last year and already over two months, the company may have picked the "low-hanging fruit" in this area of cash flow improvement. Still, with lower expected litigation payments going forward, cash flow should still have some solid tailwinds.

Change in Accounting for Investment Gains

We note that the company recently adopted ASU 2016-01 which requires that equity investments (other than those being accounted for under the equity method) be measured at fair value and gains and losses be recognized in net income. As such, MDT now reports both realized and unrealized gains on its equity investments in "other non-operating income" on the income statement. This will result in more volatile results going forward. In addition, historical results have not been restated. Case in point, in the 7/18 quarter, the company reported $186 million in other non-operating income versus $99 million a year ago with the difference attributed largely to a $103 million ($0.06) gain from minority investments recorded in the quarter. To its credit, the company excluded this gain from its adjusted EPS figure and we assume it will continue to do so.

Deferred Revenue Flat Sequentially

MDT has adopted ASC 606 for revenue recognition which has resulted in the company now disclosing deferred revenue balances in its footnotes for the last two quarters. Historical periods have not been restated. Deferred revenue was $288 million in the 7/18 quarter, essentially flat with the 4/18 quarter's $289 million. While it is somewhat concerning that deferred revenue did not increase sequentially given the strong sales performance, two sequential quarters is hardly sufficient information to make much of an analytical conclusion. Nevertheless, this will be an important account to monitor going forward.

Becton Dickinson (BDX) EQ Review

Current EQ Rating*	Previous EQ Rating
4-	NA

*For an explanation of the *EQ Review Rating* scale, please refer to the end of this report

We initiate coverage of Becton Dickinson (BDX) with a 4- (Acceptable)

The acquisition of CR Bard in the 12/17 quarter clouds the comparability of results which makes it impossible to get a clear picture of the company's accounting. However, a review of BDX's and Bard's results prior to the acquisition did not reveal any red flags that indicate aggressive accounting. Therefore, we are initiating coverage of BDX with a 4- rating with the expectation of improving insight when the acquisition anniversaries over the next two quarters.

We do have a couple of observations regarding the application of purchase accounting, as well as litigation liabilities picked up in the Bard acquisition.

- BDX's adjusted EPS adds back the amortization of acquired intangibles. We realize this is typical practice in the industry, but we still believe it distorts the economic reality of the transaction by ignoring the cost of ongoing investments in technology. We estimate EPS in the quarter would have been almost 40% lower if amortization expense is considered.

- BDX faces several new litigation threats picked up in the Bard acquisition in the areas of pelvic mesh, women's health and its vena cava filters. While we do not have insight into the likelihood of negative outcomes, current BDX shareholders should be aware of these contingencies.

Amortization of Intangibles

As we have noted with other medical companies, acquisitions typically result in very large percentages of the acquisition prices being allocated to goodwill and intangibles assets. In the case of intangibles, the balances are amortized over the expected useful lives of the assets in question. BDX is using a period of 14 years to amortize developed technologies and

13 years for customer relationships. In a research-intensive industry such as medical devices, the R&D spent developing these assets is a very real expense which must be replicated in the future for the company to remain in business. The amortization expense is intended to recognize this fact. However, as with most companies in the industry, BDX adds the amortization of acquired intangibles back to its adjusted non-GAAP EPS to arrive at the figure used by most analysts to assess growth and calculate valuation metrics for the company. In the case of BDX, the company added back $433 million pre-tax (about $1.25 per share after tax) in purchase accounting adjustments to adjusted EPS in the 6/18 quarter. This included a $56 million increase to the inventory step-up adjustment related to inventory acquired from Bard. This implies that the bulk of the remainder or approximately $1.09 per share represents the amortization of intangible assets. BDX reported adjusted EPS of $2.91 for the 6/18 quarter, meaning that EPS without the amortization adjusted out would have been almost 40% lower than reported.

We understand that the practice of ignoring amortization of intangibles is the industry norm, but we will still point out that it distorts economic reality by failing to recognize the cost of investments of shareholders capital. For that matter, so does GAAP not requiring goodwill amortization, but don't get us started.

