The M&A Wave: Risk & Reward II

An updated review of leverage, ratings and spread performance of recent USD High Grade deals

- A review of 45 M&A transactions since 2015 shows that deleveraging is occuring but slowly, and with some misses. A strong economy has helped
- Since 2015, $833bn of Non-Financial HG corporate bonds has been issued to fund M&A. This accounted for 29% of all non-Financial bond issuance
- Of the 27 M&A transactions where enough time has passed, our analysts conclude that 12 companies have succeeded in achieving their post-merger financial targets, 6 are on track, 2 are behind plan, and 7 have not succeeded
- Across the 45 transactions leverage increased by 1.4x at the time of the deal, on average. It was 0.3x lower one year later and 0.5x lower two years later
- Rating downgrades at the time of the deals averaged 0.6 notches and they declined slightly further subsequently, on average
- A 1.5x increase in leverage led to a one notch rating downgrade, on average
- Recent deals have been larger in size but they have led to a smaller increase in leverage than those in prior years, a positive development
- Investing in the bonds issued for these M&A transactions has been profitable, with a median of 16bp spread outperformance six months later and 23bp of outperformance one year later, versus the broader market
- In this note we review the leverage, credit rating and spread performance trends of the 45 deals individually. Our analysts provide perspective on each transaction and on the M&A dynamic in the Healthcare, TMT and Consumer sectors more broadly. There is one page per deal explaining the rationale, the leverage and ratings implications and post deal deleveraging trends of each

US High Grade Strategy & Credit Derivatives Research

Eric Beinstein [AC]
(1-212) 834-4211
eric.beinstein@jpmorgan.com

Virginia Chambless, CFA
(1-212) 834-5481
virginia.chambless@jpmorgan.com

Brett G. Gibson
(1-212) 270-7484
brett.g.gibson@jpmorgan.com

Brian Turner
(1-212) 834-4035
brian.m.turner@jpmorgan.com

Jonathan Rau, CFA
(1-212) 834-5237
jonathan.d.rau@jpmorgan.com

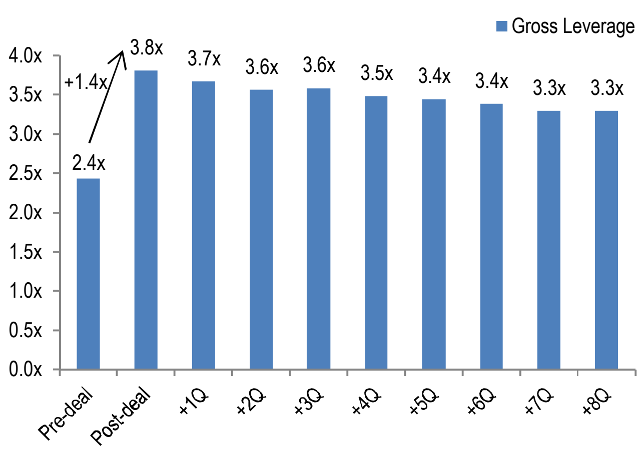
Claire Barbour
(1-212) 270-6861
claire.barbour@jpmchase.com

Pavan D Talreja
(1-212) 834-2051
pavan.talreja@jpmchase.com

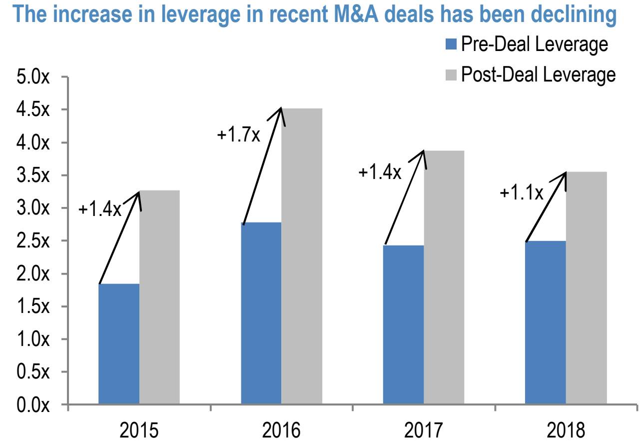
Sheila Xie
(1-212) 834-3036
sheila.xie@jpmorgan.com

J.P. Morgan Securities LLC

Post M&A deleveraging has been slow but steady



The increase in leverage in recent M&A deals has been declining



Source: J.P. Morgan, Capital I.Q

Eric Beinstein
(1-212) 834-4211
eric.beinstein@jpmorgan.com

Table of Contents

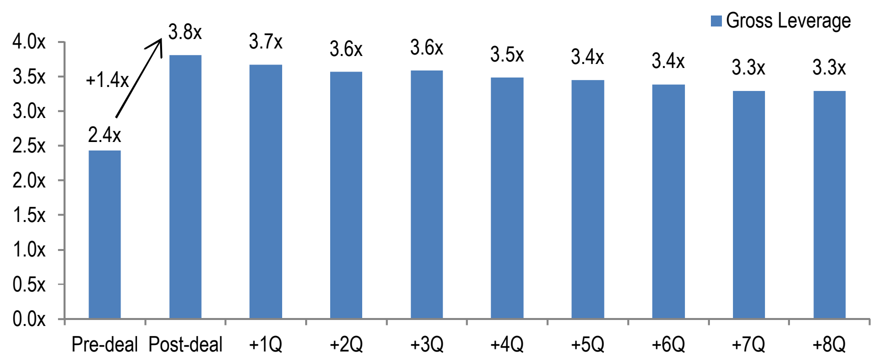
Eric Beinstein
(1-212) 834-4211
eric.beinstein@jpmorgan.com

Summary and conclusions: deleveraging progress continues with some misses, newer deals have less leverage

This note is an update to our first M&A note published in September 2018. As a reminder, we previously analyzed 32 large M&A transactions from 2015 onwards, calculating the jump in leverage which happened with the deals, and then the pace of deleveraging in subsequent quarters. The key takeaways from the last report were that leverage increased by 1.6x on average for the deals in our study. Six quarters later it had come down by 0.4x (down by ~25%). This slow pace of deleveraging is part of the broader BBB risk discussion. Many of these companies were downgraded upon their mergers but still post-merger credit ratings were generous as they took into account the company's deleveraging plans. To the extent this deleveraging is not meeting expectations ratings downgrade risks rise.

In this update, we have increased the number of transactions analyzed to 45 from 32. The larger size of the database allows us to breakout out the trends over time. We have also extended the post deal tracking of deleveraging to eight quarters from six. The first conclusion is that the jump in leverage including newer deals remains at +1.4x. The post deal decline in leverage averages -0.2x four quarters out, -0.4x six quarters later and -0.5x eight quarters later. The deals in 2016 saw an average jump in leverage of 1.7x, those in 2017 of 1.4x and in 2018 1.1x, so the damage to credit metrics from M&A has been trending down, which is a positive trend.

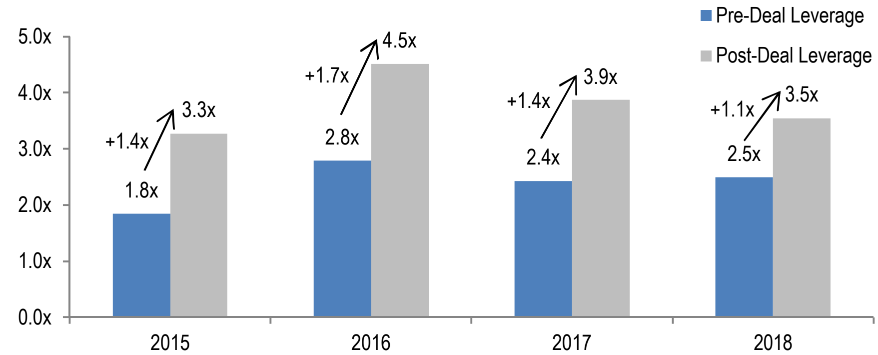
Exhibit 1: Leverage rose by 1.4x, on average, for the 45 transactions since 2015 which we review in this note. It then declined by 0.5x over the subsequent 2 years



Source: J.P. Morgan, Capital IQ

Over the past four years, the size of transactions has increased while the resultant increase in leverage has declined. Both of these trends reflect market forces and lessons from earlier transactions. There has been increasing market focus on the level of leverage in some transactions, especially given the subsequent weakness in post-deal EBITDA trends in a few deals. As a consequence the market has become less tolerant of transactions which increase leverage significantly, and this is reflected in a downward trend in the amount by which leverage increases in recent deals. The increase in the size of transactions is a reflection of the strong market for bonds overall, and the ability of benchmark HG bond issuers to tap the markets for significant debt when they have a transformational M&A opportunity.

Exhibit 2: The increase in leverage in recent M&A deals has been declining

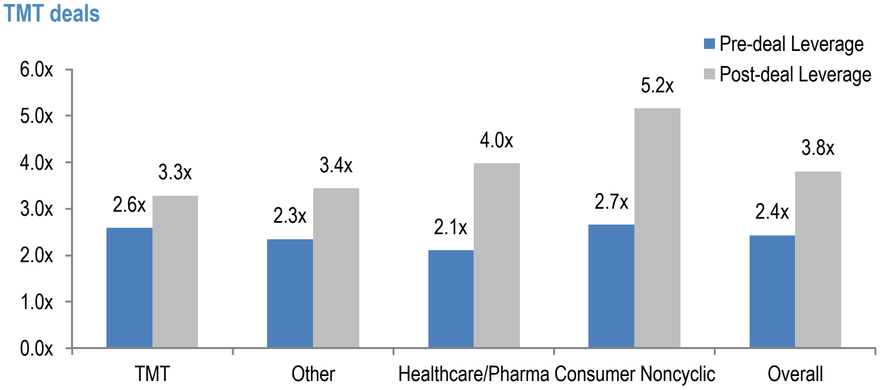


Source: J.P. Morgan, Capital IQ

Of the 27 M&A transactions reviewed in this report where it is not too soon to draw a conclusion, our analysts conclude that 12 companies have succeeded in achieving their post merger financial target, 6 are on track, 2 are behind plan, and 7 have not succeeded. That's 44% success, 22% on track, 7% behind plan, and 26% not succeeded. This is an assessment of whether the stated deleveraging or other financial target(s) that was stated at the time of each transaction was met. As discussed below, this progress has occurred in the context of a strong economic backdrop and favorable financial markets for borrowing. There has been one obvious M&A failure with Teva, where post a large merger the company was downgraded to HY and the bonds which were issued to fund the transaction currently trade about 150bp wider than at issuance. See the back section of this report for a discussion of each deal.

Results from a bond investor's perspective: Buying the bonds issued to fund the M&A deals in our sample has been a good investment. The median outperformance of these bonds versus the JULI has been 23bp one year later and 26bp two years later. The deal weighted average has been 30bp and 25bp of outperformance over the same period. There are two outlier results: Investors in Teva's M&A bonds fared poorly with the 10yr bond 161bp of underperformance eight quarters post the deal. In contrast, investors in Dell's M&A bonds did well with 168bp of outperformance. Excluding these outliers, the average outperformance has been 25bp over the same period. This calculation is based on the benchmark 10yr bond issued for the M&A funding, compared to the JULI 10yr spread performance. Note that the outperformance average is comparing different time periods for each deal.

