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Altria Group (MO)- Reiterate SELL

We reiterate our SELL recommendation on Altria. The company continues to see decay in its key smoking business that exceeds the market. The reliance on pricing is becoming problematic as it helps accelerate the volume erosion. The cash flow model remains tight to maintain the dividend and we believe there are several headwinds on cash flow going forward. We also see several potential game-changing negatives from the FDA, the JUUL deal, IQOS, and AB InBev:

- **Altria continues to see its cigarette volumes fall faster than the market. Management is forecasting 3.5%-5.0% decay for 2019 after two years of 5%+. Price hikes no longer offset volume loss in 2017 and that worsened in 2018.** Pricing has minimal incremental cost and is a powerful way to boost earnings – yet earnings were flat for the smoking unit despite a $313 million gain from pricing.

- **Cash flow in 2018 benefitted from significant swings in accrued liabilities and settlements. Headwinds in 2019 should be pensions, accruals, capital spending exceeding depreciation, and taxes. We believe cash earnings could face a $400 million** drag from these items and if IQOS is rolled out – that could become worse.

- **Adjusting 2019's earnings forecast to cash earnings and comparing to 2018 shows that forecasts are flat. Noncash charges penalized 2018 while 2019's charges will be in cash. BUD's dividend will be lower. MO could miss forecasts if cigarette decay comes in above 3.5%-5.0% or if cost savings do not fully materialize early in the year. Even without a miss, we estimate the dividend payout will be 90% of free cash flow.**

- **The FDA is working hard to stop youth smoking and vaping and has Altria and JUUL supporting a minimum age of 21. It is also cracking down on major retailers for violating rules and has already pulled flavored e-cigarettes from retail locations. 95%**

of smokers start before age 21, and that replenishes those who quit. Removing the youth could accelerate the cigarette decay rate.

- **The FDA continues to pursue changes in menthol for cigarettes while potentially leaving e-cigarette menthol options to spur people to switch. Research continues to reduce nicotine levels in cigarettes too, which studies have shown rapidly reduces smoking. Both situations would accelerate cigarette volume decay.**

- **Investment in JUUL is trading cash earnings for a 35% stake of noncash earnings. Altria does not see e-cigarettes as a near-term drag on cigarette volumes, but JUUL disagrees, and the law of big numbers as Altria predicts JUUL will grow at a 15%-20% CAGR would seem to make MO's forecast of 3.5%-5.0% cigarette decay too optimistic.** Altria will also market JUUL with inserts in its own cigarettes and have JUUL placement next to Marlboro on retail shelves. If JUUL costs MO volume – MO loses cash income to be replaced with a 35% stake in equity income. MO only gets cash from JUUL from dividends, and it expects none early on. JUUL says the switch rate is 50%. This could become a meaningful cash flow issue.

- **A US rollout of heated tobacco may not mirror results in Japan. MO thinks IQOS could help it maintain customers by replacing traditional cigarettes with heated tobacco and looks at PM's results. PM's results are mixed – a huge transition in Japan where PM had first-mover status, but rapid growth fell apart a year later as competition emerged to lower prices, taxes rose, and distributors had too much inventory.** MO may not be the first-mover in this case as British American already has FDA approval for its heated product.

- **Early evidence of Philip Morris's rollout of IQOS in Japan, Korea, Russia, and Italy shows that the end result is not always a larger volume total adding heated units to cigarette units. It does show that the rollout crushed PM's own cigarette market much more than the market as a whole.** Also, profits appear to be falling in those markets which may indicate IQOS is not as profitable as cigarettes. MO would need to pay PM a royalty too. While IQOS would be cash income for MO, it may be lower per pack than cigarettes and end up being a negative on cash flow after the initial stocking.

- **Should MO be writing down its AB InBev investment? They point out it is underwater by $4.6 billion and the company cut its dividend in half.** MO sees this as temporary, but to achieve BUD's goal of reaching 2.0x EBITDA in debt would require

8-9 years of free cash flow after the new lowered dividend going to debt repayment. BUD's volume growth is still weak after a World Cup year and it is relying more heavily on pricing growth. It also has digested SAB Miller and achieved nearly all synergies at this point. Does this sound like a temporary issue with improvement coming?

- **Cronos (and cannabis) is a wild card. This had been a micro-cap company rolling up investments in other similar firms that was unprofitable, scrambling for cash to fund losses and expansion, with a going concern warning.** Putting $1.8 billion of MO's cash into the firm should fix many of those issues, but Cronos is unlikely to be sending dividend cash back to MO in the near future.

2018 Shows Decay Continuing – with Price Hikes Still Holding up Results

Smokable products remain 88% of MO's revenue and 92% of segment operating income. Even the company admits that it wants to manage the decay. On the 4Q call, the company does not expect to see the rate of smoking decay accelerate and cites a 2%-3% secular decline rate that can be impacted +/- 1% based on gasoline prices and people switching between cigarettes, cigars, snuff, gum, lozenges, and vapor. We disagree with that conclusion for several reasons we will discuss shortly. But, up front, we want to update the figures:

Cigarette Vol.	2018	2017	2016	2015	2014
US Market	-4.7%	-4.4%	-2.4%	0.1%	-3.4%
All Altria	-5.8%	-5.1%	-2.5%	0.5%	-3.0%
Marlboro	-5.2%	-5.0%	-2.6%	0.0%	-3.1%

These figures come from Altria's 10-K on shipment volumes. The US market volume is backed into using the retail share from *IRI/Management Science Associate Inc*. that is provided in the Altria 10-K showing the company's retail market share and using the volume numbers provided by Altria. In our view, the evidence is becoming more obvious that the decay rate is accelerating.

