MELIUS RESEARCH

Multi-Industry Sector Rating: **Positive**

February 26, 2020

3M

MMM | $146.85

Buy | Target Price: $205.00

Scott Davis, CFA
212-503-6200
scott.davis@meliusresearch.com

Jake Levinson, CFA
212-503-6207
jake.levinson@meliusresearch.com

Jordan Lerner
212-503-6209
jordan.lerner@meliusresearch.com

3M: Upgrade to Buy

3M is arguably the most out of favor of the multi-industry names (just 10% of analysts with a buy rating vs. 44% for our average name), yet has most of what we look for at this point of the cycle. It's short cycle, now coming up on a full 5 quarters of a recession and 9th quarter of weak results. We've had 5 meaningful negative earnings revisions (could argue 8…) and a normal downcycle is 4-6 quarters. 3M is global and coronavirus is a threat, but it's one of our few names with a flu/coronavirus hedge – since 3M is the largest U.S. supplier of N95 respirator masks. And as we'll show in this report, 3M was a meaningful outperformer during the last SARS panic in 2002. The most global of our industrial names are selling off the sharpest in this correction. 3M, DuPont, GE, and Honeywell are each global names that stand out to us as most interesting for investors who can look through a likely tough 1H20. Our upgrade of 3M stock today puts the rating on par with those other names.

We also believe that 3M's end-markets are fully destocked and within a couple quarters of outright bottom. Of course, coronavirus is a variable we cannot discount with any accuracy. However, we view this as an S&P issue far more than an industrial issue, and as said above, 3M may be better off than most.

3M's valuation is borderline silly in anything other than a doomsday scenario. The dividend yield is 4.1% and compared to any other S&P name with a comparable dividend, we think 3M stands out on the positive side. Its PFAS liability is weighing on the stock, for sure, but we struggle to find much precedence for a liability that would change the valuation math. We are already discounting a very bad outcome.

Last, 3M is in the process of a large restructuring. Given its high gross margin profile, combined with cost out, we expect outsized operating leverage into a 2021 recovery.

We expect pushback on this upgrade as management has struggled to inspire its shareholder base, and earnings for both 3M and industrials overall have likely not bottomed. Folks who have been selling this stock over the past two years see a management team that moves too slowly, a company that spends capital and R&D dollars, but struggles to show growth, a PFAS overhang unlikely to go away in the near and mid-term, and… folks are just plain frustrated by the guide/miss track record. We acknowledge all of this and have ourselves been critical of this team. However, the stock price seems to be over-discounting each of these points and ignoring the positives around cycle timing, restructuring benefits, and N95 mask tailwinds. The simple reality is that 3M is one of only a handful of S&P 500 names that sells a necessary product in virus containment. This is being ignored by the market.

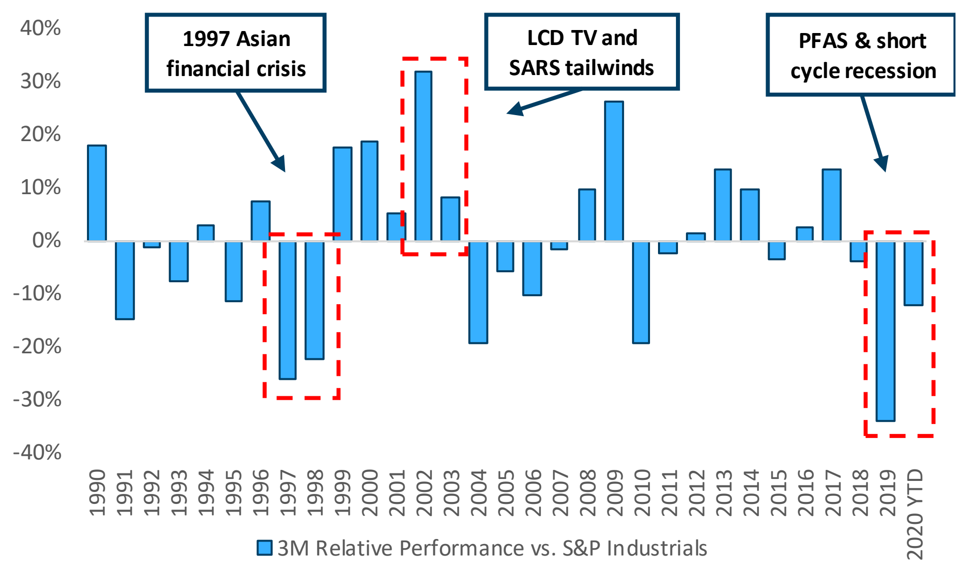
(Continued on page 2)

Stock Performance, Valuation and Sentiment

3M trades more than 3 standard deviations below its post financial crisis average, despite being one of the few S&P stocks with a coronavirus offset.