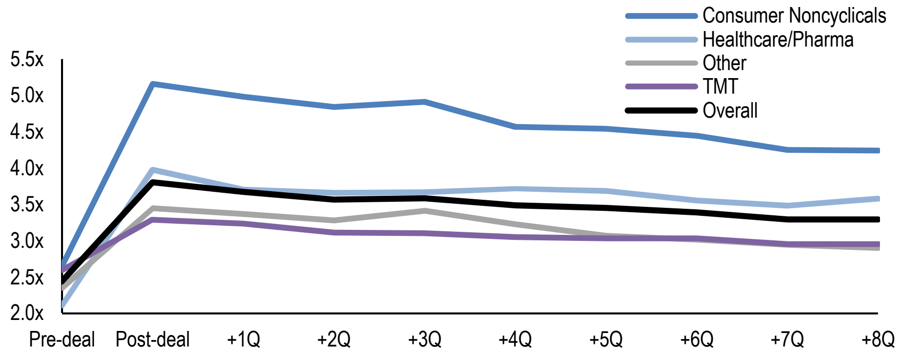
Exhibit 3: Leverage increased the most in Consumer Non-Cyclical transactions, and the least in TMT deals



Source: J.P. Morgan, Capital IQ

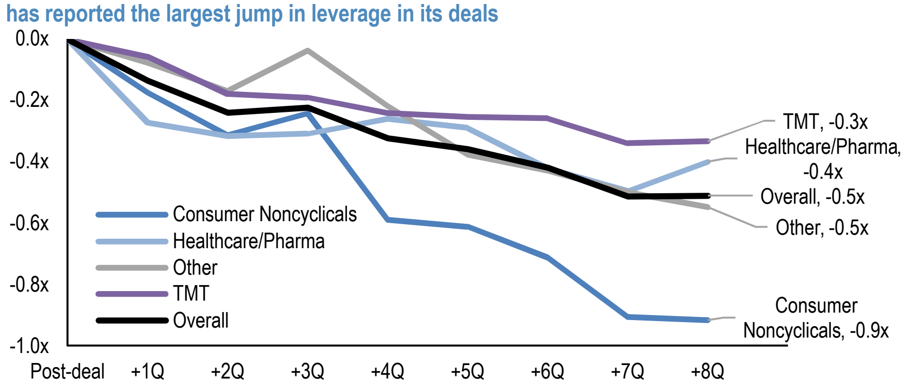
Eric Beinstein
(1-212) 834-4211
eric.beinstein@jpmorgan.com

Exhibit 4: Deleveraging post deal has occurred in all sectors, on average, but there were different starting points



Source: J.P. Morgan, Capital IQ

Exhibit 5: Although Consumer Noncylicals delivered the most on an absolute basis, this sector has reported the largest jump in leverage in its deals



Source: J.P. Morgan, Capital IQ

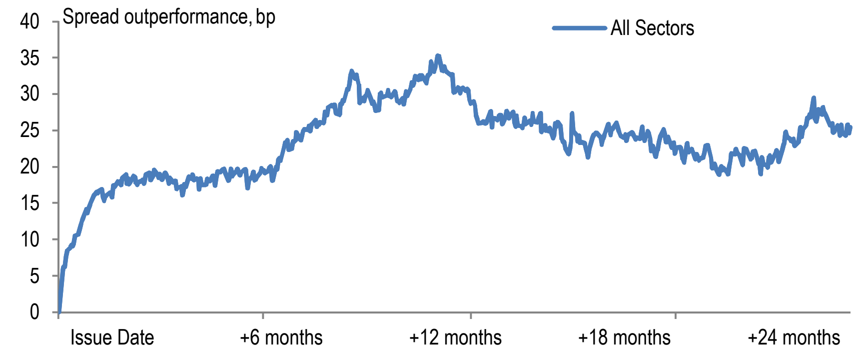
Exhibit 6: M&A performance by sector

	Gross leverage			Rating change since pre-deal*		Outperformance of 10Y bond issued for M&A deals 8 quarters after the close
	Pre-Deal	Post deal	+8Q	Post deal	+8Q	
Healthcare & Pharma (ex Teva)	2.1x	3.9x	3.3x	0.1 lower	0.3 lower	46bp (ex-Teva)
Consumer Noncyclicals	2.7x	5.2x	4.2x	1.4 lower	1.4 lower	1bp
TMT	2.6x	3.3x	3.0x	0.2 higher	0.1 higher	57bp / 10bp (ex-Dell)
Other	2.3x	3.4x	2.9x	0.6 lower	0.7 lower	22bp
Total	2.4x	3.8x	3.3x	0.4 lower	0.7 lower	25bp / 25bp (ex-Dell & Teva)

Note: The rating changes in the table above only reflect the deals which have eight quarters of post-deal close leverage data, whereas the change in gross leverage figures reflect the debt weighted average for all deals which have data available at the time
Source: J.P. Morgan

Eric Beinstein
(1-212) 834-4211
eric.beinstein@jpmorgan.com

Exhibit 7: Buying the bonds issued to fund the M&A deals in our sample has been a very good investment (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

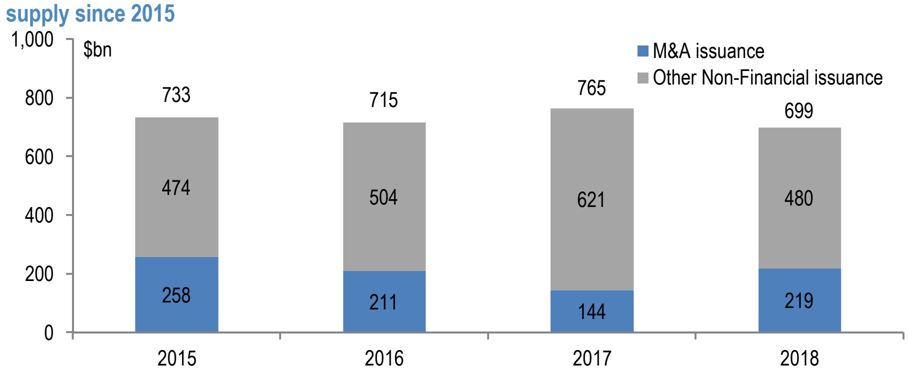


Source: J.P. Morgan

Why M&A matters

The US High Grade corporate bond market has grown substantially over the past few years, helping companies fund their investment and growth needs. A key use of funding from the market recently has been for Mergers and Acquisitions (M&A). **From 2015 -2018 M&A funding represented 29% of the bond issuance for non-Financial companies.** $833bn was raised for M&A by these issuers over the past 4 years. For this reason, understanding the success of these transactions is important for HG bond investors, and to better understand the risks in the market more broadly. Defining what the 'success' of a transaction means is not straightforward, however, and is what we aim to do from a credit investor's perspective, in this note.

Exhibit 8: M&A related bond issuance has accounted for 29% of all non-Financial HG bond supply since 2015

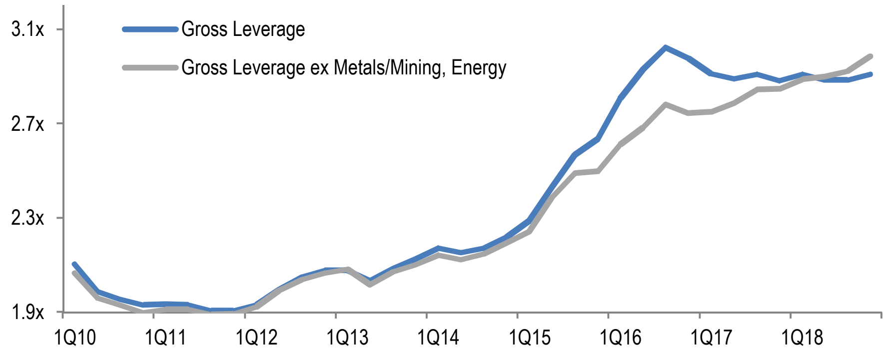


Source: J.P. Morgan, Dealogic

In most cases in an M&A transaction a company increases its leverage and then aims to bring this leverage down by capturing revenue and/or cost synergies. M&A is an inherently bullish transaction – a company is (usually) taking on more debt with a view that the combination of the market opportunity and their leadership will allow them to capture the benefits of the larger scale. At the time of most transactions, the company will announce an estimate of the synergies they will capture. They usually provide a future leverage target (or other financial metrics) that they are aiming to achieve at some (sometimes) specified time period in the future. These targets, where they exist, are listed in Exhibit 17 below, and discussed on each of the transaction detail pages at the back of this publication.

Eric Beinstein
(1-212) 834-4211
eric.beinstein@jpmorgan.com

Exhibit 9: The leverage of US HG non-Financial companies has risen sharply over the past few years, in part due to significant M&A



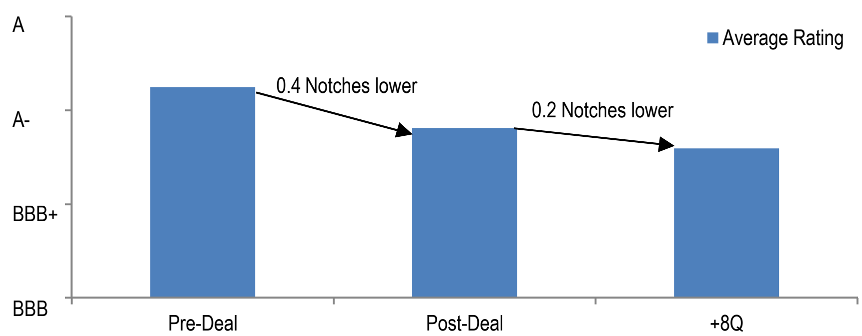
Source: J.P. Morgan, Capital I.Q.

The rating agencies play an important role in this dynamic

In many M&A transactions ratings are downgraded due to the increase in leverage and the increased uncertainty that comes with an untested integration between two previously distinct entities. As part of their review process the rating agencies often are assessing the announced integration/deleveraging plans of the combined entity. To the extent they believe the plan to be credible their rating will reflect this. In such cases, the rating today typically will be higher than it would be were the current metrics alone being incorporated.

This has raised concerns in the investment community that the ratings post some M&A transactions may be too high. Companies, in some cases, are starting out with leverage metrics well above those typical for the assigned rating, as the rating agencies are giving them credit for a plan to improve their leverage and/or other financial metrics going forward. If the deleveraging or other financial targets which were promised are not achieved, ratings downgrades would be expected in many cases.

Exhibit 10: Ratings were downgraded by an average of 0.4 notches for the M&A deals in our sample. Two years later the average rating was lower by another 0.2 notches



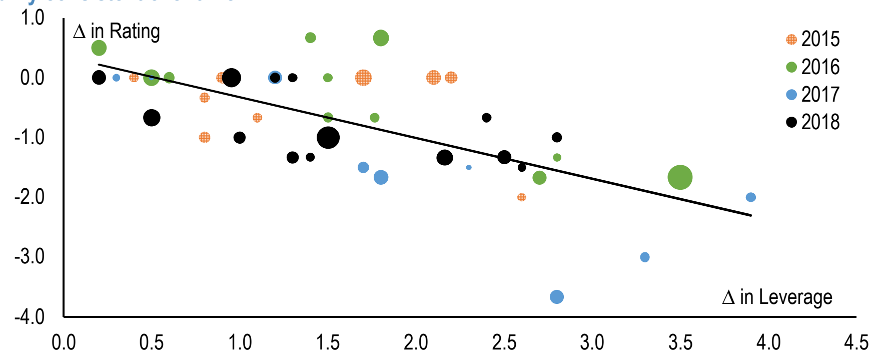
Note: The rating changes in the chart above only reflect the deals which have eight quarters of post-deal close leverage data
Source: J.P. Morgan, Moody's, S&P and Fitch

The relationship between the change in leverage and the change in rating has been fairly consistent over time. For the M&A deals in this report there has been a fairly consistent correlation between the amount of leverage added and the extent of rating downgrade which occurred. Approximately a 1.5x in increase in leverage has led to a 1 rating notch downgrade (i.e. BBB+ to BBB flat), on average. This

Eric Beinstein
(1-212) 834-4211
eric.beinstein@jpmorgan.com

relationship has held across the four years of our analysis and also across the size of debt issued for the deals. The chart below shows this relationship. There is a different color for each year, and deals with more debt issued are shown with larger dot sizes. For the black dots (2018 deals) these tend more to the left (i.e. less leverage than prior years) and also they are larger dots, as they are larger deals. They do fall pretty evenly on both sides of the regression line. This shows that there has not been an obvious shift by the rating agencies either positive or negative, on their model as the relationship between leverage changes and rating changes. We note, however, that this is based on a limited sample and rating agencies take many more issues into account besides leverage in their process.