Price hikes continue to carry the day to offset volume decay:

Mo Smoking Rev.	2018	2017	2016
Pricing	$1,104	$1,058	$636
Volume	-$1,438	-$1,273	-$577

MO Smoking Op. Income	2018	2017	2016
Pricing	$1,092	$1,023	$592
Volume	-$779	-$691	-$298

There are other issues impacting operating income such as marketing, brand investment, litigation costs. We noted that operating income benefitted in 2017 from a cut of $288 million in marketing and administrative costs. If we adjust for one-time items such as restructuring charges, settlements, and impairment charges – it is clear that even with pricing driving the show, that operating income is still not growing:

Smoking Unit	2018	2017	2016
Reported Income	$8,408	$8,426	$7,766
One-time Items	$169	$157	$234
Adj. Op Income	$8,577	$8,583	$8,000
Y/Y Change	-$6	$583	$403
Pricing - Vol	$313	$332	$294

In 2018, operating income was essentially flat despite a $313 million net boost from pricing gain less volume loss. In 2017, MO saw net pricing add $332 million to y/y growth and there was a $288 million reduction in marketing and administrative costs which together should have added $620 million in income vs. the reported growth of $583 million. They are reporting higher strategic investments in 2018 – some of this is likely related to a portion of the tax savings being reinvested as the company announced last year.

We still see this as a company that is very dependent on taking larger price hikes. Those price hikes are no longer offsetting the loss in volume on the revenue side in the last two years despite the price gains getting larger. However, showing the power of higher prices with minimal incremental costs – the price hikes are still allowing MO to report at least flat operating income despite the other headwinds.

The risks remain – 1) What happens to MO if it cannot take an ever-increasing level of price hikes? 2) What happens to MO if the decay in volume accelerates to the point it swamps the price hikes – and the decay is already being seen? 3) What if both happen?

The Basic Cash Flow Model Still Looks too Tight – Several Short-lived Items Helped 2018

Altria boosted its dividend to $0.80 per quarter, which becomes $6 billion in total based on the current number of shares outstanding. On top of that, generally spends about $200-$225 million on capital expenditures. Guidance is for $225-$275 million in 2019. Against depreciation, capital spending should be a small net consumer of free cash flow:

MO Cashflow	2019e	2018	2017	2016
Amortization	$38	$38	$21	$21
Depreciation	$190	$189	$188	$183
Capital Exp.	$250	$238	$199	$189
Net FCF impact	-$22	-$11	$10	$15

We noted that the company was generating about $5 billion in operating cash flow and would gain a $1 billion benefit from the new tax law. That would allow the company to reach the $6 billion. That's a recipe for a 100% payout on the dividend for a company that is still trying to grow the dividend with flat earnings. On top of that there are several other sources and uses of cash that impact the equation. For example, the company announced it would spend about $300 million of the $1 billion in tax savings in new investment in the company. Also, part of the $6 billion involved an $800 million dividend from Anheuser Busch InBev that is now only $400 million. In the investing section of cash flow, the company's finance portfolio is in runoff and is producing lower cash flow too:

	2018	2017	2016	2015
PMCC Cash Inflow	$37	$133	$231	$354

On the surface, 2018 was a sudden turn-around for MO's cash flow rising from $4.9 billion to $8.4 billion in 2018. Looking at some key reasons why it jumped, we're not seeing this as sustainable and expect 2019 to be more subdued:

MO Cashflow	2018	2017	change
Deferred taxes	-$57	-$3,126	$3,069
Income taxes	$218	-$294	$512
Inventories	-$129	-$171	$42
Accounts Payable	$27	-$55	$82
Accrued Settlement Charges	$980	-$1,259	$2,239
Pension funding	-$41	-$294	$253
Other	$79	-$41	$120
Total Cash Impact	$1,077	-$5,240	$6,317

The company gives no details on these huge swings merely saying that cash flow grew in 2018 due to lower payments of settlement charges and income taxes in 2018. At a minimum, we would expect higher cash payments on accruals in 2019.

Accruals	2018	2017	2016
Settlement Charges	$3,454	$2,442	$3,701
Other Liabilities	$1,214	$971	$1,025
Other Current Assets	$326	$263	$220

A large amount of settlements was paid in 2017 as well as other current liabilities. That consumed an enormous amount of cash in 2017 and letting the accounts rise to prior levels produced nearly $1 billion in cash flow in 2018. Other current assets also move up to reflect bonds posted for settlements so as payments are made in 2019, that should decline a little.

The other accrued liabilities also jumped $243 million. It looked low in 2017 and high in 2018, we would expect that to fall in 2019 and consume cash. In total, 2018's cash flow was inflated about $1.2 billion from changes in accruals – that seems unlikely to recur. If it reverses during 2019, it will lower cash flow.