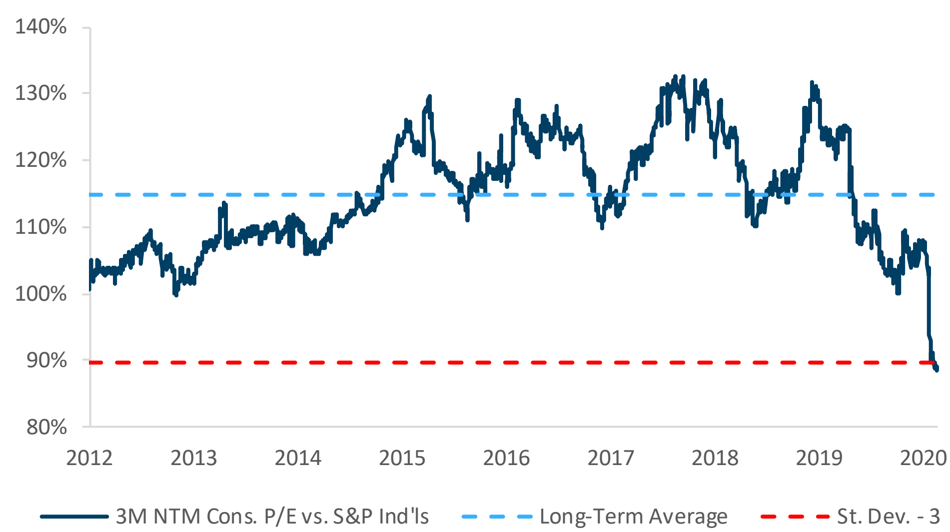
3M stock is on its worst streak since the late 1990s Asian financial crisis and is now a clear valuation outlier vs. the rest of our group. Shares trade more than 3 standard deviations below their post financial crisis average, despite 3M being one of the few stocks in the S&P with a coronavirus offset from respirator sales, as noted above. To be clear, we do expect to have to cut 2020 numbers on coronavirus headwinds by April, but 3M no more so than the group overall, and we do not expect to cut 2021. The dividend yield also looks increasingly attractive in a low rate environment and is now at levels last seen during the '08-'09 financial crisis. It's the 2nd highest in industrials, behind only UPS, and the 14th highest at the large cap end of the overall S&P 500 (defined here as the top 100 by market cap).

Figure 1: 3M stock is on its worst streak since the late-90s Asian financial crisis



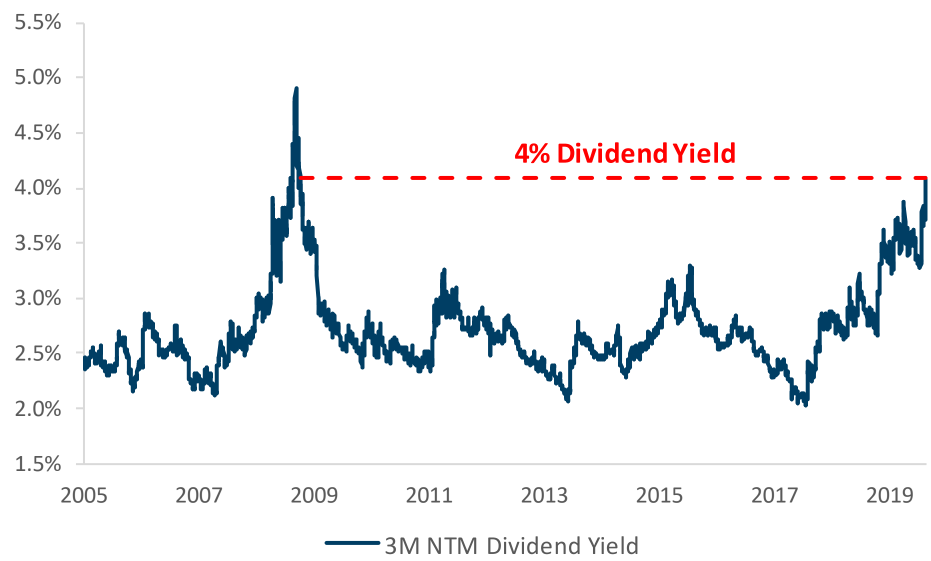
Source: Bloomberg, Melius Research

Figure 2: Shares currently trade 3x standard deviations below their post-financial crisis average



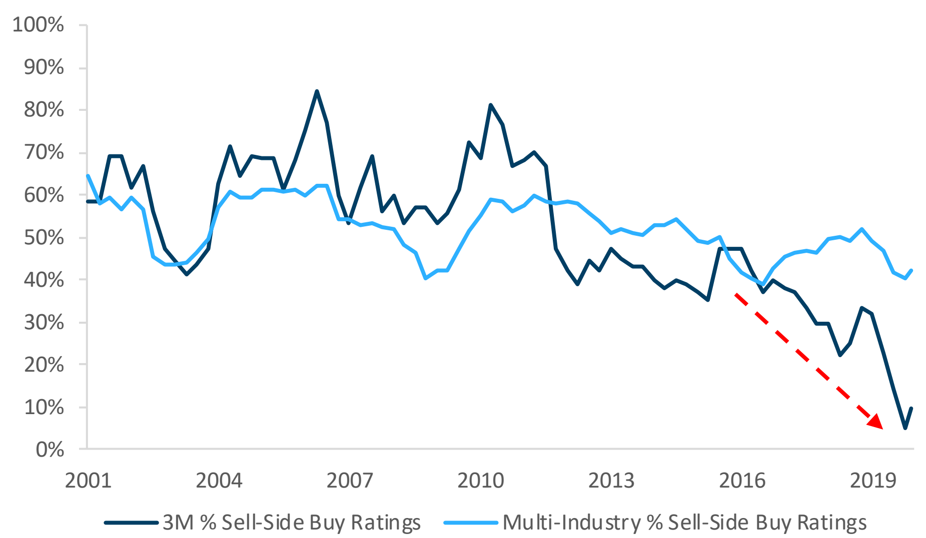
Source: Bloomberg, Melius Research

Figure 3: The dividend yield is at levels last seen during the '08-'09 financial crisis