Exhibit 11: The relationship between the change in leverage and the change in rating has been fairly consistent over time

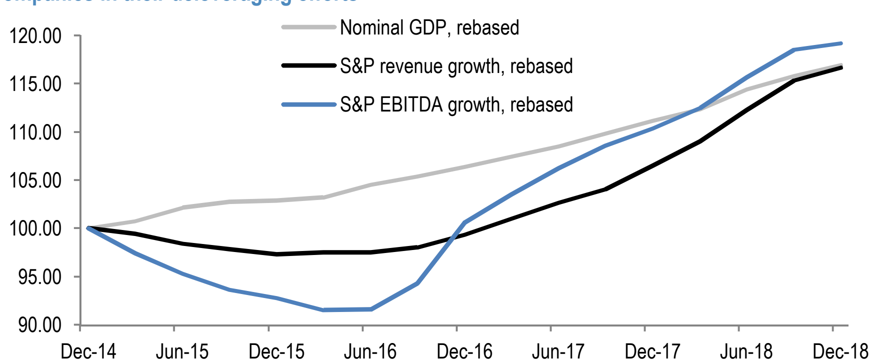


Source: J.P. Morgan, Capital IQ, Moody's, S&P and Fitch

The strong US economy has been a tailwind for recent M&A transactions. US nominal GDP has grown by 17% from 2014-2018. S&P500 revenue growth has been 17% over this time period, and S&P500 EBITDA has increased by 19%. This economic tailwind has been important for progress on deleveraging. The fact that the post M&A deleveraging has been pretty modest, as discussed further below, despite the strong macro-economic backdrop, does raise concerns about the trend of post M&A deleveraging if/when the economy turns more negative.

The prior M&A cycle pre-crisis was quite different from this one, with more heavily levered transactions, and more deals driven by financial sponsors rather than strategic alignments. Still, the extent of the stress in some of the pre-crisis transactions was driven by the strong US recession which followed. It is obviously difficult for a company to grow into a larger debt profile when the broader economy is growing slowly or shrinking.

Exhibit 12: Strong GDP growth and corporate earnings performance have been tailwinds for companies in their deleveraging efforts



Source: J.P. Morgan, Bloomberg

Eric Beinstein
(1-212) 834-4211
eric.beinstein@jpmorgan.com

Exhibit 13: List of deals reviewed. The shaded ones are additions to the analysis since our prior report in September 2018

Date Closed	Acquirer	Acquired
20-Dec-18; 8-Mar-19	Altria Group Inc	Juul Labs Inc & Cronos Group Inc
21-Dec-18	Cigna Corp	Express Scripts Holding Co
29-Nov-18	CVS Health Corp	Aetna Inc
26-Nov-18	United Technologies Corp	Rockwell Collins Inc
7-Nov-18	Comcast Corp	Sky Plc
26-Oct-18	Conagra Brands Inc	Pinnacle Foods Inc
18-Aug-18	Walmart Inc	Flipkart Online Services
9-Jul-18	Keurig Green Mountain	Dr Pepper Snapple
15-Jun-18	AT&T	Time Warner Inc
7-Jun-18	Bayer	Monsanto
6-Jun-18	Northrop Grumman	Orbital ATK
24-Apr-18	General Mills Inc	Blue Buffalo Pet Products Inc
2-Apr-18	General Dynamics Corp	CSRA Inc
26-Mar-18	Campbell Soup Co	Snyder's-Lance Inc
7-Mar-18	Discovery	Scripps Network
29-Dec-17	Becton Dickinson	CR Bard Inc
1-Nov-17	Crown Castle International Corp	LTS Group Holdings LLC
29-Aug-17	Amazon.com Inc	Whole Foods Market Inc
25-Jul-17	British American Tobacco PLC	Reynolds American Inc
15-Jun-17	Reckitt Benckiser PLC	Mead Johnson
1-Jun-17	Sherwin Williams	Valspar
13-Mar-17	Analog Devices Inc	Linear Technology Corp
13-Mar-17	Verizon Communications	Yahoo Holdings Inc
4-Jan-17	Abbott Laboratories	St Jude Medical Inc
8-Dec-16	Microsoft Corp	LinkedIn Corp
7-Nov-16	Oracle Corp	NetSuite Inc
11-Oct-16	Molson Coors Brewing Co	MillerCoors LLC
10-Oct-16	Anheuser-Busch InBev	SABMiller
7-Sep-16	Dell Technologies Inc	EMC Corp
24-Aug-16	Mylan NV	Meda AB
2-Aug-16	Teva	Allergan PLC's generic drug business
1-Jul-16	Southern Co	AGL resources
18-May-16	Charter	Time Warner Cable
15-Apr-16	Newell Rubbermaid	Jarden Corporation
2-Feb-16	Avago	Broadcom
29-Dec-15	Intel Corp	Altera Corp
6-Nov-15	Lockheed Martin	Sikorsky Aircraft Corporation
18-Aug-15	CVS Health Corp	Omnicare Inc
28-Jul-15	UnitedHealth Group	Catamaran Corp
2-Jul-15	HJ Heinz Corp	Kraft Foods Group Inc
1-Jul-15	Siemens	Dresser-Rand Group
27-May-15	Abbvie Inc	Pharmacyclics Inc
17-Mar-15	Becton Dickinson	CareFusion Corp
17-Mar-15	Actavis PLC	Allergan Inc
10-Oct-14	Bayer	Merck consumer care unit

Source: J.P. Morgan

Methodology

We review 45 large, debt funded M&A transactions involving High Grade bond issuers since 2015. For each company the leverage of the acquirer at the time of the deal announcement, the time of the deal closing, and for 8 subsequent quarters post the closing is shown. The goal is to understand the increase in leverage at the time of the deal and the post-closing progress on improving leverage. For the three main sectors with active debt-funded M&A over the three years (Healthcare, Telecommunications/Media/Technology (TMT), Consumer non-cyclical) there is a summary of the sector trends. For the summary metrics the leverage trend of each company is weighted by the amount of company debt at the time of the deal closing, so the larger capital structures impact the averages more heavily than the smaller ones.

Most companies in our sample have given guidance as to their financial targets after the transaction, and these are shown in the table. JPM sector analysts also give a qualitative assessment as to the success of each company's goal towards its stated post deal target.

Healthcare & Pharma

Brett G. Gibson [AC] – (212) 270-7484; brett.g.gibson@jpmorgan.com

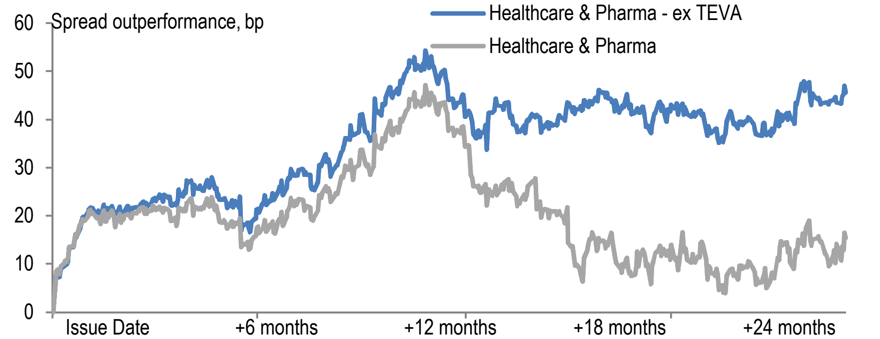
Levering M&A transactions have been a major credit driver in the Healthcare sector, in our view. Over the past few years there has been a consistent presence of consolidation drivers across much of the Pharmaceutical supply chain and Healthcare Services space. Including transactions expected to be completed, since the beginning of 2014 High Grade Healthcare issuers have been part of over 50 transactions above $4bn EV, including 14 transactions above $20bn EV).

The sector is supported by a very strong cash flow generation profile which has given companies the ability to take leverage up materially when they promise to pay down debt rapidly. This cash flow generation and comfort with delevering in recent years has led to rating agencies to give substantial leeway in allowing companies to take leverage higher than previously allowed ranges, with starting leverage of ~4.5-5.5x not uncommon. While many of these transactions resulted in modest initial rating deterioration, deleveraging post M&A in the Healthcare sector can be broadly seen as "successful" if you consider whether companies completed acquisition commitments. Of course all of this is underpinned by some uncertainties related to the current deleveraging efforts of certain high profile deals as well as the very well-publicized challenges at Teva (the company was downgraded to HY less than 1.5 years after completing the acquisition of the Allergan Generics business) and a few companies completing subsequent sizable acquisitions and pushing out original delevering timelines.

Looking at the subsectors within the Healthcare space, Medical Device company M&A deleveraging has been broadly successful, as most companies have improved leverage following large acquisitions. Large cap Pharma and Biotech companies have been less aggressive on bringing leverage down following transactions, but for the most part have also not executed deals that were relatively as large over the recent past. Health Insurers went through several iterations of levering transactions with the first set of horizontal mergers getting blocked by the DOJ and companies then turning to vertical deals. In early days, delevering plans seem to be slightly delayed, though it seems companies are still committed to the original goals they laid out. On the other hand the two large Generics deals over the past few years have fallen behind original deleveraging targets as underlying fundamentals have been challenging in that subsector.

Looking forward, we do not expect further large scale M&A in the Healthcare Services space. On the other hand, though we see potential for M&A on the Pharma side, we expect most deals will be tuck-in in nature (<$10bn or so) and will not be that negative for credit. With several large levering transactions occurring in 2018 and early 2019, we will monitor those companies closely as they deleverage and look to fulfill their commitments over the next 18-24 months.

Exhibit 14: 10yr bonds issued to fund Healthcare & Pharma M&A deals have performed in line with JULI 10yr as underperformance of TEVA M&A bonds offset the outperformance of bonds from other M&A deals (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)



Source: J.P. Morgan

Consumer Noncyclicals

Ginger Chambless [AC] – (212)834-5481; virginia,chambless@jpmorgan.com
Jenny Feng – (212) 834-5479; jenny.feng@jpmorgan.com

Consolidation in the consumer noncyclical sectors over the last several years picked up due to a confluence of favorable economic and capital markets conditions and strategies to boost growth. While each transaction has a specific rationale and circumstances, the combinations are typically expected to bring the acquirer some blend of faster growing product categories and geographic markets or a meaningful opportunity to streamline operations and take out costs.

The financial characteristics of the consumer noncyclical sector include stable demand trends through economic cycles, relatively high EBITDA margins in the 15-20% range, and strong cash generation. These attributes combined with the favorable macro and low interest rate backdrop have resulted in unprecedented leeway with pro forma leverage levels for strategic M&A within investment grade. Rating agencies have allowed leverage to rise into the 4.5-6x range as long as companies can demonstrate a willingness and ability to reduce leverage back to a more moderate 3.5-4x range within a reasonable time frame, usually 1.5-3 years.

While many of the M&A transactions analyzed in this report are still "in progress" with deleveraging efforts, the majority are tracking behind original plan due to weaker than expected underlying results (rather than a change in financial policy).