Like many other companies, the changes to the tax law in late 2017 produced sizable changes to deferred taxes. That clearly penalized MO's 2017 and 2018's figure was not out of line. So that's a $3.1 billion change and along with a $500 million swing in cash taxes can explain the improvement in 2018's cash flow right there. We do not expect an issue with deferred taxes in 2019 but would expect the $218 million in cash generated from income taxes last year to disappear.

The pension and healthcare funding was a $253 million positive swing to 2018's cash flow. The company expects to spend $110 million in that area in 2019 vs. the $41 million in 2018. So that tailwind should become a headwind.

If the company rolls out IQOS products in 2019, we would expect inventory to rise and consume cash. If it doesn't, we'll ignore the changes in inventory, payables, and "other" that combined added $244 million in cash flow in 2018. It is almost amazing how every possible cash flow item produced a significant positive for MO in 2018 after beating it up 2017. We think it is highly likely that rather than producing $1.1 billion in cash flow in 2018, they will consume $200-$400 million. Add that to depreciation less capital spending being a larger cash drain and less help from PMCC to get to a starting point. Now let's look at earnings.

2019's Earnings Forecasts Are Key to Cash Flow

We just outlined that cash needs are $6 billion for the dividend plus another $200-$400 million to cover working capital changes and capital spending exceeding deprecation. The remaining item to review is earnings.

MO is forecasting about $7.9 billion in income adjusted to add back restructuring charges of $210 million and realizing a run rate of annual savings of $575 million by the end of 2019. The bulk of that savings will be consumed by financing costs related to the JUUL and Cronos investments.

- First, the 2019 forecast of $7.9 billion is a jump from 2018's $7.0 billion in income. In 2018, the income was penalized by $354 in non-cash restructuring charges. In 2019, the cost savings program is expected to consume $210 million of cash. That adjustment makes 2019 into $7.7 billion vs. $7.3 billion in 2018.

- Next, the 2019 forecast has a higher earnings figure for AB InBev of just over $1.0 billion vs. $890 million in 2018. That is non-cash income. So, if we adjust that down, cash income becomes $6.67 billion in 2019 vs. $6.43 billion in 2018.

- AB InBev's dividend will be about $400 million in 2019, it was still $657 million in 2018. Adding that back as cash income – 2019 is expected to be flat with 2018 at $7.07 billion vs. $7.09 billion.

Simply making known adjustments for AB InBev and cash restructuring charges – we see no growth at all for cash earnings at Altria in 2019 vs. 2018. Subtract the headwinds in working capital, pension funding, and cap-ex noted above of $400 million and MO has free cash flow of $6.7 billion vs. $6.0 billion in dividend. That's a 90% payout. In addition, to having accruals fall more than $100- $200 million or cash taxes come in as a larger cash headwind than expected in that $400 million figure – what else can go wrong?

MO's forecast also assumes the cigarette market falls at only 3.5%-5.0%. That is less than what it has been posting and we believe growth in vaper with JUUL could accelerate it more.

- MO sold 5.5 billion packs of cigarettes last year. The full smoking results also include cigars plus discount cigarettes. Based on operating income, we estimate, MO is making about $1.50 per pack of cigarettes. Every unexpected 1% additional loss of volume is about $65 million in lost income for MO.

- Their forecasts already assume they will take more price increases and in fact, some recent ones are already working:

Price Hikes	24-Feb-19	23-Sep-18	25-Mar-18
Marlboro and L&M	$0.11	$0.10	$0.09
Parliament and Virginia Slims	$0.16	$0.15	$0.09
Other brands	$0.31	$0.50	$0.09

- If volumes come in below forecast – it is unlikely, MO will be able to make it up in 2019 with additional pricing coming in late September. This could be another $100 million headwind without forecasting problems outside the existing trends.

The $12.8 billion in financing for JUUL and Cronos was at 3.5% on a term loan. In February 2019, MO refinanced it with long-term unsecured notes. They are paying about 4.0-4.5% on longer-term bonds which would put interest expense about $550 million +/- $25 million annually. They expect to realize cost savings of $575 million from their latest cost-cutting

program. This is another area where MO could miss on forecasts. The interest cost is a known item, the savings are speculative and could occur later in the year.

In the big picture, if this is the worst stuff facing Altria, it could probably limp along for another year or two and fund its dividend and even report some EPS growth. The 90%+ payout ratio for the dividend would be a topic and so would the recent debt downgrades by S&P and Fitch with Moody's having them on negative watch as Altria ramped up its debt by $12.8 billion. It also plans to tap the credit markets to refinance more debt in the coming quarters.

However, we have a SELL rating on Altria for potential bombs hitting the company. We believe there are several coming via the FDA, JUUL, and competition with heated tobacco (IQOS), along with a possible write-down of its investment in AB InBev.