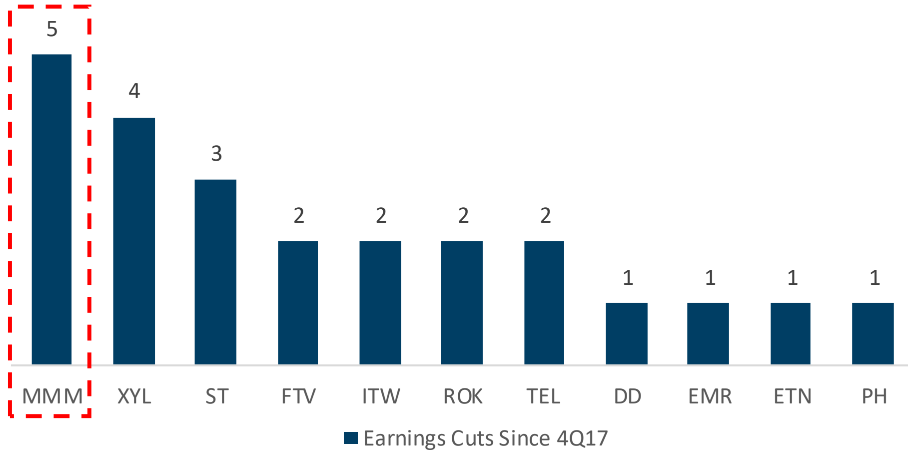
Source: Bloomberg, Melius Research

Figure 4: Sell-side sentiment on 3M is as bad as it's ever been and well below the Multi-Industry group overall



Source: Bloomberg, Melius Research

Figure 5: We're already well into the negative earnings revision cycle for 3M – 5 outright earnings cuts, and even more misses…average downcycle is 4-6 cuts



Source: Company Data, Melius Research

Some PFAS Context…

Honeywell's experience with asbestos and environmental liabilities in the early 2000s provides some context for 3M's current challenges.

We don't profess to have any insight into the ultimate impact of PFAS for 3M, and anyone who claims to is likely kidding themselves. But we can at least look back at history for some context. Honeywell in the early 2000s faced similar outsized tail liabilities, and negative sentiment, from both asbestos litigation and big environmental clean-up bills. Asbestos was an existential threat for many industrials in the late 1990s/early 2000s, with 60 of them going bankrupt, including some big household names like GM, Owens Corning and Halliburton. Ultimately, however, Honeywell ring fenced its liabilities and managed them over time, aggressively growing cash flow above what it had to pay for asbestos/environmental. We also note the recent Purdue Pharma opioid settlement as a potential comparable situation. Though even there, the company's direct contribution to the crisis seems more tangible and outsized compared to 3M's involvement with PFAS.

3M stock is already discounting a fairly dire PFAS outcome, having lost $70B market cap since the stock peaked in Dec 2017.

Either way, 3M stock is already discounting a fairly dire outcome. 3M has lost $70B of market cap since the stock peaked in Dec 2017, with $21B of that since PFAS came to prominence almost a year ago in May 2019. Granted some of that is no doubt a function of the current short cycle recession, but if even half is PFAS-related, it would discount a fairly extreme outcome. For all we know, 3M may end up paying little beyond the actual clean-up of its PFAS manufacturing sites. Note 3M settled with the state of Minnesota for $850M regarding pollution from one of its sites in 2018, and there are 3 other manufacturing facilities with comparable risk (in Alabama, Illinois and Germany), as well as several smaller sites. We are not naïve to the shortcomings in this analysis, however, and would expect PFAS-related news flow to dominate headlines and create volatility in the stock for the foreseeable future.

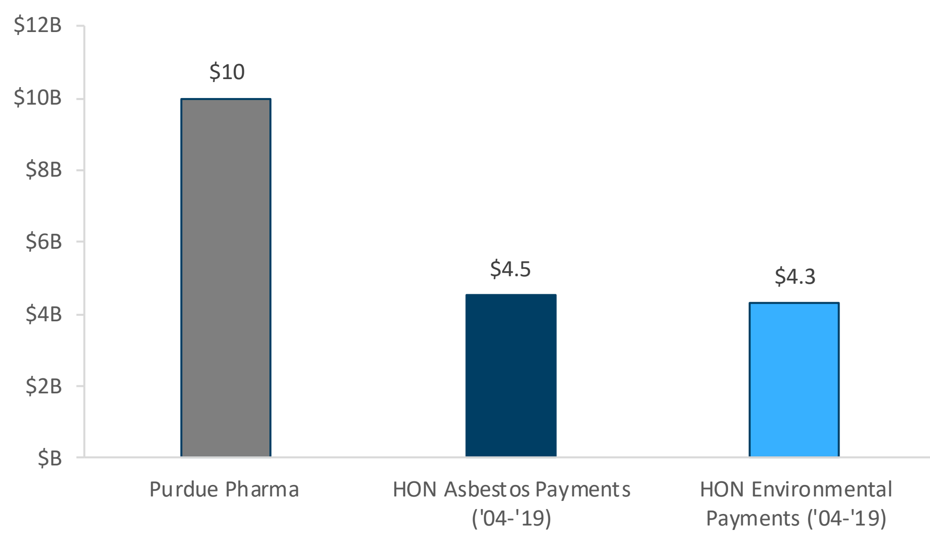
In any event, for the sake of our analysis, we are assuming a worst case $10B liability outcome. Note that is pre-tax, excluding any insurance offset, and we would assume paid out over the course of a decade or longer. The after-tax present value could be closer to $5B on this assumption (but we use the full $10B in our analysis table below). $5B is roughly equal to about one year of 3M cash flow (3M is guiding $5-6B FCF this year). In P/E terms, this should only equate to a tad more than 1 turn. 3M trades at 3 turns below the peer group average, much more than that vs. the highest quality comps. And a full 9 P/E turns below where the stock peaked 2 years ago.