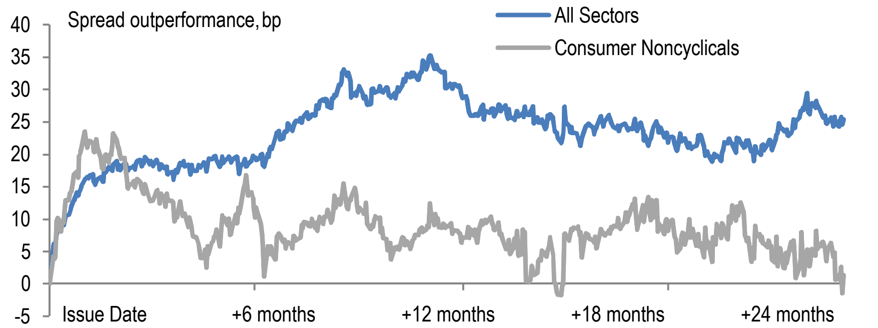
A few companies have taken more decisive action to bring down stubbornly elevated leverage including recent dividend cuts by ABInBev and Kraft Heinz and asset sales by Campbell Soup, Kraft Heinz, Conagra, and Newell Brands.

We have seen some ratings pressure for companies that are not delivering on their deleveraging commitments made at the outset of the transaction. Most notable was Moody's downgrade of ABInBev to Baa1 from A3 in December 2018. This was driven by slower than expected deleveraging since the SABMiller transaction in late 2016 and despite ABI's 50% dividend reduction in October 2018. There were also negative rating actions for CPB and CAG following weak operating results shortly after the transactions closed. CPB was downgraded one notch by S&P to BBB- while Moody's held its rating at Baa2, but changed the outlook to negative. For CAG, S&P

lowered its rating one notch to BBB- with a stable outlook after CAG reported its newly acquired Pinnacle business was performing worse than expected. Most recently, Fitch lowered its rating on Newell Brands to BB+ following its inability to sufficiently improve underlying EBITDA and cash flows in the context of its still elevated leverage and asset sale program.

While we expect the pace of M&A activity across the food and beverage sectors to slow as the recent wave of transactions is digested, we think conditions are still supportive for strategic combinations in the household and personal care segments of consumer noncyclicals.

Exhibit 15: 10yr bonds issued to fund Consumer Noncyclicals M&A deals have outperformed the JULI index initially, but trades about in line after 24 months of issuance (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)



Source: J.P. Morgan

Telecom/Media/Technology

Brian Turner [AC] *– (212) 834-4035; brian.m.turner@jpmorgan.com*
Dean Ash – (212) 834- 2641; dean.l.ash@jpmorgan.com

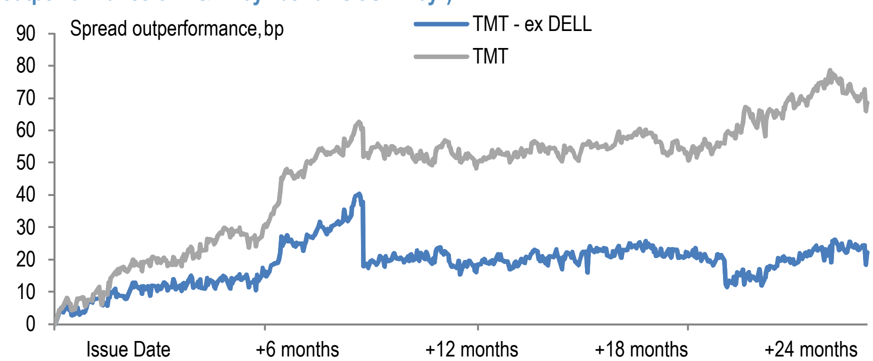
M&A activity in TMT has generally resulted in positive results for the acquirers, with most transactions being financially accretive and positive diversifiers. Ample cash balances and free cash flow, coupled with a benign economic backdrop, have reduced concerns around leverage, in our view, and increased the rate of de-leveraging across our sectors. While the Amazon/Whole Foods, Avago/Broadcom/Brocade, Intel/Altera, and Microsoft /Linkedin transactions account for nearly $100bn in transaction value, leverage remained at relatively conservative levels given the significant cash balances and FCF of the acquirers. Additionally, we view each transaction as having positively expanded and diversified each company's product offerings, better positioning them in the fast moving technology sector.

Unlike most of the technology transactions we analyzed, the operating environment for Dell weakened post-transaction, creating significant headwinds, slowed cash generation, and delayed de-leveraging efforts. However, the operating environment has improved for Dell as the storage business has seen stronger profitability, which has helped drive cash flow and EBITDA growth leading to decreased leverage. However, with Dell's recent return to the public markets, leverage ticked up slightly as the company had offer a higher cash payout to convince investors to support the deal.

Heading into fiscal 2019, the results from M&A activity in the TMT space remain positive as the supportive economic backdrop and companies' focus on paying down debt has kept almost all of our transactions on track towards meeting de-leveraging goals. Specifically, we continue to closely follow the CCI/Lightower, DISCA/SNI and T/TWX transactions, while adding the now closed CMCSA/SKY deal to our analysis. The three aforementioned transactions remain on track to meet their respective leverage targets and we expect CMCSA, barring additional M&A, to de-leverage quickly given the strong FCF generation of the company and stable business conditions.

As expected, M&A activity has ticked up in the technology sector with several new deals announced, including FISV/FDC, FIS/WDAY and NVDA/MLNX. We believe M&A will continue in the Technology sector, particularly as the importance of diversification and technological leadership in high growth areas (AI, data centers) remains paramount. In Media, we expect CBS and Viacom to come back to the negotiating table and discuss a merger, while Discovery will likely look towards M&A once leverage targets are met. On the Telecom sub-sector, we expect limited large-scale M&A for the rest of 2019 as AT&T focuses on repairing it's balance sheet and Verizon remains committed to network leadership and Single-A credit ratings (no stated interest in linear TV assets).

Exhibit 16: 10yr bonds issued to fund TMT M&A deals have outperformed the JULI index as well as bonds issued to fund M&A deals from other sectors. However, as shown below, most of the outperformance is driven by the strong performance of Dell 10yr bonds (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)



Note: The sharp decline in spread outperformance at 9 months post issue date is a result of AT&T calling their SMR bonds
Source: J.P. Morgan

Eric Beinstein
(1-212) 834-4211
eric.beinstein@jpmorgan.com

Exhibit 17: Gross leverage trend summary

Date			Deal	Pre-deal	Post-deal	Δ in	Cumulative leverage change post close								Leverage	Goal
Closed	Acquirer	Acquired	Debt $bn	Leverage	Leverage	Leverage	+1Q	+2Q	+3Q	+4Q	+5Q	+6Q	+7Q	+8Q	Target	Achieved?
Healthcare & Pharma																
10-Oct-14	Bayer	Merck consumer care unit	7.0	1.5x	2.4x	+0.9x	0.0x	+0.1x	-0.1x	-0.5x	-0.5x	-0.6x	-0.6x	-0.7x	Below 2.0x; Single A rating in the long term	Yes
17-Mar-15	Becton Dickinson	CareFusion Corp	6.2	1.8x	4.4x	+2.6x	-0.1x	-0.2x	-0.2x	-0.5x	-0.7x	-0.8x	-1.0x	-1.2x	3.0x within 2 years	Yes
17-Mar-15	Actavis PLC	Allergan Inc	21.0	3.5x	5.2x	+1.7x	-0.7x	-0.7x	-0.5x	-0.2x	-0.2x	-1.0x	-0.9x	-1.0x	3.5x-4.0x within 12-18 months*	Yes
27-May-15	Abbvie Inc	Pharmacyclics Inc	16.7	1.3x	3.4x	+2.1x	-0.2x	-0.4x	-0.6x	-0.2x	-0.3x	-0.4x	-0.4x	-0.4x	Not specified	N/M
28-Jul-15	UnitedHealth Group	Catamaran Corp	10.5	1.4x	2.3x	+0.9x	+0.2x	+0.3x	+0.2x	+0.1x	0.0x	-0.1x	-0.3x	-0.5x	Debt-to-Cap <40%	Yes
18-Aug-15	CVS Health Corp	Omnicare Inc	11.3	1.2x	3.4x	+2.2x	-0.2x	-0.2x	-0.2x	-0.5x	-0.4x	-0.3x	-0.3x	-0.3x	2.7x in the long-term	No
2-Aug-16	Teva	Allergan PLC's generic drug business	15.0	1.7x	4.4x	+2.7x	-0.4x	-0.3x	0.0x	+0.4x	+0.9x	+0.8x	+1.1x	+1.1x	3.5x in 18 months	No
24-Aug-16	Mylan NV	Meda AB	6.5	2.5x	4.0x	+1.5x	-0.3x	-0.4x	-0.4x	-0.2x	-0.1x	0.0x	-0.3x	-0.4x	<3.0x by YE17	No
4-Jan-17	Abbott Laboratories	St Jude Medical Inc	15.1	1.9x	4.7x	+2.8x	-0.7x	-0.7x	-0.6x	-0.6x	-1.5x	-1.3x	-2.0x	-	3.5x in 2018	Yes
29-Dec-17	Becton Dickinson	CR Bard Inc	9.7	3.2x	4.9x	+1.7x	-0.2x	-0.4x	-0.7x	-0.8x	-	-	-	-	3.0x within 3 years	On Track
7-Jun-18	Bayer	Monsanto	15.0	1.6x	4.1x	+2.5x	-0.2x	-0.6x	-	-	-	-	-	-	Single A rating in the long term	Too soon
29-Nov-18	CVS Health Corp	Aetna Inc	40.0	3.1x	4.6x	+1.5x	-	-	-	-	-	-	-	-	~3.5x within 2 years	Too soon
21-Dec-18	Cigna Corp	Express Scripts Holding Co	20.0	1.0x	3.2x	+2.2x	-	-	-	-	-	-	-	-	Debt-to-Cap <40%	Too soon
Healthcare & Pharma Summary (debt weighted)			**194.0**	**2.1x**	**4.0x**	**+1.9x**	**-0.3x**	**-0.3x**	**-0.3x**	**-0.3x**	**-0.3x**	**-0.4x**	**-0.5x**	**-0.4x**		
Consumer Noncyclicals																
2-Jul-15	HJ Heinz Corp	Kraft Foods Group Inc	10.0	3.6x	4.4x	+0.8x	-0.6x	-0.4x	+0.1x	-0.1x	-0.2x	-0.1x	-0.3x	-0.3x	Mid 3x over medium term	No
15-Apr-16	Newell Rubbermaid	Jarden Corporation	8.0	3.0x	4.5x	+1.5x	0.0x	-0.5x	-0.5x	-0.6x	-0.5x	-0.6x	-0.2x	-0.3x	3.0-3.5x after two to three years	No
10-Oct-16	Anheuser-Busch InBev	SABMiller	46.0	2.7x	6.2x	+3.5x	0.0x	-0.4x	-0.4x	-0.8x	-0.8x	-0.8x	-1.2x	-1.2x	Long term target 2.3-2.5x	Behind Plan
11-Oct-16	Molson Coors Brewing Co	MillerCoors LLC	5.3	2.5x	5.3x	+2.8x	-0.2x	-0.4x	-0.2x	-0.7x	-0.7x	-0.8x	-1.0x	-1.0x	4.1-4.3x by FY18, 3.85-4.05x by mid-FY19	Yes
15-Jun-17	Reckitt Benckiser PLC	Mead Johnson	7.8	1.0x	4.9x	+3.9x	-1.1x	-1.1x	-1.2x	-1.2x	-1.4x	-1.4x	-	-	Not specified	Yes
25-Jul-17	British American Tobacco PLC	Reynolds American Inc	17.0	2.8x	4.6x	+1.8x	0.0x	+0.3x	+0.3x	-0.2x	-0.2x	-	-	-	3.2-3.3x by FY19	Behind Plan
26-Mar-18	Campbell Soup Co	Snyder's-Lance Inc	5.3	2.4x	5.0x	+2.6x	0.2x	0.2x	0.1x	-	-	-	-	-	Low 3x by fiscal 2021	Too soon
24-Apr-18	General Mills Inc	Blue Buffalo Pet Products Inc	6.1	3.0x	4.4x	+1.4x	-0.2x	-0.3x	-	-	-	-	-	-	High 3x by end of 2020; <3x longer term	Too soon
9-Jul-18	Keurig Green Mountain	Dr Pepper Snapple	8.0	2.7x	5.5x	+2.8x	0.0x	-0.1x	-	-	-	-	-	-	<3x by mid 2021	Too soon
26-Oct-18	Conagra Brands Inc	Pinnacle Foods Inc	7.0	2.6x	5.0x	+2.4x	-	-	-	-	-	-	-	-	Gross leverage ~3.5x by end fiscal 2021	Too soon
20-Dec-18; 8-Mar-19	Altria Group Inc	Juul Labs Inc & Cronos Group Inc	11.5	1.4x	2.7x	+1.3x	-	-	-	-	-	-	-	-	Not specified	Too soon
Consumer Noncyclicals Summary (debt weighted)			**132.0**	**2.7x**	**5.2x**	**+2.5x**	**-0.2x**	**-0.3x**	**-0.2x**	**-0.6x**	**-0.6x**	**-0.7x**	**-0.9x**	**-0.9x**		
TMT																
29-Dec-15	Intel Corp	Altera Corp	7.0	0.6x	1.0x	+0.4x	+0.1x	+0.3x	+0.1x	+0.1x	+0.1x	+0.3x	-0.1x	-0.2x	N/A	N/M
2-Feb-16	Avago	Broadcom	9.0	1.5x	2.9x	+1.4x	-0.3x	-0.5x	-0.6x	-0.8x	-0.9x	-0.6x	-0.6x	-	2x	Yes
18-May-16	Charter	Time Warner Cable	19.0	4.2x	4.4x	+0.2x	-0.2x	-0.3x	-0.3x	-0.3x	-0.0x	+0.1x	+0.1x	+0.1x	4.0x-4.5x	Yes
7-Sep-16	Dell Technologies Inc	EMC Corp	20.0	3.6x	5.4x	+1.8x	+0.8x	+0.7x	+0.7x	+0.4x	-0.2x	-0.2x	-0.3x	-0.1x	IG rating in 2 years	No
7-Nov-16	Oracle Corp	NetSuite Inc	9.3	2.6x	3.2x	+0.6x	0.0x	+0.1x	-0.2x	+0.2x	+0.1x	0.0x	-0.2x	-0.2x	N/A	N/M
8-Dec-16	Microsoft Corp	LinkedIn Corp	19.8	1.9x	2.4x	+0.5x	-0.2x	-0.3x	-0.1x	-0.3x	-0.3x	-0.7x	-0.7x	-0.7x	N/A	N/M
13-Mar-17	Analog Devices Inc	Linear Technology Corp	2.1	1.4x	3.7x	+2.3x	-0.3x	-0.6x	-1.1x	-1.3x	-1.4x	-1.4x	-1.5x	-	2.3x in 2 years	Yes
13-Mar-17	Verizon Communications	Yahoo Holdings Inc	4.5	2.4x	2.7x	+0.3x	0.0x	-0.1x	-0.1x	-0.2x	-0.2x	-0.3x	-0.3x	-	N/A	N/M
29-Aug-17	Amazon.com Inc	Whole Foods Market Inc	13.7	1.9x	3.1x	+1.2x	-0.3x	-0.6x	-0.9x	-1.3x	-1.3x	-	-	-	N/A	N/M
1-Nov-17	Crown Castle International Corp	LTS Group Holdings LLC	1.8	6.0x	6.5x	+0.5x	0.0x	-0.6x	-0.9x	-1.2x	-	-	-	-	4.1-5.1x in the long term	On Track
7-Mar-18	Discovery	Scripps Network	6.3	3.3x	4.6x	+1.3x	-0.2x	-0.6x	-0.7x	-	-	-	-	-	3.5x in 1H19; 3.0x-3.5x longer term	On Track
15-Jun-18	AT&T	Time Warner Inc	22.5	2.8x	3.3x	+0.5x	-0.2x	-0.4x	-	-	-	-	-	-	2.7x by the end of the first year after close	On Track
7-Nov-18	Comcast Corp	Sky Plc	27.0	2.5x	3.5x	+1.0x	-	-	-	-	-	-	-	-	2.2x within 18m-24m after close	Too soon
TMT Summary (debt weighted)			**162.0**	**2.6x**	**3.3x**	**+0.7x**	**-0.1x**	**-0.2x**	**-0.2x**	**-0.2x**	**-0.3x**	**-0.3x**	**-0.3x**	**-0.3x**		