The FDA Is Pushing Hard on Multiple Fronts to Cut Cigarette Volumes

Even with Scott Gottlieb retiring, the next FDA director agrees with many of his policies and actions. We have addressed much of this in prior reports on MO and will not go into great detail here and refer readers to the June 21, 2018 report. A quick recap is:

First, the FDA views smoking cigarettes as the most harmful way to get nicotine. It therefore wants to make cigarettes the least desirable option and cause more people to quit. It believes this has a tailwind as two-thirds of smokers say they want to quit. The FDA is working on two policies here at the moment: reduce nicotine levels in cigarettes and eliminate/phase out menthol in cigarettes.

Studies have shown that reducing nicotine levels could cause 5 million additional people to quit smoking in the first year and 13 million additional people to quit within five years. Assuming these people smoke 1 pack per day, that is 16% and 40% of the cigarette market. If they smoke half-a pack – 8% and 20% of the market. That would be in addition to the normal decay rate that is running about 5%.

We think that is a game-changer as Altria is still forecasting only a 3.5%-5.0% rate of decay in the market. If in 2021 or 2022, it suddenly loses 10% or 18% in one year that is not an expected outcome and we do not see how the cash flow holds up at Altria.

A menthol ban has been openly discussed for years and is already in place in many other countries and states. Menthol is not considered addictive but makes tobacco smoother to inhale deeper and helps speed addiction especially among new smokers. Menthol has a target on its back also because while the FDA is pleased with the accelerating rate of decline among smoking overall – menthol usage continues to hold up. The FDA has already pulled several menthol cigarettes off the market in 2018. As the one bright spot in smoking, we believe that more efforts to restrict menthol would also cause the decay to accelerate noticeably. Given some actions of late, a ban may take the form of pulling menthol out of cigarettes but leaving menthol in e-cigarettes to entice people to quit smoking by having a menthol alternative available.

Second, the FDA is extremely active in preventing youth smoking and stopping youth from getting any form of nicotine addiction. This is a big deal because the decay rate in smoking is probably already closer to 7% - it is being offset with new smokers joining the ranks to add 2%-3% in new business. The research shows that 90% of smokers start before age 18, 95% start before age 21 and people who do not smoke by age 26 are extremely unlikely to ever start.

The FDA has seen a surge in youth getting nicotine through e-cigarettes in recent years and sees that as a gateway for them to switch to traditional cigarettes. It has pulled flavored e-cigarettes out of stores (except for tobacco, menthol, mint flavors) and is pushing for a minimum age of 21 to purchase e-cigarettes, which is supported by Altria, British American, and JUUL. The flavors like fruit or chocolate have been cited in studies as reasons why young people start vaping and now, they cannot get them. The FDA is targeting places that violate age laws in selling cigarettes and threatening them with pulling their ability to sell tobacco and nicotine products. They have already cited huge chains like Walgreen's, Wal-Mart, Kroger, Exxon, Shell, 7-Eleven for violations so they are getting serious. The graphic packaging warnings are also coming. These have proven effective in many countries for deterring smoking and preventing new smokers from picking up the habit. A key to that is people carry the pack around all the time and see the pictures often.

Again, we do not think a falling youth market is priced into forecasts. The level of change of seeing 5% decay become 7% decay would rapidly impact earnings at MO and the FDA has already caused the market place to change in several areas to make that potential a near-term reality.

Third, the FDA is open to new forms of nicotine delivery to help people quit smoking. It still does not want kids to use e-cigarettes or heated tobacco as a way to start a new nicotine

habit and is working on tougher restrictions for selling and placement to keep the new products away from kids. As a smoking cessation program, these products could boost the acceleration in cigarette volume decay as more enter the market. Another aspect of these new products is they do not deliver nicotine in the same manner as cigarettes – so people who switch may quit all nicotine after realizing they survived one transition. The FDA's goal is not to have life-long smokers become life-long vapers either – it views these products as tools in helping people quit altogether. As the FDA studies these products more and nicotine impacts overall, it may turn a more negative view on these products after using them to speed the decay of cigarettes.

How Does JUUL Help Altria's Cash Flow?

In December Altria bought 35% of JUUL – the e-vapor company for $12.8 billion. Altria borrowed the money and is part of the reason interest expense will rise in 2019 and likely offset all of the projected cost savings from the current $210 million plan. Altria will account for this under the equity method – establishing an initial investment level that will rise or fall based on Altria's 35% share of JUUL's earnings. It also declines if JUUL pays a dividend to Altria. All of that is very straightforward.

The problem we see is when Altria sells cigarettes, it gets the whole 100% of the profit in cash. MO is not a company with much cushion on its cash flow to begin with. The idea is that e-cigarettes will take share from traditional cigarettes. So, if MO loses a cigarette sale, down goes cash flow to be replaced by a 35% share of non-cash earnings from the e-cigarette sale. Just on the surface, JUUL needs to sell basically 3x the volume that MO loses to make the earnings lost and earnings gained match. After that, if JUUL doesn't dividend 100% of the triple volume in sales to MO – then MO's cash flow will decline. MO does not expect to receive any cash flow from JUUL in the near future:

2018 Altria 10-K:

> *The [2019] guidance assumes little-to-no earnings or cash contributions from the Cronos and JUUL investments."*

4Q 2018 Conference call – Howard Willard:

> *"Then you asked a question about the five-year breakeven, and I think the way we calculated that; it was really taking the equity income we expect in five years tax affecting it and then dividing it by the overall investment in Juul. **So it is an equity income return, not a cash return,** although obviously by that point, given the significant level of income, we would expect to have some dividends as well."*