With an A+ credit rating and borrowing costs well under 3%, the cost of taking on debt to pay off this liability has limited economic impact.

Also note that 3M has about 2 turns of debt (net debt/EBITDA) and has debt rated by S&P at A+. We believe that 3M could take on at least 1 more turn of debt and remain investment grade. With borrowing costs well under 3%, the cost of taking on debt to pay off this liability has limited economic impact – other than the reality that larger M&A likely has to take a back seat until more PFAS clarity is obtained. All the while, 3M is forecasted to generate $6B ballpark FCF per year going forward while it battles this out. Meaning the company could de-risk while still paying its $3.3B dividend, do buybacks and bolt-on deals.

If we've learned anything from the Honeywell environmental and asbestos claims, the headlines will precede actual outgoing cash flow by multiple years, if not longer. And while we compare the P/E multiples of 3M to other industrials, keep in mind that many of those other industrials have tail liabilities as well.

Figure 6: Purdue Pharma $10B opioid settlement a downside case scenario? HON faced similar tail liabilities, and has paid out $9B collectively over 15 years



Source: Company Data, Melius Research

Figure 7: PFAS at $10B adds a ~1 turn to EV/EBITDA valuation and ~1.5 turns to P/E

3M Valuation Framework	
Current Market Cap	84,527
Net Debt	17,819
Pension	3,748
Current Enterprise Value	106,094
Consensus EBITDA (2020E)	9,022
EV/EBITDA	11.8x
Consensus EPS (2020E)	$9.49
P/E	15.5x
PFAS "Ring Fence"	10,000
EV incl. PFAS Ring Fence	116,094
Implied EV/EBITDA	**12.9x**
Market Cap incl. PFAS Ring Fence	94,527
Shares Outstanding (2020E)	581
Implied Stock Price	$162.70
Implied P/E	**17.1x**

Source: Bloomberg, Melius Research

Figure 8: 3M Valuation Sensitivities at Different PFAS Levels (EV/EBITDA and P/E)

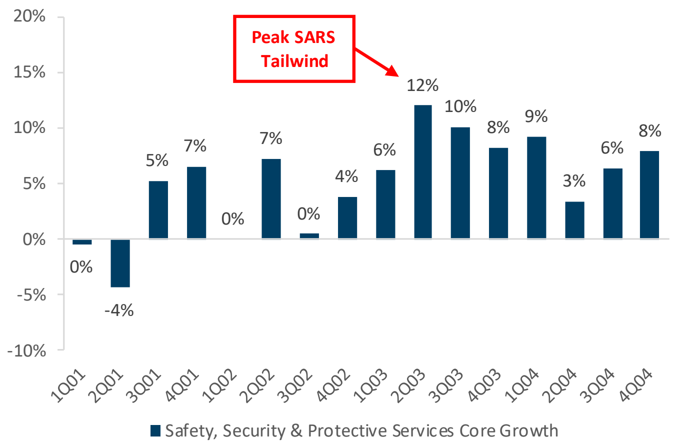
3M 2020E EBITDA ($M)	PFAS Liability ($M): $2,500	$5,000	$7,500	$10,000	$12,500	$15,000	$17,500
$8,400	12.9x	13.2x	13.5x	13.8x	14.1x	14.4x	14.7x
$8,600	12.6x	12.9x	13.2x	13.5x	13.8x	14.1x	14.4x
$8,800	12.3x	12.6x	12.9x	13.2x	13.5x	13.8x	14.0x
$9,000	12.1x	12.3x	12.6x	12.9x	13.2x	13.5x	13.7x
$9,200	11.8x	12.1x	12.3x	12.6x	12.9x	13.2x	13.4x
$9,400	11.6x	11.8x	12.1x	12.4x	12.6x	12.9x	13.1x
$9,600	11.3x	11.6x	11.8x	12.1x	12.4x	12.6x	12.9x

3M 2020E EPS	PFAS Liability ($M): $2,500	$5,000	$7,500	$10,000	$12,500	$15,000	$17,500
$8.90	16.8x	17.3x	17.8x	18.3x	18.8x	19.2x	19.7x
$9.10	16.5x	16.9x	17.4x	17.9x	18.4x	18.8x	19.3x
$9.30	16.1x	16.6x	17.0x	17.5x	18.0x	18.4x	18.9x
$9.50	15.8x	16.2x	16.7x	17.1x	17.6x	18.0x	18.5x
$9.70	15.4x	15.9x	16.3x	16.8x	17.2x	17.7x	18.1x
$9.90	15.1x	15.6x	16.0x	16.4x	16.9x	17.3x	17.7x
$10.10	14.8x	15.3x	15.7x	16.1x	16.5x	17.0x	17.4x