Date Closed	Acquirer	Acquired	Deal Debt $bn	Pre-deal Leverage	Post-deal Leverage	Δ in Leverage	Cumulative leverage change postclose +1Q	+2Q	+3Q	+4Q	+5Q	+6Q	+7Q	+8Q	Leverage Target	Goal Achieved?
Other																
1-Jul-15	Siemens	Dresser-Rand Group	7.8	1.1x	1.9x	+0.8x	-0.3x	+0.2x	+0.6x	+0.1x	-0.1x	-0.1x	-0.5x	-0.5x	<2x	Yes
6-Nov-15	Lockheed Martin	Sikorsky Aircraft Corporation	7.0	1.3x	2.4x	+1.1x	-0.1x	-0.1x	-0.2x	-0.2x	-0.3x	-0.5x	-0.5x	-0.5x	Not specified	Yes
1-Jul-16	Southern Co	AGL resources	6.8	4.4x	6.2x	+1.8x	+0.1x	-0.2x	-0.2x	-0.3x	-0.4x	-0.4x	-0.5x	-0.6x	4.1x – 4.3x by YE16	No
1-Jun-17	Sherwin Williams	Valspar	7.5	0.9x	4.2x	+3.3x	+0.2x	-0.1x	-0.2x	-0.5x	-0.9x	-0.9x	-	-	<3x by 2019, 2.0x-2.5x longer term	Too soon
2-Apr-18	General Dynamics Corp	CSRA Inc	7.5	1.4x	2.6x	+1.2x	-0.1x	-0.3x	-	-	-	-	-	-	Not specified	On Track
6-Jun-18	Northrop Grumman	Orbital ATK	8.3	1.9x	3.4x	1.5x	-0.5x	-0.5x	-	-	-	-	-	-	Not specified	On Track
18-Aug-18	Walmart Inc	Flipkart Online Services	16.0	2.1x	2.3x	+0.2x	0.0x	-	-	-	-	-	-	-	Not specified	Too soon
26-Nov-18	United Technologies Corp	Rockwell Collins Inc	11.0	2.7x	3.7x	+1.0x	-	-	-	-	-	-	-	-	Not specified	Too soon
Other Summary (debt weighted)			**71.9**	**2.3x**	**3.4x**	**+1.1x**	**-0.1x**	**-0.2x**	**0.0x**	**-0.2x**	**-0.4x**	**-0.4x**	**-0.5x**	**-0.5x**		
2015 Overall Summary (debt weighted)			**97.5**	**1.8x**	**3.3x**	**+1.4x**	**-0.2x**	**-0.2x**	**-0.1x**	**-0.2x**	**-0.2x**	**-0.3x**	**-0.4x**	**-0.5x**		
2016 Overall Summary (debt weighted)			**164.7**	**2.8x**	**4.5x**	**+1.7x**	**0.0x**	**-0.2x**	**-0.2x**	**-0.3x**	**-0.3x**	**-0.4x**	**-0.5x**	**-0.5x**		
2017 Overall Summary (debt weighted)			**79.2**	**2.4x**	**3.9x**	**+1.4x**	**-0.2x**	**-0.3x**	**-0.4x**	**-0.6x**	**-0.7x**	**-0.7x**	**-0.7x**	**-**		
2018 Overall Summary (debt weighted)			**211.4**	**2.5x**	**3.5x**	**+1.1x**	**-0.2x**	**-0.4x**	**-0.6x**	**-**	**-**	**-**	**-**	**-**		
Overall Summary (debt weighted)			**559.8**	**2.4x**	**3.8x**	**+1.4x**	**-0.1x**	**-0.2x**	**-0.2x**	**-0.3x**	**-0.4x**	**-0.4x**	**-0.5x**	**-0.5x**		

Source: J.P. Morgan, Capital I.Q. The M&A deals which have just closed have been excluded from summary calculations. The Keurig Green Mountain and Avago M&A transactions have also been excluded from the summary since there were no corporate bonds outstanding for the issuers at deal close. *The company has provided a net leverage target – our gross leverage target estimate is based on this, but is not specifically mentioned by the company. Pre-deal leverage is pre-deal announcement leverage while post-deal leverage is post deal closing leverage

Exhibit 18: Benchmark 10yr bond issued for the M&A funding, compared to the JULI 10yr spread performance (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

Date Closed	Acquirer	Acquired	Debt $bn	Sector	10yr M&A Bond	10yr Bond outperformance vs JULI 10yr 6m	12m	24m
10/10/2014	Bayer	Merck consumer care unit	7.0	Healthcare	BAYNGR 3 3/8 10/08/24	34	51	11
3/17/2015	Becton Dickinson	CareFusion Corp	6.2	Healthcare	BDX 3.734 12/15/24	29	59	65
3/17/2015	Actavis PLC	Allergan Inc	21.0	Healthcare	AGN 3.8 03/15/25	30	93	52
5/27/2015	Abbvie Inc	Pharmacyclics Inc	16.7	Healthcare	ABBV 3.6 05/14/25	18	44	27
7/28/2015	UnitedHealth Group	Catamaran Corp	10.5	Healthcare	UNH 3 3/4 07/15/25	48	52	48
8/18/2015	CVS Health Corp	Omnicare Inc	11.3	Healthcare	CVS 3 7/8 07/20/25	45	65	32
8/2/2016	Teva	Allergan's generic drug business	15.0	Healthcare	TEVA 3.15 10/01/26	-31	-19	-161
8/24/2016	Mylan NV	Meda AB	6.5	Healthcare	MYL 3.95 06/15/26	-36	-	-
1/4/2017	Abbott Laboratories	St Jude Medical Inc	15.1	Healthcare	ABT 3 3/4 11/30/26	16	19	73
12/29/2017	Becton Dickinson	CR Bard Inc	9.7	Healthcare	BDX 3.7 06/06/27	5	3	-
6/7/2018	Bayer	Monsanto	15.0	Healthcare	BAYNGR 4 3/8 12/15/28	-18	-	-
11/29/2018	CVS Health Corp	Aetna Inc	40.0	Healthcare	CVS 4.3 03/25/28	27	26	-
12/21/2018	Cigna Corp	Express Scripts Holding Co	20.0	Healthcare	CI 4 3/8 10/15/28	6	-	-
7/2/2015	HJ Heinz Corp	Kraft Foods Group Inc	10.0	Consumer	KHC 3.95 07/15/25	32	42	-
4/15/2016	Newell Rubbermaid	Jarden Corporation	8.0	Consumer	NWL 4.2 04/01/26	62	72	25
10/10/2016	Anheuser-Busch InBev	SABMiller	46.0	Consumer	ABIBB 3.65 02/01/26	16	-2	0
10/11/2016	Molson Coors Brewing Co	MillerCoors LLC	5.3	Consumer	TAP 3 07/15/26	-8	-6	-21
6/15/2017	Reckitt Benckiser PLC	Mead Johnson	7.8	Consumer	RBLN 3 06/26/27	-20	-5	-
7/25/2017	British American Tobacco	Reynolds American Inc	17.0	Consumer	BATSLN 3.557 08/15/27	7	8	-
3/26/2018	Campbell Soup Co	Snyder's-Lance Inc	5.3	Consumer	CPB 4.15 03/15/28	-24	-43	-
4/24/2018	General Mills Inc	Blue Buffalo Pet Products Inc	6.1	Consumer	GIS 4.2 04/17/28	15	33	-
7/9/2018	Keurig Green Mountain	Dr Pepper Snapple	8.0	Consumer	KDP 4.597 05/25/28	16	-	-
10/26/2018	Conagra Brands Inc	Pinnacle Foods Inc	7.0	Consumer	CAG 4.85 11/01/28	-	-	-
12/20/2018	Altria Group Inc	Juul Labs Inc & Cronos Group Inc	11.5	Consumer	MO 4.8 02/14/29	-	-	-
12/29/2015	Intel Corp	Altera Corp	7.0	TMT	INTC 3.7 07/29/25	73	63	39
2/2/2016	Avago	Broadcom	9.0	TMT	-	-	-	-
5/18/2016	Charter	Time Warner Cable	19.0	TMT	-	-	-	-
9/7/2016	Dell Technologies Inc	EMC Corp	20.0	TMT	DELL 6.02 06/15/26	99	158	168
11/7/2016	Oracle Corp	NetSuite Inc	9.3	TMT	ORCL 2.65 07/15/26	2	0	7
12/8/2016	Microsoft Corp	LinkedIn Corp	19.8	TMT	MSFT 2.4 08/08/26	-10	-5	13
3/13/2017	Analog Devices Inc	Linear Technology Corp	2.1	TMT	ADI 3 1/2 12/05/26	-4	-1	5
3/13/2017	Verizon Communications	Yahoo Holdings Inc	4.5	TMT	VZ 4 1/8 03/16/27	-8	26	75
8/29/2017	Amazon.com Inc	Whole Foods Market Inc	13.7	TMT	AMZN 3.15 08/22/27	9	28	-
11/1/2017	Crown Castle International	LTS Group Holdings LLC	1.8	TMT	CCI 3.65 09/01/27	-2	-5	-
3/7/2018	Discovery	Scripps Network	6.3	TMT	DISCA 3.95 03/20/28	21	38	-
6/15/2018	AT&T	Time Warner Inc	22.5	TMT	T 3.9 08/14/27	22	-	-
11/7/2018	Comcast Corp	Sky Plc	27.0	TMT	CMCSA 4.15 10/15/28	19	-	-
7/1/2015	Siemens	Dresser-Rand Group	7.8	Other	SIEGR 3 1/4 05/27/25	44	62	33
11/6/2015	Lockheed Martin	Sikorsky Aircraft Corporation	7.0	Other	LMT 3.55 01/15/26	36	20	17
7/1/2016	Southern Co	AGL resources	6.8	Other	SO 3 1/4 07/01/26	10	-19	-10
6/1/2017	Sherwin Williams	Valspar	7.5	Other	SHW 3.45 06/01/27	14	-9	-
4/2/2018	General Dynamics	CSRA Inc	7.5	Other	GD 3 3/4 05/15/28	17	-	-
6/6/2018	Northrop Grumman	Orbital ATK	8.3	Other	NOC 3 1/4 01/15/28	7	17	-
8/18/2018	Walmart Inc	Flipkart Online Services	16.0	Other	WMT 3.7 06/26/28	28	-	-
11/26/2018	United Technologies	Rockwell Collins Inc	11.0	Other	UTX 4 1/8 11/16/28	16	-	-