Litigation Exposure Picked up from Bard Acquisition

A full analysis of litigation claims is beyond the scope of our EQ Review Ratings. In addition, the footnotes of virtually all medical products companies are littered with various claims made against the companies, so we generally refrain from listing each one. However, we do sometimes come across disclosures that catch out attention. In the case of BDX, we found its disclosures regarding its hernia products, women's health products, and its inferior vena cava filters worthy of notice as these were all inherited in the 12/17 quarter acquisition of CR. Bard. Thus, existing BDX shareholders might not be completely familiar with them. Highlights in the disclosures include the fact that the company was found guilty of negligent failure to warn users in one of the filter multi-district litigation cases which it intends to challenge. In addition, we note the following disclosure regarding insurance recoveries:

> *"In January 2017, the Company reached an agreement to resolve litigation filed in the Southern District of New York by its insurance carriers in connection with Women's Health Product Claims and Filter Product Claims. The agreement requires the insurance carriers to reimburse the Company for certain future costs incurred in*

connection with Filter Product Claims up to an agreed amount. For certain product liability claims or lawsuits, the Company does not maintain or has limited remaining insurance coverage."

BDX also disclosed that its Bard-related product liability accruals were approximately $2 billion. It has $124 million in funds set aside and it expects $294 million in recoveries with the bulk of that related to an indemnification agreement with Medtronic. The company has suspended the buyback after the Bard deal to focus on paying down debt. The dividend is also well covered at less than 50% of trailing free cash flow, so we are not concerned about it. With about $1.4 billion in cash on the balance sheet, the company should have no problem covering payments as they arise. Nevertheless, such a large contingency still has the ability to produce a negative surprise.

Baxter International (BAX) EQ Review

Current EQ Rating*	Previous EQ Rating
4-	NA

*For an explanation of the *EQ Review Rating* scale, please refer to the end of this report

We initiate coverage of Baxter International (BAX) with a 4- (Acceptable)

While there have been several one-time items impacting results at BAX in recent periods, none of these are very alarming when considering size and the openness of management disclosure.

- Results in the 6/18 quarter benefitted from a year-ago charge to deconsolidate its Venezuela operations. The company also amended its US pension plan which resulted in an approximate 3 cps swing in EPS in the period. In addition, it lengthened its estimate for useful life of its enterprise resource planning software which added about a penny to EPS in the each of the last two quarters. The Venezuela impact was adjusted out of its non-GAAP disclosure and while the pension issue was not, the company very openly discussed the impact in its 10-Q and conference call. While the change in estimated life of the ERP was only disclosed in a footnote, the penny impact was not material given the company beat estimates by 6 cents in the quarter.

- Accounts payable days (DSPs) jumped by 5 days in the first half of the year from the timing of supplier payments. While the company's DSP is reasonable compared to peers, the jump is notable. We expect this to moderate in upcoming quarters. However, the increase in payables means other accrued expenses included in the account materially declined. There is not enough information to determine the source of the decline, but it could potentially involve rebate accruals and other accrued expenses which is a potential concern.

- BAX has material payments back and forth with Baxalta related to service and manufacturing agreements from their separation. These have yet to distort reported results, but they should be monitored each quarter.

- The company securitizes some receivables generated in Japan, but the amounts are currently not material.

- Like most medical device companies, BAX adds amortization of acquired intangibles back to adjusted earnings, which overstates the profitability of the company.

Boost from Changes in Pension Plan and Depreciation Changes

BAX's reported results benefited from a decline in other income and expense in the 6/18 quarter. One of the main factors driving the beneficial swing was a $33 million charge in the 6/17 quarter related to the deconsolidation of the company's Venezuela operations. The company adjusted for this amount in its adjusted EPS presentation.

In addition to the Venezuela charge, other income also benefitted from a change in its pension plan. In January of 2018, BAX amended its US pension plan to freeze benefit accruals for current employees at the end of 2022. This resulted in a $57 million reduction in the projected benefit obligation (PBO) which, in turn, reduced amortization expense and a net pension benefit of $14 million in the 6/18 quarter compared to an $8 million expense in the year-ago period. This $22 million swing in pension expense would have added about 3 cents per share to EPS growth in the period. We note that the company did not adjust this amount out of its adjusted EPS figures. However, management did discuss this impact prominently in both the 10-Q and the conference call.