Fair enough – no one enters a new deal without projecting upside and at some point, Altria expects to be paid some dividends. But it definitely does not sound like that is expected in the first few years and then the dividends will be less than earnings. Also, JUUL is supposed to be growing like crazy – it will likely need to retain capital to grow rather than paying a sizeable dividend. During the 4Q call, Altria said JUUL's refill kits in the US were $450 million in sales in 2018. It expects that to compound at 15%-20% for the next 5-years. That is a forecast of $450 million in sales rising to $900-$1.1 billion in the US. At the same time, the two companies want to expand JUUL overseas. However, Altria's edge is making its logistics system available to JUUL, but Altria is only in the US. That should mean building infrastructure in other markets and that will cost money. It's worth noting that about one-third of the money MO paid JUUL in December was paid out to earlier investors and employees rather than used to fund the expansion of the business.

We do not have numbers on JUUL to look at yet. **Unless someone is going to use e-cigarettes in the US at 3x the rate they use traditional cigarettes – Altria is trading its cigarette market for 35-cents on the dollar and more importantly, it is trading a dollar in cash earnings for 35 cents of noncash income.** How much can JUUL cannibalize Altria's business? On the Altria earnings call, the company did not think this would be very material – citing that decay wasn't accelerating much last year and JUUL grew at 600% in 2018. Countering that is JUUL's statement in the press release announcing the Altria investment, "Switching data shows that almost 50% of smokers who purchase JUUL switch from combustible cigarettes within 90 days." We would also argue that Altria will run into the law of big numbers. If JUUL was only $75 million in 2017 and grew 600% of that low base – it probably was immaterial. When $450 million is compounding at 20%, it's adding $90 million in growth next year and $150 million in growth in two years.

Altria could also exacerbate its own decay because part of the agreement has Altria working with distributors to place JUUL products prominently next to Marlboro. Altria customers will be able to opt for JUUL more easily. Also, Altria will make its customer database available for JUUL to contact its customers and will put JUUL advertising inserts into MO's cigarette packs. Customers who buy Marlboro will get considerable exposure to JUUL.

Guess who won't get that advertising? – people who smoke Camel, Pall Mall, Winston, Newport.

In our view, if JUUL really works and takes off in popularity – it could cannibalize a meaningful amount of Altria's cigarette business and probably its smokeless tobacco business. At the same time, seems unlikely to replace the lost cash flow with higher JUUL sales at anything close to dollar for dollar. On the surface, JUUL growing seems to hurt MO's cash flow.

What if JUUL forecasts are not realized? Then MO has a 35% stake in a company being valued at $36.5 billion that did $1 billion in sales and is not expected to be profitable in the near future. It posted sizeable growth in 2018, but that was fueled by a surge in youth using the product especially flavored versions. The FDA is banning the sale of flavored versions in stores and it along with Altria and JUUL support raising the age of all purchases to 21. That could hurt growth rates going forward. At the same time, governments are losing tax revenues from falling cigarette sales. JUUL may well become a replacement for that and face rising taxation that could hurt growth. Finally, the International market is dominated by Philip Morris, British American Tobacco, Imperial Brands, and Japan Tobacco. They are pushing heated tobacco as an alternative to traditional cigarettes. They also have their own vapor products too. JUUL has some headwinds there in our opinion.

Again, there are not much in the way of financials available yet for JUUL – but this appears to be an area for potential fireworks at Altria no matter the outcome. If JUUL grows, it appears likely to take share from Marlboro which will be advertising for it and distributing it. Altria will lose cash income for 35% of non-cash income. If it JUUL has problems, MO may need to take a sizeable impairment against its investment, and it will need to service and repay the $12.8 billion it borrowed to make the deal from sources other than JUUL.

Heated Tobacco – IQOS with Philip Morris Has Issues Too

The other big alternative to replace cigarette decay being touted by Altria is IQOS (pronounced "Eye Kose.") This is a device that heats a replacement tobacco stick to allow people to inhale the nicotine while avoiding much of the carbon monoxide and other problems with smoking. Philip Morris has developed this product and released it in several markets around the world – most notably in Japan and Korea. Philip Morris has filed with the FDA to have IQOS approved in the United States. It has a deal with Altria to have the

exclusive license to distribute in the US and the view is it is only a matter of time until Altria will be selling this product.

We talk in more detail about IQOS and heated tobacco in our reports on Philip Morris from September 23, 2018 and October 25, 2018, and urge readers to refer back to those for greater information. There are several issues here too including how would Philip Morris feel about Altria pitching JUUL as a cigarette alternative at the same time? Would Altria also advertise to Marlboro smokers about IQOS? Altria would certainly make cash earnings selling IQOS but would still have to pay a royalty to Philip Morris and thus may still earn less than it does on traditional cigarettes.