Source: J.P. Morgan

Cigna Corp acquires Express Scripts Holding Co

Brett G. Gibson [AC] *– (212) 270-7484; brett.g.gibson@jpmorgan.com*

CI agreed to acquire ESRX in Mar 2018 for a total value of $68.4bn which resulted in $20.0bn in IG bond issuance. Near completion of the deal, the rating agencies both moved to downgrade CI one notch, with Moody's moving from Baa1 to Baa2 with a stable outlook and S&P moving from A to A- with a negative outlook. The debt-to-capital ratio (the primary leverage metric for health insurance companies) for the company moved around 50% after the acquisition, with the company targeting a return to the 30s within 18-24 months following the close (in 4Q18, the company clarified that its goal is to get the ratio to the "upper 30s" within the next 18-24 months and return EBITDA leverage to the "mid-2s"). At the time of the announcement, the company also said that it did not expect to conduct additional share repurchases prior to the closing of the transaction with ESRX, prioritizing debt repayment during the period, though it did leave the door open to additional capital deployment in both 2019 and 2020. Looking forward, the company estimates reducing debt by $4.2bn in 2019 (~78% of FCF planned for debt repayment). We see the company's delevering estimation as reasonable, especially if the company utilizes some of its excess cash flow capacity for further debt reduction.

Purpose of Transaction: To create an expanded portfolio of health services with closer alignment between the customer and health care provider by bringing together a health insurer and PBM.

Deleveraging Targets at deal close: Debt-to-cap in the 30s within 18-24 months

Timing	
Date announced:	Mar 8th, 2018
Date funded:	Sep 6th, 2018
Date closed:	Dec 21st, 2018
Sizing	
Deal size:	$68.4bn
IG bond issuance:	$20.0bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

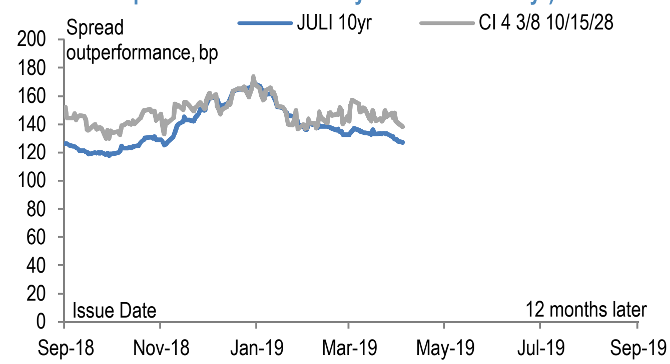


Exhibit 2: Rating trends

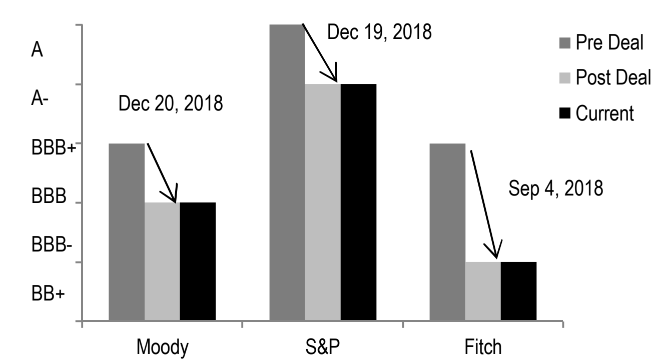
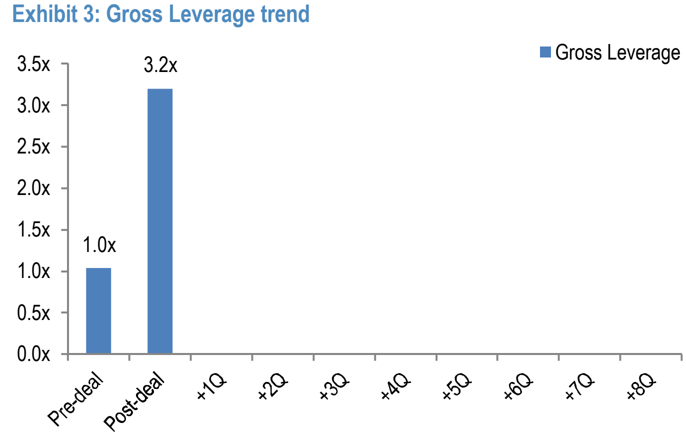


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Altria Group acquires 35% stake in Juul Labs & 45% stake in Cronos Group

Ginger Chambless [AC] *– (212) 834-5481; virginia.chambless@jpmorgan.com*
Jenny Feng – (212) 834-5479; jenny.feng@jpmorgan.com

Altria invested $12.8bn for a 35% stake in JUUL and $1.8bn for a 45% stake in Cronos, and both transactions were funded with new debt ($11.5bn USD bonds and €4.25bn EUR bonds). JUUL is the leader in the fast growing e-cigarette market and JUUL's products complements MO's non-combustible reduced risk offerings along with its traditional cigarette products. MO's investment in Cronos allows the company to participate in the emerging cannabis space. Gross leverage roughly doubled to 2.7x from 1.4x pre-deal. S&P and Fitch both downgraded ratings by two notches to BBB/BBB, while Moody's revised the outlook to Negative from Stable and reaffirmed its A3 rating. MO expressed comfort with investment grade ratings and has not indicated an intent to de-lever.

Purpose of Transaction: Invest in e-cigarette leader JUUL, and gain exposure to cannabis market with Cronos.

Deleveraging Targets at deal close: Not specified

Timing	Juul Labs Inc	Cronos Group Inc
Date announced:	Dec 20th, 2018	Dec 7th, 2018
Date funded:	Feb 12th, 2019	Feb 12th, 2019
Date closed:	Dec 20th, 2018	Mar 8th, 2019
Sizing		
Deal size:	$12.8bn	$1.8bn
IG bond issuance:	$11.5bn collectively	

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

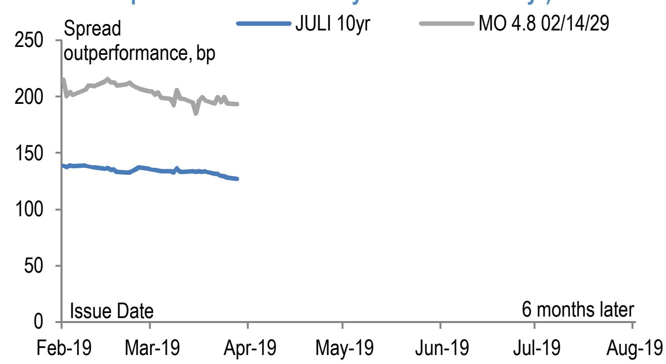


Exhibit 2: Rating trends

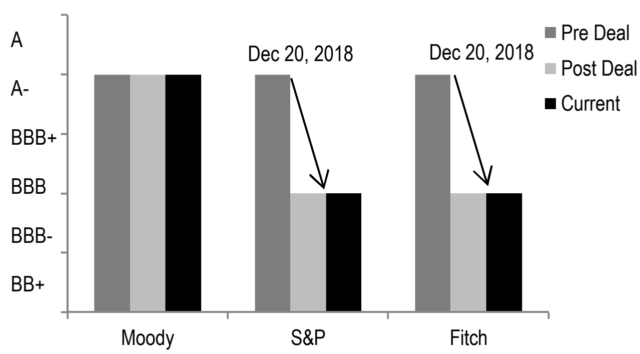
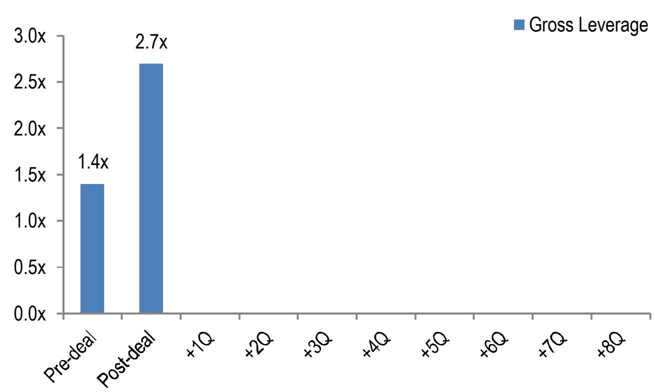


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Eric Beinstein
(1-212) 834-4211
eric.beinstein@jpmorgan.com

CVS Health Corp acquires Aetna Inc

Brett G. Gibson [AC] *– (212) 270-7484; brett.g.gibson@jpmorgan.com*

In December 2017 CVS agreed to acquire Aetna in a $68.1bn deal that significantly changed the industry landscape, combining sizable players in health insurance as well as PBM and retail pharmacy. The transaction took the company to ~4.6x lease adjusted leverage (debt + PV of leases / EBITDA + implied interest on leases) and upon announcement the company committed to leverage on the same metric of 3.5x by 2 years post-close and to work down to its long-term target of low 3.0x over time. CVS planned to keep the dividend constant and refrain from share repurchases until it achieves the low 3.0x. As a result of the announcement, both S&P and Moody's eventually downgraded the ratings one notch to mid-BBB. While it is early days (only 4 months post close), initial 2019 guidance for the company was weaker than expected reflecting challenges in the legacy business and was a clear setback relative to initial expectations. While the company has paid down more dollar debt than expected, EBITDA shortfalls have more than eclipsed the benefit of this additional debt repayment. At this point it's too early to definitively say the company will not meet its 2 year post transaction leverage target, but we acknowledge that the goal will be much more difficult in the wake of some of these challenges. The company said that it remains committed to achieving its leverage target and expects leverage to modestly improve during 2018 as it pays down maturities and other sources of pre-payable debt. The company has also stated that at an investor day in June 2019 it will lay out its "capital structure and allocation plan to provide you with more visibility into the time line for returning more capital to shareholders"

Purpose of Transaction: To vertically integrate a PBM and health insurer to use the CVS nationwide presence and AET network to provide better care for the consumer at lower costs.