BAX disclosed that in the 1Q 2018, it extended the estimated useful life of its enterprise resource planning (ERP) software which resulted in a $6 million reduction in depreciation expense which added about a penny per share to EPS in each of the last two quarters. The company did not adjust for this in its non-GAAP disclosures but rather mentioned it in its property, plant and equipment footnote in the 10-Q. While we would have preferred to see this more prominently displayed, given its relatively small impact and the fact that the company beat EPS estimates in the $0.06 and $0.08 in the 6/18 and 3/18 quarters, respectively.

Cash Flow Boost from Payables

BAX lumps its accounts receivable balances into its other accrued liabilities amounts on its balance sheet. While it itemizes this account in its 10-K, it does not in its 10-Q. However, it does note in its liquidity discussion in the 10-Q that days payable jumped to 56.2 days for the first half of 2018 versus 51.6 days in the comparable year-ago period due to the timing of supplier payments which was an obvious boost to cash flow growth in the period. We are not alarmed by the increase as BAX's days payable are relatively in-line with similar medical companies such as Medtronic (62), Boston Scientific (50) and Zimmer Biomet (56). Still, none of these companies saw a similar increase in the 6/18 quarter. We would, therefore, expect to see the increase in days payable level off in the upcoming quarters.

Another observation we would make is that combined "accounts payable and other accrued liabilities account" days of sales actually declined by ten days, as shown in the following table:

	6/30/2018	3/31/2018	12/31/2017	9/30/2017
Accounts Payable and Other Accrued Liabilities	$2,524.00	$2,533.00	$2,733.00	$2,572.00
COGS	$1,603.00	$1,563.00	$1,616.00	$1,579.00
Payable Days	143.7	147.9	154.3	148.6

	6/30/2017	3/31/2017	12/31/2016	9/30/2016
Accounts Payable and Other Accrued Liabilities	$2,471.00	$2,330.00	$2,612.00	$2,499.00
COGS	$1,473.00	$1,431.00	$1,543.00	$1,487.00
Payable Days	153.1	148.6	154.5	153.4

If payable days increased, yet the whole account fell on a days COGS basis, it means the other component must have collectively shown a considerable decline. Here are the components of the account as of 12/17:

	12/31/2017
Accounts Payable	$920
Dividends Payable	$87
Employee Compensation and Withholdings	$548
Property, Payroll and Certain Other Taxes	$143
Business Optimization Reserves	$100
Accrued Rebates	$218
All Other	$717
	$2,733

According to the latest 10-Q, the business optimization reserve has declined to $75 million, but this does not explain the DSP decline by itself. Accrued employee compensation expense could have also been impacted by the change in pension plan in the first quarter. It is obviously impossible to determine the source of the decline, so we are not raising alarms over this issue at the moment. However, given the potential that accrued rebates or other expense accruals could have been involved, this is most definitely an area to keep an eye on when the 10-K comes out next year.

Payments To and From Baxalta

In 2015, BAX separated from Baxalta by distributing approximately 80% of the shares of Baxalta to BAX shareholders. The two companies also initiated both transaction services agreements and manufacturing and supply agreements under which BAX records revenue from Baxalta, associated cost of sales and reimbursements to marketing and administrative expenses. Fluctuations in the net amounts paid to Baxalta have not materially impacted results in the last four quarters, as seen in the following table:

	6/30/2018	3/31/2018	12/31/2017	9/30/2017
Reduction of marketing and admin under Baxalta TSA	$2.0	$7.0	$9.0	$11.0
Revenue recognized under Baxalta MSA	$7.0	$6.0	$4.0	$6.0
COGS Recognized under Baxalta MSA	-$36.0	-$37.0	-$37.0	-$35.0
Net Expense Recognized from Baxalta	-$27.0	-$24.0	-$24.0	-$18.0

	6/30/2017	3/31/2017	12/31/2016	9/30/2016
Reduction of marketing and admin under Baxalta TSA	$16.0	$20.0	$22.0	$26.0
Revenue recognized under Baxalta MSA	$6.0	$6.0	$8.0	$6.0
COGS Recognized under Baxalta MSA	-$50.0	-$48.0	-$50.0	-$47.0
Net Expense Recognized from Baxalta	-$28.0	-$22.0	-$20.0	-$15.0

While the net expense recognized under the Baxalta agreements has not materially impacted the growth in reported profits so far, we still see this as an area that has the potential to distort results due to the timing of amounts recognized, making this an area to keep an eye on in future quarters. We also observe that we find it unusual that while the components of the net impact have shifted considerably, the net impact always manages to be in the mid $20 million range.