Source: Bloomberg, Melius Research

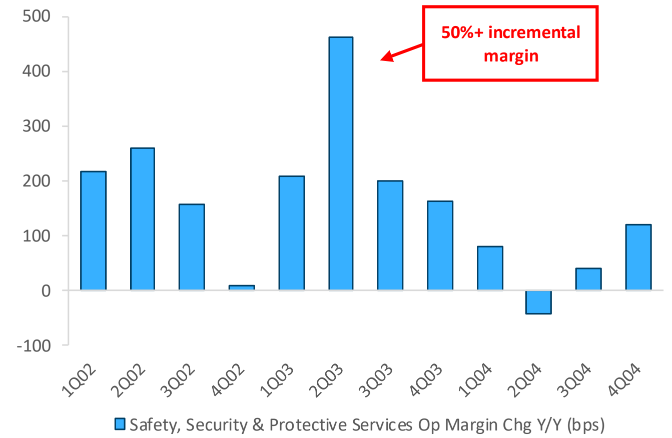
A Look Back at SARS…

Figure 9: 3M respirator sales boosted growth in 2003…



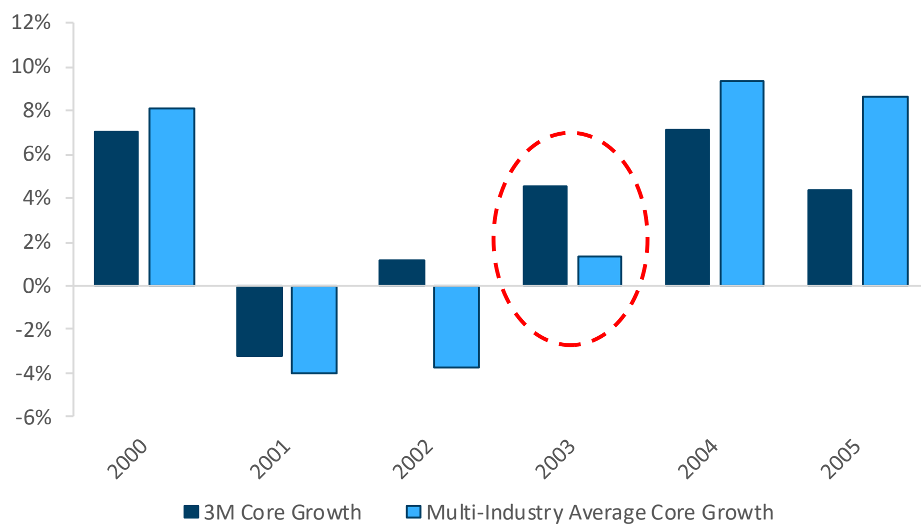
Source: Company Data, Melius Research

Figure 10: …at very high incremental margins



Source: Company Data, Melius Research

Figure 11: SARS helped 3M outperform Multi-Industry peer core growth rates by 300+ bps in 2003 (as well as LCD TV adoption, for which 3M sells films)

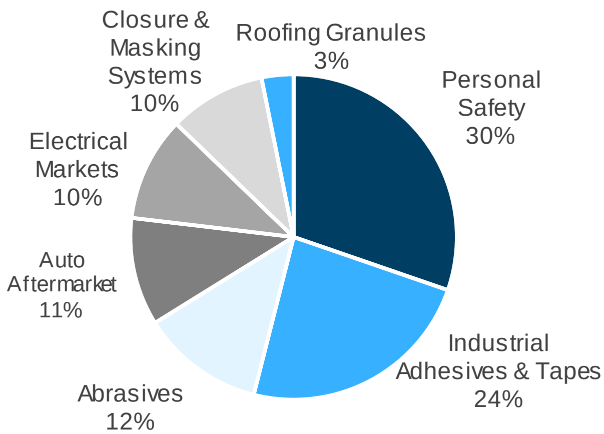


Business Outlooks

Safety & Industrial (S&I) – 34% of 2019 Sales

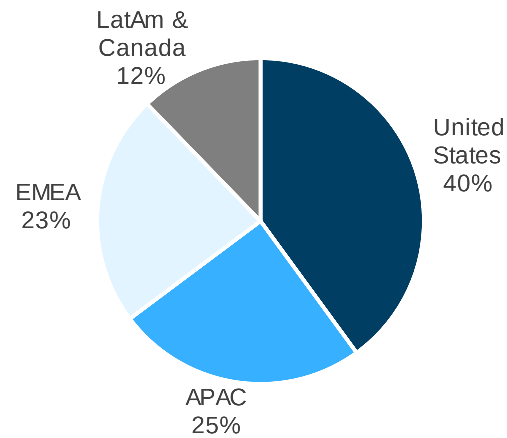
S&I is comprised of personal protective equipment (PPE) safety products, including N95 respirators, and miscellaneous industrial businesses (e.g. adhesives / tapes, abrasives). This is a good short cycle proxy for the industrial economy overall with lots of products that go through distribution, and was down 3% core in 2019. 3M is guiding 0-2% core growth for 2020, though we're almost guaranteed to start the year below that range. Respirator demand will help, and while we'd expect some near-term tailwinds, those should accelerate into 2Q and beyond as capacity constraints/gov't mandated restrictions ease and demand lingers beyond the initial virus outbreak (note, SARS tailwinds back in 2003 peaked in the 2nd quarter). We read one recent press article stating the U.S. will need 10x the number of masks it has already stockpiled (300 million vs. 30 million currently on hand).

Figure 12: S&I Sales by Business (2019)



Source: Company Data, Melius Research

Figure 13: S&I Sales by Geography (2019)