Deleveraging Targets at deal close: 3.5x lease adjusted leverage 2 years post-close

Timing	
Date announced:	Dec 3rd, 2017
Date funded:	Mar 6th, 2018
Date closed:	Nov 29th, 2018
Sizing	
Deal size:	$68.1bn
IG bond issuance:	$40.0bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

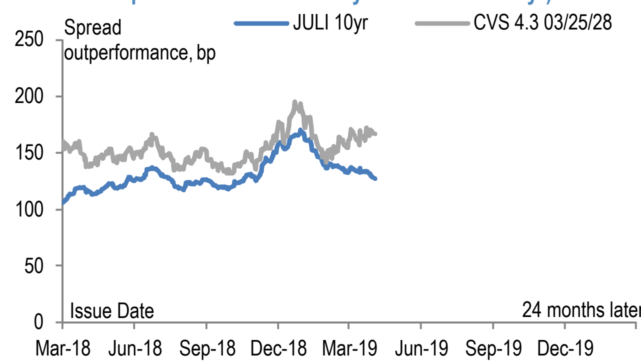


Exhibit 2: Rating trends

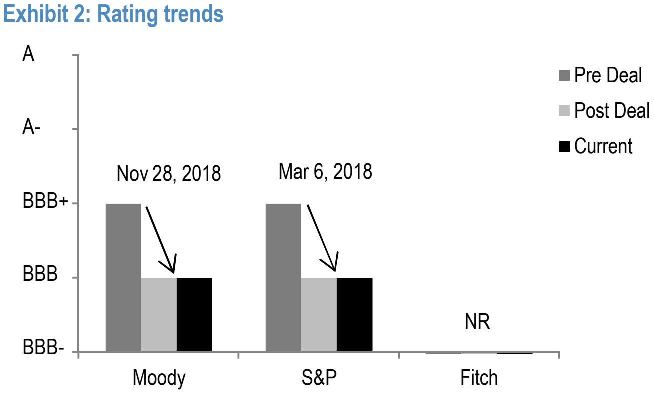
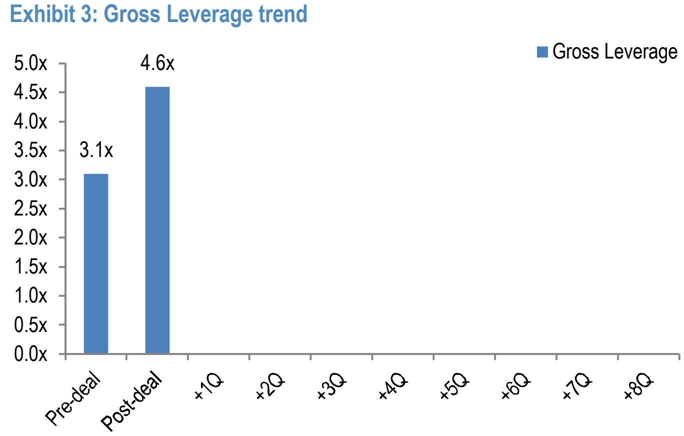


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

United Technologies Corp acquires Rockwell Collins Inc

Ginger Chambless [AC] – (212) 834-5481; virginia.chambless@jpmorgan.com
Jenny Feng – (212) 834-5479; jenny.feng@jpmorgan.com

United Technologies acquired Rockwell Collins in November 2018 for $23bn in cash and stock plus the assumption of COL's $7.2bn of net debt. UTX financed the cash portion with new debt issuance of ~$11bn and ~$4bn of existing cash. The acquisition transforms UTC Aerospace Systems by adding complementary products and capabilities, accelerating innovation efforts towards digitization, and enhancing aftermarket service. On the cost side, UTX sees $500mn of run rate synergies by the end of year four, from reduced public company costs, procurement and SG&A. Leverage increased from 2.7x pre-deal to 3.6x on a pro forma basis. UTX has committed to prioritize debt reduction with its strong cash flow, but does not have a stated leverage target. UTX also announced in November its plans to spin off its Carrier (Climate Control) and Otis (Elevators) divisions in late 2019-early 2020. UTX expects all three stand-alone companies to have solid investment grade ratings, with capital structure and allocation policies tailored to the needs of the individual business. The planned spin offs will streamline the remaining company in the aerospace and defense markets with a balance of OE and aftermarket exposure. UTX forecasts one-time separation costs to be in the range of $2.5-3bn largely due to non-US tax expense and streamlining / separation of the legal entities structure, as well as debt financing costs. Management also noted a placeholder of $350-400mn for start-up costs for Carrier and Otis. UTX ratings were lowered one notch by both Moody's and S&P to Baa1/BBB+ outlooks at stable and negative, respectively.

Purpose of Transaction: Enhance scale and capabilities for UTC's Aerospace Systems business; cost synergies

Deleveraging Targets at deal close: Not specified

Timing	
Date announced:	Sep 5th, 2017
Date funded:	Aug 13th, 2018
Date closed:	Nov 26th, 2018
Sizing	
Deal size:	$29.5bn
IG bond issuance:	$11.0bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

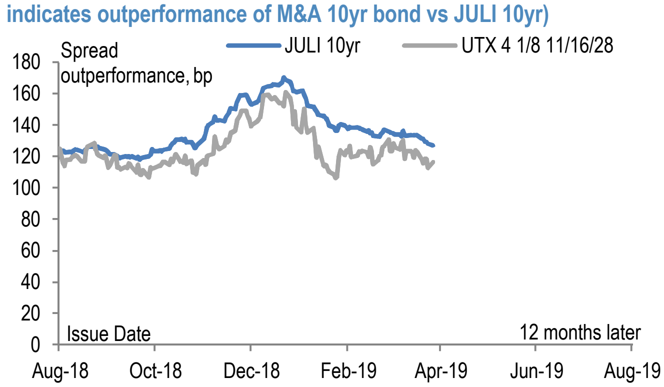


Exhibit 2: Rating trends

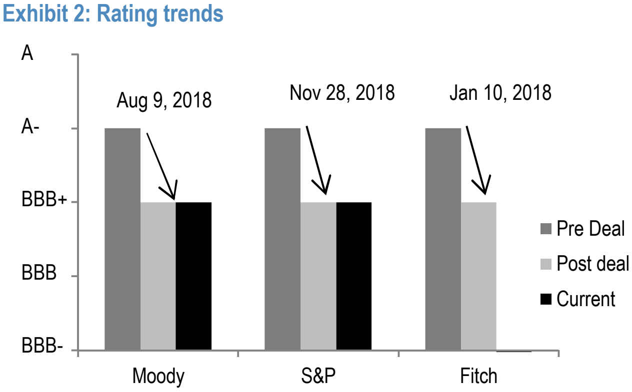
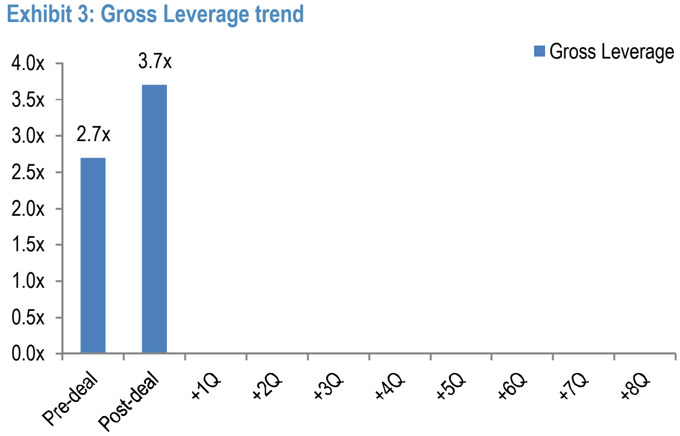


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Note: Fitch withdrew rating on 1/11/2018

Comcast Corp acquires Sky

Brian Turner [AC] *– (212) 834-4035; brian.m.turner@jpmorgan.com*
Dean Ash – (212) 834- 2641; dean.l.ash@jpmorgan.com

Following back and forth bids between Disney and Comcast for the Sky assets, Comcast officially won the bidding war for Sky in a blind auction in late September for £17.28/share or $40bn in an all cash transaction. Funding for the deal consisted of a mix of new debt ($27bn) and the balance in term loans. In total, Comcast added ~$50bn of debt to its balance sheet when including the ~$11bn of legacy debt at Sky, which Comcast has recently proposed guarantees on. In the deal announcement, Comcast committed to returning to leverage levels consistent with Single-A credit ratings (~2.2x range) in 18-24months post close of the transaction. Management also announced they would pause the company share repurchase program in 2019, though they did not make any further commitments, simply noting they would approach the issue year by year. Comcast's credit ratings were affirmed at all 3 rating agencies, though S&P did place the company on Negative outlook. We believe Comcast has a solid de-leveraging path driven by significant FCF generation and the suspension of share-repurchases and expect the company to maintain Single-A ratings. We don't expect management to engage in significant M&A until leverage levels are returned to historical levels, though we believe Comcast has significant capacity for acquisitions given their willingness to lever up and bid for both Sky and 21st Century Fox. We view the acquisition of Sky positively from a diversification standpoint as Comcast now has increased scale in European markets, a sizable European OTT offering in NOW TV, and a diverse range of original content, third party-licensing, and leading positions in European sports (English Premier League, Serie A, Champions League, and MotoGP). While we certainly understand the strategic rationale behind the acquisition, the Sky assets come with a hefty price tag (~16x CY19E EBITDA) and an additional 1.5x turns of leverage (3.5x at deal close). Furthermore, we believe that the Sky acquisition slightly muddies what has been a fairly clear and predictable credit story at Comcast centered around the strong connectivity business management has built. We take solace in Comcast management's expertise in leveraging the cable and NBCU assets and believe investors should have confidence that management can do the same with the Sky assets.

Purpose of Transaction: The acquisition of Sky provides Comcast with revenue diversity and an opportunity to expand into European markets with nearly 100% of Sky's revenue coming from outside the United States.

Deleveraging Targets at deal close: Historical leverage levels of ~2.2x within 18-24 months post deal close.