This is a product that doesn't exist yet in the US so we can look at Japan as a guideline for situations that may or more not occur. We have a few data points to believe that IQOS is less profitable than traditional cigarettes and we do not believe some of the advantages that Philip Morris enjoyed in Japan will recur in the US. Here is what MO is excited about for IQOS:

PM Japan (bills)	2018	2017	2016	2015
Cigarette Vol	30.8	34.9	43.9	45.7
Heated Vol	21.4	31.3	7.1	0.0
Total Vol	52.2	66.1	51.0	45.7
Cigarette Chg.	-11.6%	-20.6%	-3.9%	
Heated Chg.	-31.6%	342.7%	n/a	

Japan is a mature smoking market and shows one of the bigger risks that studies point out – many smokers want to quit and will latch on to alternatives if they are available. However, if MO is there with the alternative, it can actually grow its total market as Philip Morris went from 45.7 billion units to 52.2 billion units from 2015-18. There are several issues that may not recur in the US that happened for Philip Morris in Japan:

- Philip Morris had the benefit of being the first to market. It was able to take traditional cigarette market share from other players with the only heated tobacco product. In the US, British American has a product called Neocore that already has FDA approval in the US and is carrying out consumer tests now. The e-cigarette market is also a competitor that has some traction in the US already too.

- Philip Morris rapidly blew a big hole in its own traditional cigarette volume with heated tobacco. It lost one-third of it in 3 years. Also, it took far more share of traditional cigarettes from itself than it did the market overall:

Japan decay	2018	2017	2016
Full Cigarette Mrk	-2.4%	-4.2%	-4.6%
PM Cigarette Mrk	-11.6%	-20.6%	-3.9%

- This involves selling a device to heat the tobacco and then replacement sticks to use in the device. Being first, Philip Morris could charge a high fee for the device – but the price rapidly fell as competition arrived. Altria may be the discounter playing catch up in the US if British American is first.

- Heated tobacco appeared to reach saturation very quickly. Because both PM and MO sell to a distributor who in turn sells to retailers, they can see huge sales initially as the distributor does initial stocking. That explains the huge jump in volume in 2017. However, sales growth at the retail level quickly started to slow and the distributors reduced orders. So, after one year – both traditional and heated cigarettes are showing negative growth.

- Other markets early results are more mixed:

Russia (billions)	2018	2017	2016	2018 fall	2017 fall
Cigarette Vol	238.1	260.0	280.0	-8.4%	-7.1%
PM Russia Cig Vol	64.6	72.1	79.7	-10.4%	-9.5%
PM Russia Heated Vol.	3.4	0.3			

Italy	2018	2017	2016	2018 fall	2017 fall
Cigarette Vol	69.0	69.8	72.1	-1.1%	-3.2%
PM Italy Cig Vol	33.5	36.1	38.6	-7.2%	-6.5%
PM Italy Heated Vol.	1.7	0.7	0.1		

Korea	2018	2017	2016	2018 fall	2017 fall
Cigarette Vol	69.5	70.6	73.6	-1.6%	-4.1%
PM Korea Cig Vol	12.0	13.5	15.5	-11.1%	-12.9%
PM Korea Heated Vol.	5.4	1.4			

In all three other cases, Philip Morris's own traditional cigarette market took the brunt of the volume losses due to heated tobacco and fell faster than the overall market. More

importantly, total volumes of traditional and heated cigarettes are lower now than before IQOS was introduced in Russia and Italy while Korea's gain is underperforming Japan.

We also question if heated tobacco is as profitable as traditional cigarettes. We know that initially, the heated tobacco tends to have lower taxes because governments tax by tobacco weight and the replacement sticks have less than normal cigarettes. That allows the heated tobacco to capture more profit by pricing at roughly the same level as traditional cigarettes but having lower taxes to pay. Governments quickly adjust to this over 6-18 months, but there can be an early bump to profits. Moreover, there is the sale of the initial device that adds to revenue and leverages some fixed costs. The data points are sparse here, but this is what Philip Morris is showing for its East Asia segment that includes Japan and Korea and its Eastern Europe segment which is Russia:

East Asia	2018	2017	2016
% of Vol. as Heated	32%	34%	9%
Operating Margin	33%	41%	39%

East Europe	2018	2017	2016
% of Vol. as Heated	5%	1%	0%
Operating Margin	31%	33%	36%

We will freely admit there are other moving parts to these markets and there may not be enough data points to draw a full conclusion. Both are showing falling margins. We do know the East Asia bump in margin for 2017 was partly due to unsustainable pricing that competition quickly eroded, and taxes also rose. In the case of Altria, it would need to pay a royalty to Philip Morris as well to license the IQOS product.

Assuming Altria does get to sell IQOS in the US – there is evidence in all four markets that it will cannibalize Altria's own cigarette business more than competitors. There is also evidence that heated tobacco volumes may not be enough to offset cigarette losses. Also, we know Philip Morris enjoyed some early benefits of taking share and holding high prices when there was no competition – Altria is unlikely to have that advantage with British American already rolling out a similar product in the US. We believe competition and royalties to pay and the fact that states are already set up to tax tobacco products will result in IQOS being less profitable per unit than traditional cigarettes for Altria. They will get cash earnings – so that's a positive. The question is do they trade $1 profits for 70-90 cents in profit on the same volume?

Should There Be A Write-Down for AB InBev Investment?