Securitization of Receivables

BAX disclosed that it maintains a securitization program for certain receivables generated in Japan. However, the amounts in question are relatively small ($64 million outstanding at the end of the 6/18 quarter versus $63 million last year.) This is nowhere near as extensive as some other companies we have reviewed, so this is currently not a point of concern.

Amortization of Acquired Intangibles

In the 3/18 quarter, the company acquired two products from Mallinckrodt which it accounted for under the purchase method. The initial payment was $148 million which was adjusted upward by $12 million in the 6/18 quarters. In addition, the fair value of possible contingency payments was estimated to be $14 million. The bulk of the purchase price was allocated to intangible assets with an estimated useful life of 10 years. Also in the 3/18 quarter, BAX paid $72 million to acquired the rights to Bivalirudin and Dexmedetomidine from Celerity. The entire purchase price was capitalized and is being amortized over 12 years. However, the company adds all amortization of acquired intangibles back to earnings to arrive at its adjusted EPS. We are very aware that this is a typical industry practice, but we will point out that such treatment of acquired intangibles is an understatement of expenses. If the company had developed these products on its own, it would have had to pay research and development costs which would have been charged against earnings over time. Amortizing the acquired intangibles over the useful life of the assets recognizes this but adding them back is pretending the shareholder capital was never spent. To put this in perspective, total amortization of intangibles was $0.06 per share in the 6/18 quarter while the company reported adjusted EPS of $0.77 per share, implying EPS would have been almost 8% lower if the company recognized these amounts in earnings.

Business Optimization Charges

In the second half of 2015, BAX initiated a Business Optimization program to enhance efficiency. Actions have included optimizing manufacturing's, R&D and supply chain networks. So far, the company has spent $661 million and expects an additional $170 million in pretax charges and $70 million in capital expenditures to complete the plan. The plan is expected to be substantially complete by the end of the year. Large charges which are added back to adjusted results always call into question the quality of the adjusted earnings and we will be skeptical if another large plan is announced after the conclusion of the current one.

Stryker Corporation (SYK) EQ Review

Current EQ Rating*	Previous EQ Rating
4-	NA

*For an explanation of the *EQ Review Rating* scale, please refer to the end of this report

We initiate coverage of Stryker Corporation (SYK) with a 4- (Acceptable)

We have no significant concerns with the quality of SYK's earnings but note the following:

- The company adopted ASC 606 for revenue recognition at the beginning of 2018. This resulted in expenses previously recorded in SG&A now being recorded as a reduction of sales. Since historical periods are not restated, this impacts the comparability of reported results, but the company has done a thorough job disclosing the impact in its filings. Investors should note that while the impact on operating profit itself is negligible, it did have the impact of increasing reported operating profit margin by 20 basis points.

- Under ASC 606, the company now reports contact liabilities in its revenue recognition footnotes. We noted that contract liabilities as of 1/1/2018 were reported to be $381 million in the 6/18 10-Q but were reported to be $251 million for the same period in the 3/18 10-Q. We have contacted the company to understand the difference.

- SYK faces an ongoing overhang related to its 2012 product recall of its hip stem systems.

ASC 606 Impact

SYK adopted ASC 606 for revenue recognition beginning in 2018. While the overall impact on net income was negligible, the company now recognizes costs previous included in SG&A as a reduction of sales. SYK did not restate historical periods for the change, so this has led to an artificial decrease in sales in the last two quarter versus year-ago periods and a similar artificial decrease to SG&A. The company has done a very thorough job disclosing the effects, even including a separate section in the 10-Q detailing the impact. The company also noted in the MD&A that reported operating margin received a 20 bps boost from the adoption of ASC 606 which investors should take careful note of.

One area we do have a question about is the company's new disclosure of its contract liabilities which essentially represent amounts that have been billed but not yet recognized. Most companies are now beginning to disclose these amounts in revenue recognition footnotes for the first time. In BDX's case, the 6/18 10-Q states that contract liabilities were $337 million as of 6/18 and $381 million as of 1/1/2018. Without a year-ago number to compare to, it is difficult to draw too much of a conclusion from this but on the surface, a sequential decline is a concern. However, the company's 3/18 10-Q does not give a balance for contract liabilities as of the end of the 3/18 quarter and states that the balance as 1/1/2018 was $251 million, substantially different from the amount shown for the same date in the 6/18 10-Q. We have contacted the company to understand this issue and note that this will be an important data point to track going forward.