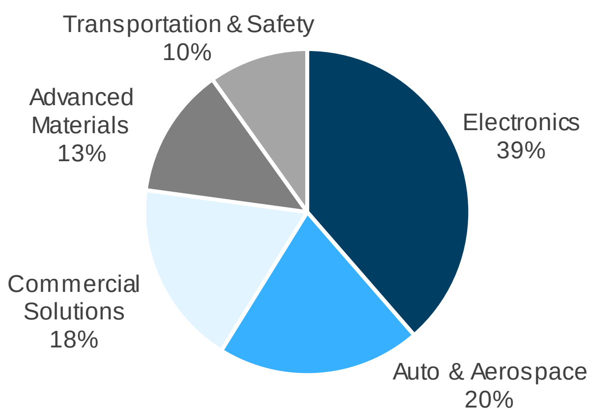


Source: Company Data, Melius Research

Transportation & Electronics (T&E) – 28% of 2019 Sales

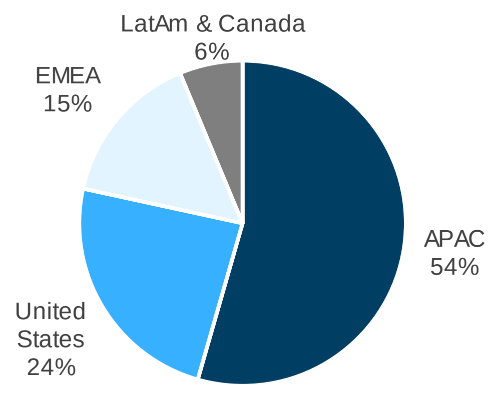
T&E includes the auto and consumer electronics businesses, both of which are now in deep global recessions, and was down 3.5% in 2019. 3M is guiding -2% to +2% core growth this year, though we would expect that range to get cut again. Consumer electronics is the biggest piece and while we've seen some bottoming in related semiconductor markets, the outlook is largely dependent on where things go in China (both from a demand and supply chain perspective). On the auto side, things started falling apart for 3M more than a year ago, but we likely have another leg down from here, especially given corona impacts in China. At least destocking headwinds are largely behind us at this point.

Figure 14: T&E Sales by Geography (2019)



Source: Company Data, Melius Research

Figure 15: T&E Sales by Geography (2019)

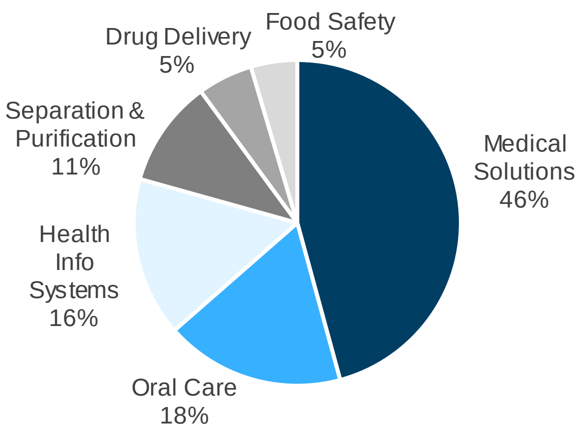


Source: Company Data, Melius Research

Health Care – 22% of 2019 Sales

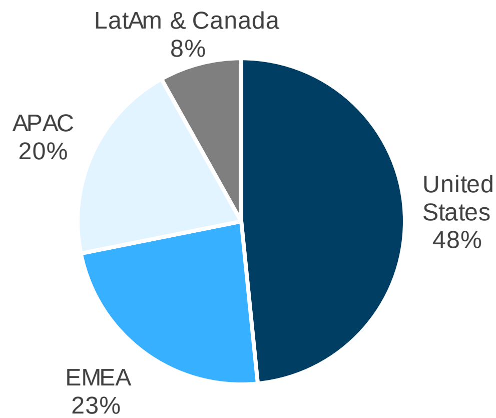
Health care is 3M's highest margin business and includes wound care, medical consumables, drug delivery and dental. The segment was up less than 2% in 2019 and 3M sees a modest improvement to up 2-4% core in 2020. The pending sale of the drug delivery biz (partly cyclical contract R&D for pharma companies) should help and has been a big drag on growth over the past year and a half. Dental has also been a challenge, but the rest of the portfolio seems in better shape. The Acelity wound care acquisition, 3M's largest ever at $6.7B, goes core late in the year and should be accretive to growth.

Figure 16: Health Care sales by Business (2019)



Source: Company Data, Melius Research

Figure 17: Health Care sales by Geography (2019)

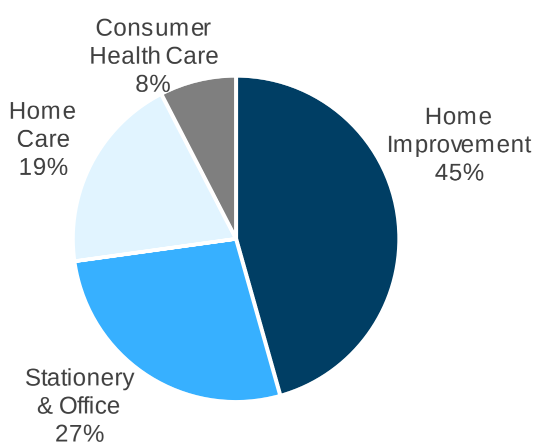


Source: Company Data, Melius Research

Consumer – 15% of 2019 Sales

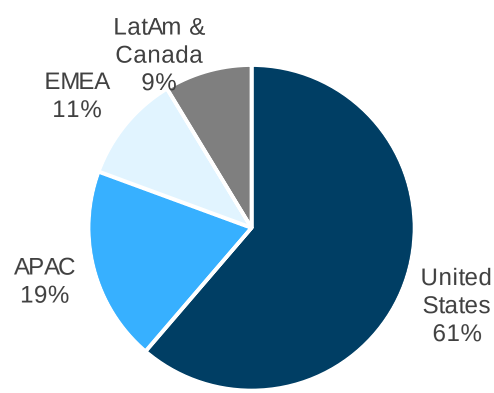
Consumer was up a tad over 1% in 2019 and includes the iconic Post-It note brand, as well as other home improvement, office/stationary, health care and home care products. 3M sees 1-3% core growth for this business in 2020. We haven't gotten much from Consumer on the growth front for several years, partly a function of eCommerce driven challenges in the retail channel (e.g. Office Depot).