We find it surprising that MO has not written down its investment in AB InBev already. **AB InBev is publicly traded and MO noted in its 10-K that the investment is under water compared to its carrying value by $4.6 billion. In addition, we have noted in the past that MO already faces some cash flow pressure here because AB InBev cut its dividend in half last year and reduced MO's cash flow by about $400 million per year.** Often, investments are also valued by the present value sum of their future cash flows – having that figure cut 50% would be a big enough blow by most projections to result in an impairment. A third issue is MO has hedges on 92.5 million shares of AB InBev. It expects to record a mark-to-market loss on the 4Q18 results of those hedges in 1Q19. (MO accounts for its investment on a one-quarter lag to enable it to use AB InBev's finalized and publicly released figures in its own financial reports.)

According to MO, while the value of its investment is $13.1 billion versus the carrying value of $17.7 billion, the drop is only temporary and therefore there is no impairment needed:

Note 7: 2018 10-K:

> *"Based on Altria's evaluation of the duration and magnitude of the fair value decline, AB InBev's financial condition and near-term prospects, and Altria's intent and ability to hold its investment in AB InBev until recovery, **Altria concluded that the decline in fair value of its investment in AB InBev below its carrying value is temporary and, therefore, no impairment was recorded**."*

We believe there are several reasons to believe AB InBev may take much longer to recover than MO's forecast regarding its near-term prospects. First, the consolidation of SAB Miller is largely complete. AB InBev forecast $3.2 billion in synergies and has realized $2.9 billion at this point including $1.3 billion in 2017 and $0.8 billion in 2018. It seems unlikely to gain much more in that area. Also, cash inflow from selling assets has largely been completed as well.

AB InBev	2018	2017	2016
SAB Purchase	$0	$0	$65,166
SAB Divestments	$330	$11,697	$16,342

Second, AB InBev touts its record of EBITDA and Cash flow generation and sees both as a percentage of sales at the highest levels compared to numerous peers. So, what else can they cut? Here's what the company is doing at this point:

AB InBev	2018	2017	2016	2015
EBITDA	$22,080	$22,084	$16,743	$16,839
CFO	$14,663	$15,430	$10,110	$14,121
Cap Ex	$4,649	$4,124	$4,768	$4,337
FCF	$10,014	$11,306	$5,342	$9,784

So, with about $10 billion in free cash flow, the reduced dividend is $4.1 billion. Let's just call it roughly $6 billion in cash flow after the dividend. The merger of SAB Miller happened in late 2016. We already find it interesting that capital spending figure is lower after adding SAB Miller to the mix at AB InBev than before. **Also, the cash flow has seen payables rising faster than inventories for years too and getting a boost:**

AB InBev	2018	2017	2016	2015
Higher Inv.	-$603	-$213	-$364	-$424
Higher A/P	$1,153	$365	$1,251	$2,348
Boost to CFO	$550	$152	$887	$1,924

If this source of cash flow stalls or reverses, AB InBev may see some additional pressure on cash flow. Plus, the company has additional cash outflow in most years for other acquisitions:

AB InBev	2018	2017	2016	2015
Acquisitions	$112	$598	$1,445	$990
Divestments	$257	$42	$653	$72

AB InBev also is relying largely on pricing to drive revenue growth too. Some of this is mix and trading people to other brands. However, we are always leery of companies that cannot grow volumes and instead simply boost price. **Pricing has a huge impact on earnings and cash flow as there is very little incremental costs beyond taxes and marketing.** It doesn't

cost more to package higher priced beer; it still uses water, barley, and hops; it is made in the same brewery; it doesn't cost more to ship higher priced beer… Here is what AB InBev is reporting of late:

AB InBev	2018	2017	2016
Volume Gain	0.3%	0.2%	-2.0%
Price/Mix Gain	4.5%	5.1%	4.5%
FX Gain	-3.2%	1.1%	-6.1%

In 2018, the company had a bump from the World Cup which gave it a 4.5% boost in volumes in Northern Latin America (Mexico) and a 3.2% increase in EMEA. That helped offset the -2.5% volume figure in North America. There's not a World Cup in 2019. On top of that, $2.4 billion of revenue growth came from pricing. If 70% of that fell to the income line – that $1.7 billion is 8% of EBITDA and 10% operating income. On the surface, AB InBev's results look very dependent on price increases. We're not doing a full analysis on AB InBev here or saying they cannot take more pricing. But what if pricing only rises 3% instead of 4.5%-5.0%? In 2018, that would have been an $800 million difference in revenue and at 70% margin, it's a 3% hit to operating income.

To sum this up, AB InBev has approximately $10 billion in free cash flow – being helped by price hikes and stretching payables plus reduced capital spending. Any of those positives can reverse and hurt the $10 billion figure. The company will spend about $4 billion on the dividend leaving $6 billion of other corporate purposes. The priority for that is: 1) investments to boost organic growth, 2) debt reduction, 3) acquisitions, and 4) returning cash to shareholders as greater dividends or share repurchases.

Boosting organic growth would seem to mean higher marketing and capital spending. The company has talked about growing brand support. Other acquisitions have historically been $0.5-$1.0 billion in cash consumption, that would negatively impact the debt repayment goals and delay them.