Another question we have is the explanation in the company's discussion of operating cash flow:

> "Cash provided by operating activities was $946 and $801 in the six months 2018 and 2017. **The increase was primarily driven by higher cash receipts related to contracts with customers for unsatisfied performance obligations (partially attributable to ASC 606),** higher net earnings and cash receipts from an interest rate hedge settlement partially offset by payments related to the Tax Cuts and Jobs Act of 2017 and working capital as the net of accounts receivable, inventory and accounts payable used cash of $114 in 2018 compared to $107 in 2017."

We note that this explanation is substantially different from the discussion in the conference call:

> "Turning to cash flow, our year-to-date cash from operations was approximately $946 million. This reflects increased earnings which are somewhat offset by increases in working capital including higher tax payments as a result of tax reform and specifically required payments related to the toll tax on previously untaxed foreign profits."

We are unclear of how ASC 606 would impact the amounts of cash received from contracts and will continue to follow up with the company to understand the issue.

Litigation Contingency

As noted in other reviews of medical products companies, litigation contingencies are present for almost all in the industry and a review of the likelihood of outcome is beyond the scope of this review. Nevertheless, it is worth pointing out that BDX experienced a product recall in 2012 of its *Rejuvenate* and *ABG II* Modular-Neck hip stem system. The company announced a settlement agreement to compensate patients who had revision surgeries and it continues to support patients who did not qualify for the settlement program. It also faces ongoing unsettled lawsuits related to the matter. The company's estimate for the probable loss incurred to solve the issue is between $2.073 billion and $2.313 billion and the company's reserve is currently below the low-end of the range which resulted in essentially no expenses being recognized in the most recent quarter. However, this matter has the potential to produce a negative surprise until fully resolved.

Explanation of EQ Rating Scale

6- "Exceptionally Strong"	Indicates uncommonly conservative accounting policies to the point that revenue and earnings are essentially understated relative to the company's peers. Higher possibility of reporting positive earnings surprises
5- "Strong"	Indicates the company has no areas of concern with its reported results and we see very little risk of the company disappointing due to recent results being overstated from aggressive reporting in recent periods.
4- "Acceptable"	Indicates the company may have exhibited a minor "red flag", but the severity of the issue is not yet a concern. Minimal risk of an earnings disappointment resulting from previous earnings or cash flow overstatement
3- "Minor Concern"	Indicates the company has exhibited either a larger number of or more serious warning signs than companies receiving a 4. The likelihood of an immediate earnings or cash flow disappointment is not considered to be high, but the signs mentioned deserve a higher degree of attention in the future.
2- "Weak"	Indicates the company's recent reported results have benefitted materially from aggressive accounting. Follow up work should be performed to determine the nature and extent of the problem. There is a possibility that upcoming results could disappoint as the impact of unsustainable benefits disappears.
1- "Strong Concerns"	Indicates that the company's recent results are significantly overstated and that we view a disappointment in upcoming quarters is highly likely.

In addition to the numerical rating, the EQ Review Rating may also include either a minus or plus sign. A minus sign indicates that our analysis shows the overall earnings quality of the company has worsened since the last review and there is a possibility the numerical rating will fall should the problem continue into the next quarter. Likewise, a positive sign indicates that the overall earnings quality is improving, and the company may see an upgrade in its numerical rating should the trend continue.

Key Points to Understand About the EQ Score

The EQ Review Rating is much more than a blind, quantitative scoring method. While we utilize proprietary adjustments, ratios and methods developed over decades of earnings quality analysis, the foundation of all of our analysis is reading recent SEC filings, press releases, conference call transcripts and in some cases, conversations with managements.

The EQ Review Rating is not comparable to a traditional buy/sell rating. The Rating is intended to specifically convey the extent to which reported earnings may be over/understated. Fundamental factors such as forecasts for future growth, increasing competition, and valuation are not reflected in the rating. Therefore, a high score does not in itself indicate a company is a buy, but rather indicates that recent results are a good indication of the underlying earnings and cash generation capacity of the company. A low score (1-2) will likely result in us performing a more thorough review of fundamental factors to determine if the company warrants a full-blown sell recommendation.

Disclosure

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