Figure 18: Consumer sales by Business (2019)



Source: Company Data, Melius Research

Figure 19: Consumer sales by Geography (2019)



Source: Company Data, Melius Research

Last, a few comments on 2020 guidance…3M sees flat to up 2% core growth and EPS of $9.30-9.75 (up 8% y/y at mid-point), though as noted above, we'd expect to see these numbers come down again in April. The restructuring program announced in 4Q envisions headcount reduction of 1,500 (representing <2% of total company), with run-rate savings of $110-120M, worth ~1.5% segment profit growth from 2019 levels. FCF this year of $5.1-6.0B works out to ~6.5% yield in a group averaging 5.5% and higher quality names below 5%.

Figure 20: Melius 3M Annual Model Highlights

Melius Research							
3M (MMM) Summary Annual Page							
Rating: Buy				2-Year Price Target:		$205	
Fiscal Year Estimates	**2017**	**2018**	**2019**	**2020E**	**2021E**	**2022E**	**2023E**
Sales	$ 31,657	$ 32,765	$ 32,136	$ 33,259	$ 34,418	$ 35,398	$ 36,406
Safety & Industrial	$ 11,946	$ 12,494	$ 11,607	$ 11,575	$ 12,038	$ 12,399	$ 12,771
Transportation & Electronics	$ 9,861	$ 10,106	$ 9,602	$ 9,578	$ 10,056	$ 10,358	$ 10,669
Health Care	$ 6,635	$ 6,826	$ 7,431	$ 8,543	$ 8,704	$ 8,965	$ 9,234
Consumer	$ 5,006	$ 5,086	$ 5,089	$ 5,154	$ 5,257	$ 5,362	$ 5,469
EBITDA	$ 9,236	$ 9,203	$ 8,423	$ 9,279	$ 9,857	$ 10,366	$ 10,812
EBIT	$ 7,692	$ 7,715	$ 6,830	$ 7,368	$ 7,920	$ 8,390	$ 8,814
Safety & Industrial	$ 2,603	$ 3,034	$ 2,542	$ 2,649	$ 2,839	$ 2,986	$ 3,120
Transportation & Electronics	$ 2,986	$ 2,649	$ 2,221	$ 2,276	$ 2,470	$ 2,607	$ 2,722
Health Care	$ 1,877	$ 1,921	$ 1,863	$ 2,135	$ 2,236	$ 2,357	$ 2,474
Consumer	$ 1,051	$ 1,071	$ 1,105	$ 1,163	$ 1,202	$ 1,242	$ 1,278
EPS, Adjusted	$ 9.17	$ 9.94	$ 8.85	$ 9.55	$ 10.55	$ 11.40	$ 12.20
FCF	$ 4,867	$ 4,862	$ 5,371	$ 5,689	$ 6,073	$ 6,468	$ 6,775
FCF/share	$ 7.94	$ 8.08	$ 9.18	$ 9.79	$ 10.56	$ 11.44	$ 12.19
Growth (%)							
Sales	8%	4%	-2%	3%	3%	3%	3%
Safety & Industrial	7%	5%	-7%	0%	4%	3%	3%
Transportation & Electronics	6%	2%	-5%	0%	5%	3%	3%
Health Care	4%	3%	9%	15%	2%	3%	3%
Consumer	3%	2%	0%	1%	2%	2%	2%
Organic Growth	8%	2%	-2%	1%	4%	3%	3%
EPS, Adjusted	12%	8%	-11%	8%	11%	8%	7%
FCF	-7%	0%	10%	6%	7%	6%	5%
Margins (%)							
EBITDA Margins	29.2%	28.1%	26.2%	27.9%	28.6%	29.3%	29.7%
EBIT Margins	24.3%	23.5%	21.3%	22.2%	23.0%	23.7%	24.2%
Safety & Industrial	21.8%	24.3%	21.9%	22.9%	23.6%	24.1%	24.4%
Transportation & Electronics	30.3%	26.2%	23.1%	23.8%	24.6%	25.2%	25.5%
Health Care	28.3%	28.1%	25.1%	25.0%	25.7%	26.3%	26.8%
Consumer	21.0%	21.1%	21.7%	22.6%	22.9%	23.2%	23.4%