Debt reduction is a major item. The company's goal is to reach 4x net debt to EBITDA by the end of 2020 and eventually 2x is the target. Right now, the net debt is $102.5 billion and EBITDA is $22.1 billion which is 4.64x. To reach a goal of 4.0x, the company would need to retire $12-$15 billion in debt in 2019 and 2020. That is more than the remaining cash flow. A goal of 2.0x would require $50-$56 billion to be repaid – which is 8-9 years of applying all free cash flow after the dividend toward this goal.

MO uses the equity method to account for its investment in AB InBev. That means it adds its share of profit/loss to its starting investment amount and dividends received reduce the investment amount. They are already under water by 26% comparing the actual market value of the stock to MO's carrying value. The 4.6 billion underwater figure is 31% of MO's $14.8 billion in book value. Intangibles already exceed book value. Earnings at BUD will boost the carrying value for MO and with the dividend cut in half – the primary lever that cuts the carrying value is running at half the prior level. We are not seeing much evidence that the decline in the stock price is temporary. It has already digested the SAB Miller deal and realized much of the synergies and appears to be on an 8-9 year plan to focus all free cash after the reduced dividend toward improving the balance sheet. Also, current earnings and cash flow rely on boosting prices and stretching payables.

Cronos and Cannabis – What Did Altria Buy?

In December, Altria also paid $1.8 billion for a 45% stake in Cronos. That was 146.2 million new shares and Altria has an option to acquire another 72.2 million shares at C$19. We are not going to focus on the potential for pot and where it is still illegal. We are going to rate this solely as a wildcard at this time and do not consider it a competitor to Altria's tobacco business.

We will note again that this investment will be accounted for under the equity method. Thus, earnings are non-cash and Altria does not expect to receive dividends in the near future from Cronos to service the Altria's debt.

Also of note, Cronos had a "Going Concern" Warning from its auditor at the time of MO's purchase:

MNP Auditor - Emphasis of Matter:

> *"Without modifying our opinion, we draw attention to Note 2(b) to the consolidated financial statements which highlights the existence of a material uncertainty relating to conditions that cast significant doubt on Cronos Group Inc.'s ability to continue as a going concern."*

Note 2 (b) Going concern (C$ in 000s):

> *"These consolidated financial statements have been prepared with the assumption that the Company will be able to realize its assets and discharge its liabilities in the normal course of business rather than through a process of forced liquidation. During the year ended December 31, 2017, the Company had negative cash flows from operations of $5,548 and was dependent on the Company's ability to obtain additional financing. These circumstances may cast significant doubt on the Company's ability to continue as a going concern and ultimately on the appropriateness of the use of the accounting principles applicable to a going concern. In assessing whether the going concern assumption was appropriate, management took into account all relevant information available, which was at least, but not limited to, the twelve-month period subsequent to December 31, 2017. The Company is currently implementing various strategies, including the following:*
>
> *• On February 27, 2018, Cronos became listed on the NASDAQ under the trading symbol "CRON", providing access to a major U.S. exchange to raise financing in support of the Company's growth and operations;*
>
> *• In 2018, the Company announced strategic joint ventures in Canada and Australia, with MedMen Enterprises USA, LLC and NewSouthern Capital Pty Ltd., respectively, which are expected to enable the Company to expand its capacity and establish a low-cost, global footprint;*
>
> *• In 2018, the Company has raised an additional $146,000 in gross proceeds through two common share offerings; and*
>
> *• The Company has available, $33,696 of additional liquidity available under its construction loan, which includes $5,000 contingent upon an appraisal of OGBC. The Company believes that based on its previous success in raising capital, and the availability under its construction loan, any shortfall in its cash flows is expected to be mitigated by the Company's ability to access other sources of liquidity. "*

This was a 20-cent stock that didn't break $5 until late 2017 and MO paid C$16.40 per share for its $1.8 billion investment. Adding $1.8 billion (C$2.4 billion) to a company that had been dealing with numbers that are about 1% of the total should be enough to cure the Going Concern warning. Cronos has not filed a new annual report and there is minimal information in prior reports about operations. A few tidbits:

- The company has been a stock-issuing machine:

mm's	3Q18	2017	2016	2015
shares	178.7	149.4	121.7	47.6

Altria has since bought 146.2 million new shares. There are still 25.5 million warrants outstanding with an average strike price of 26-cents. There are also options for 12.8 million shares outstanding with an exercise price of C$2.92. That would bring the total to 363 million shares up from 48 million only 3-years ago.

- Prior to 2018, there were several acquisitions. C$7.0 million in 2017 and C$6.2 million in 2016. That does not sound material, but at the time, this was a company with negative operating cash flow.

- The price of cannabis is falling from C$8.50 per gram in 2017 to C$7.00 per gram in 3Q18 and the yield per plant has fallen from 182 grams to 133 grams. Its processing costs have been rising during this period too.

- The company has been spending heavily to add new capacity:

mm's C$	3Q18	2017	2016
capital spending	71.9	42.7	1.5

It is unclear exactly what this company was, but with $1.8 billion in cash dropped on what was a microcap company – Cronos should be able to do something. We'll simply call this a wild card for MO and not expect much from it in the near term to cushion results from decay in the US cigarette market.

Disclosure

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