Source: Bloomberg, Company Data, Melius Research

Figure 21: Melius 3M Quarterly Model Highlights

Melius Research										
3M (MMM) Summary Quarterly Page										
FY Estimates	1Q	2Q	3Q	4Q	2019	1QE	2QE	3QE	4QE	2020E
Sales	$ 7,863	$ 8,171	$ 7,991	$ 8,111	$32,136	$ 8,241	$ 8,437	$ 8,345	$ 8,236	$33,259
Safety & Industrial	$ 2,986	$ 2,961	$ 2,849	$ 2,811	$11,607	$ 2,965	$ 2,910	$ 2,826	$ 2,874	$11,575
Transportation & Electronics	$ 2,357	$ 2,452	$ 2,503	$ 2,290	$ 9,602	$ 2,286	$ 2,427	$ 2,528	$ 2,336	$ 9,578
Health Care	$ 1,738	$ 1,831	$ 1,721	$ 2,141	$ 7,431	$ 2,208	$ 2,158	$ 2,045	$ 2,132	$ 8,543
Consumer	$ 1,194	$ 1,303	$ 1,324	$ 1,268	$ 5,089	$ 1,194	$ 1,316	$ 1,350	$ 1,293	$ 5,154
EBITDA	$ 2,082	$ 2,100	$ 2,303	$ 1,937	$ 8,423	$ 2,151	$ 2,317	$ 2,420	$ 2,392	$ 9,279
EBIT	$ 1,684	$ 1,702	$ 1,905	$ 1,539	$ 6,830	$ 1,673	$ 1,839	$ 1,942	$ 1,914	$ 7,368
Safety & Industrial	$ 644	$ 653	$ 659	$ 586	$ 2,542	$ 639	$ 656	$ 682	$ 671	$ 2,649
Transportation & Electronics	$ 523	$ 592	$ 631	$ 475	$ 2,221	$ 484	$ 586	$ 663	$ 543	$ 2,276
Health Care	$ 464	$ 483	$ 459	$ 457	$ 1,863	$ 512	$ 526	$ 488	$ 609	$ 2,135
Consumer	$ 233	$ 268	$ 308	$ 296	$ 1,105	$ 251	$ 284	$ 324	$ 305	$ 1,163
EPS, Adjusted	$ 2.23	$ 2.13	$ 2.53	$ 1.95	$ 8.85	$ 2.16	$ 2.38	$ 2.52	$ 2.49	$ 9.55
Growth (%)										
Sales	-5%	-3%	-2%	2%	-2%	5%	3%	4%	2%	3%
Safety & Industrial	-9%	-9%	-6%	-5%	-7%	-1%	-2%	-1%	2%	0%
Transportation & Electronics	-6%	-3%	-4%	-6%	-5%	-3%	-1%	1%	2%	0%
Health Care	0%	6%	5%	25%	9%	27%	18%	19%	0%	15%
Consumer	-1%	0%	2%	0%	0%	0%	1%	2%	2%	1%
Organic Growth	-2%	-1%	-2%	-3%	-2%	0%	1%	2%	3%	1%
EPS, Adjusted	-10%	-18%	-2%	-14%	-11%	-3%	12%	-1%	28%	8%
Margins (%)										
EBITDA Margins	26.5%	25.7%	28.8%	23.9%	26.2%	26.1%	27.5%	29.0%	29.0%	27.9%
EBIT Margins	21.4%	20.8%	23.8%	19.0%	21.3%	20.3%	21.8%	23.3%	23.2%	22.2%
Safety & Industrial	21.6%	22.1%	23.1%	20.8%	21.9%	21.6%	22.6%	24.1%	23.3%	22.9%
Transportation & Electronics	22.2%	24.1%	25.2%	20.7%	23.1%	21.2%	24.1%	26.2%	23.2%	23.8%
Health Care	26.7%	26.4%	26.7%	21.3%	25.1%	23.2%	24.4%	23.8%	28.6%	25.0%
Consumer	19.5%	20.6%	23.3%	23.3%	21.7%	21.0%	21.6%	24.0%	23.5%	22.6%

Source: Bloomberg, Company Data, Melius Research

DISCLOSURES AND DISCLAIMERS

Analyst Certifications and Independence of Research.

Each of the Melius Research LLC analysts whose names appear on the front page of this report hereby certify that all the views expressed in this Report accurately reflect our personal views about any and all of the subject securities or issuers and that no part of our compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views of in this Report.

Melius Research LLC (the "Company") is an independent equity research provider. The Company is not a member of the FINRA or the SIPC and is not a registered broker dealer or investment adviser. Melius Research LLC has no other regulated or unregulated business activities which conflict with its provision of independent research.

Partners and employees of the Company may hold economic interests in companies we follow.

Limitations of Research and Information.

This Report has been prepared for distribution to only qualified institutional or professional clients of Melius Research LLC. The contents of this Report represent the views, opinions, and analyses of its authors. The information contained herein does not constitute financial, legal, tax or any other advice. All third-party data presented herein were obtained from publicly available sources which are believed to be reliable; however, the Company makes no warranty, express or implied, concerning the accuracy or completeness of such information. In no event shall the Company be responsible or liable for the correctness of, or update to, any such material or for any damage or lost opportunities resulting from use of this data.

Nothing contained in this Report or any distribution by the Company should be construed as any offer to sell, or any solicitation of an offer to buy, any security or investment. Any research or other material received should not be construed as individualized investment advice. Investment decisions should be made as part of an overall portfolio strategy and you should consult with a professional financial advisor, legal and tax advisor prior to making any investment decision. Melius Research LLC shall not be liable for any direct or indirect, incidental or consequential loss or damage (including loss of profits, revenue or goodwill) arising from any investment decisions based on information or research obtained from Melius Research LLC.

Reproduction and Distribution Strictly Prohibited.

Copyrights, Trademarks, Intellectual Property.

Ratings Definitions and Distribution of Ratings.

Melius Research LLC uses a three-point rating methodology at the stock level of Buy, Hold, Sell, and a three-point rating at the sector level of Positive, Neutral, and Negative. At both the stock and sector level, the rating is versus the S&P 500. Therefore, a positive rating at the sector level could, and likely would, be accompanied by a greater than usual positive rating distribution at the stock level. We maintain the view that our work uncovers mispricings that become more pronounced over a longer time horizon, therefore our investment horizon is typically 2 years, though we often will state or include shorter term views as we see catalysts and events that merit the distinction. Our target prices indicate a realistic destination based on current data and over the stated time period. Given the volatility of stock prices and market dynamics, the absolute upside or downside could change dramatically day to day. Therefore, in highly volatile time periods our target prices could indicate variable upside/downside levels and we do not plan on adjusting such levels purely as a result of market movements. In other words, target prices indicate some level of "fair value" which may not necessarily indicate a pending rating change.

For further information please ask your salesperson to consult the Research Department on your behalf.