Timing	
Date announced:	Apr 25th, 2018
Date funded:	Oct 2nd, 2018
Date closed:	Nov 7th, 2018
Sizing	
Deal size:	$50.7bn
IG bond issuance:	$27.0bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

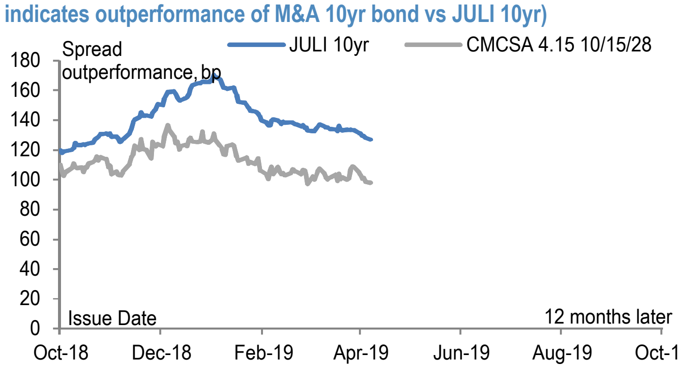


Exhibit 2: Rating trends

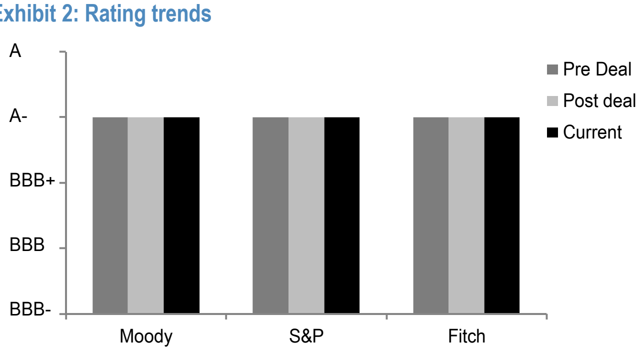
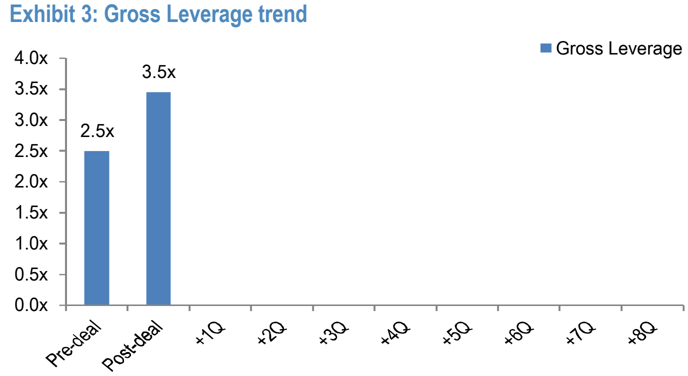


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Conagra Brands Inc acquires Pinnacle Foods Inc

Ginger Chambless [AC] *– (212) 834-5481; virginia.chambless@jpmorgan.com*
Jenny Feng – (212) 834-5479; jenny.feng@jpmorgan.com

Conagra acquired Pinnacle Foods for ~$10.9bn in October 2018 funded with $7.3bn of new debt ($650mn 3yr TL, $650mn 5yr TL, $6bn new bonds), $3.0bn of equity issued to PF shareholders, and $575mn from a public equity raise and potential asset sales. The strategic rationale for the acquisition was to enhance scale overall as well as in the frozen food category with complementary portfolios of packaged food brands. Both company cultures were focused on brand building though innovation while maintaining a lean cost structures. CAG expects $215mn in synergies by fiscal 2022 end, with ~55% achieved through SG&A savings and ~45% through COGS. One-time cash costs to realize synergies are $355mn. Pro forma leverage rose to ~5x from 2.5x as a result of the Pinnacle acquisition, with a medium term deleveraging target of 3.5x (by fiscal 2021). Conagra has a long standing commitment to investment grade credit ratings based on access to commercial paper, attractive cost of debt and flexibility. Debt repayment and lowering leverage is the near term priority for free cash flow and the company has repaid $685mn of debt since fiscal 2Q, including $250mn of debt repaid in the current quarter using net proceeds from the Wesson oil sale. CAG has committed to minimal dividend increases and/or share repurchases unless and until deleveraging is tracking ahead of expectations. Management noted that it expects to improve leverage through debt reduction and EBITDA growth and no additional divestitures are needed in order to reach its leverage target.

Purpose of Transaction: Enhance scale with complementary product portfolios, drive cost efficiencies

Deleveraging Targets at deal close: Gross debt/EBITDA of 3.5x by fiscal 2021

Timing	
Date announced:	Jun 27th, 2018
Date funded:	Oct 15th, 2018
Date closed:	Oct 26th, 2018
Sizing	
Deal size:	$10.7bn
IG bond issuance:	$7.0bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

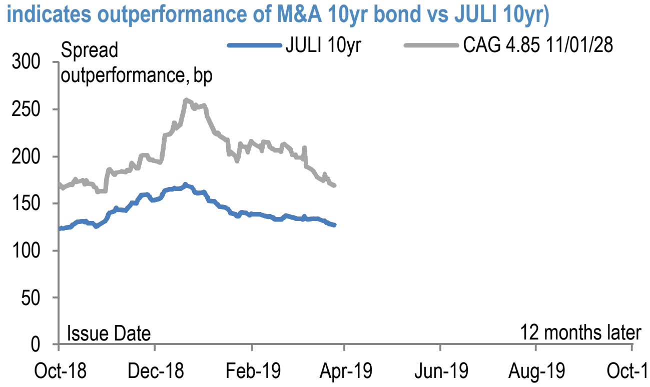


Exhibit 2: Rating trends

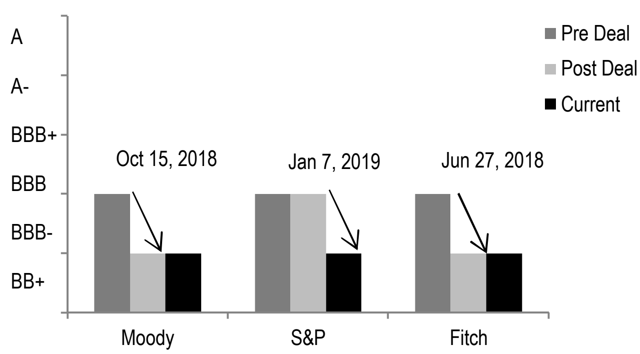
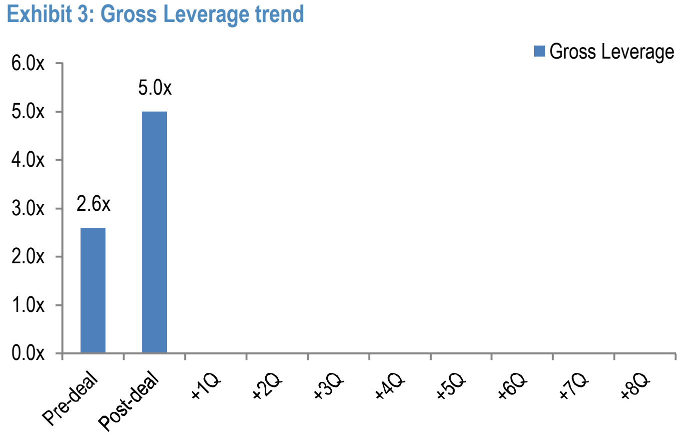


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Walmart Inc acquires 77% stake in Flipkart Online Services

Ginger Chambless [AC] – (212) 834-5481; virginia.chambless@jpmorgan.com
Jenny Feng – (212) 834-5479; jenny.feng@jpmorgan.com

Walmart acquired a 77% majority stake in Flipkart in August 2018 for $16bn which it financed with new debt. The transaction allows Walmart to enter the attractive and higher growth e-commerce market in India. Over the past year, the company has exited underperforming international markets and is focused on its online businesses. Following the transaction announcement, S&P moved the outlook on its AA rating to Negative from Stable, while Moody's and Fitch affirmed the respective Aa2/Stable and AA/Stable ratings. Gross leverage ticked up slightly to 2.3x from 2.1x pre-deal. WMT's credit profile remains strong with $7.7bn of cash on hand and $11.3bn of free cash flow generation (after capex and dividends) for fiscal 2019.

Purpose of Transaction: To enter the higher growth e-commerce market in India.

Deleveraging Targets at deal close: Not specified

Timing	
Date announced:	May 9th, 2018
Date funded:	Jun 20th, 2018
Date closed:	Aug 18th, 2018
Sizing	
Deal size:	$16.0bn
IG bond issuance:	$16.0bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

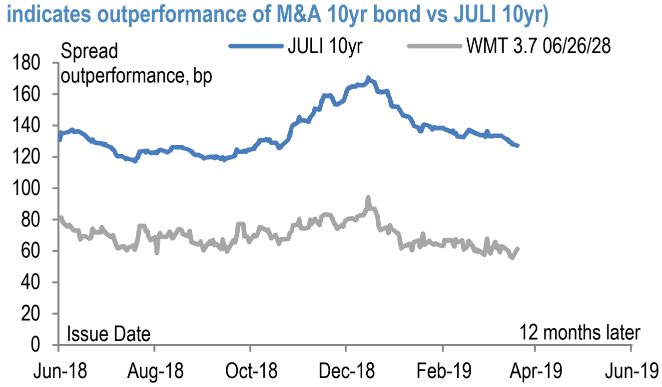


Exhibit 2: Rating trends

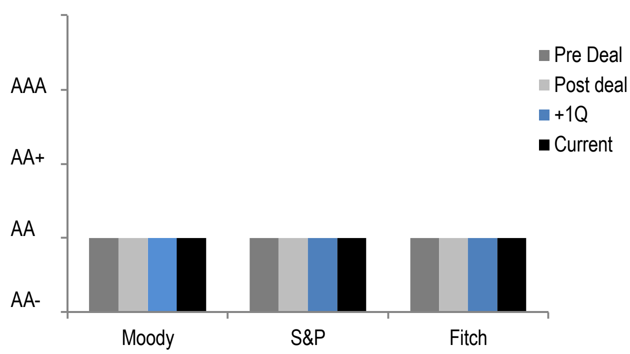
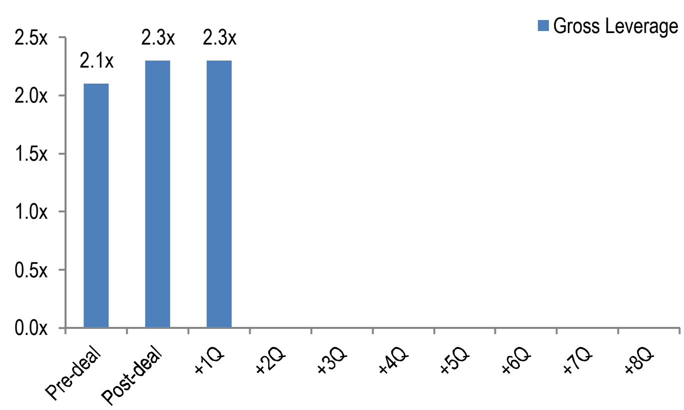


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Keurig Green Mountain Inc merges with Dr Pepper Snapple Group Inc

Ginger Chambless [AC] *– (212) 834-5481; virginia.chambless@jpmorgan.com*
Jenny Feng – (212) 834-5479; jenny.feng@jpmorgan.com

Keurig Green Mountain and Dr Pepper Snapple merged in mid-2018 to create a new public company, Keurig Dr Pepper. DPS shareholders received an $18.9bn special cash dividend and 13% ownership of the combined company. Keurig Green Mountain was privately held by JAB, who contributed an additional $9bn equity investment as part of the financing and retained 87% of the new company. The strategic rationale for the deal included increased scale, complementary brand portfolios, and selling and distribution capabilities. Management also targeted significant cost savings of $600mn annual run rate by 2021 through warehouse and transportation integration, direct procurement savings, purchasing scale on indirect spend categories, and optimization of duplicate positions and processes. One-time synergy costs are expected to be ~$750mn. Total net debt at closing was ~$16.6bn, including $4.2bn of DPS rollover debt, which resulted in initial pro forma gross leverage of 5.5x. The company is committed to maintaining investment grade ratings and is targeting net debt/EBITDA of <3.0x within 2-3 years after close.

Purpose of Transaction: Increase scale, broaden selling and distribution, cost savings

Deleveraging Targets at deal close: Net debt/EBITDA <3x within 2-3 years after close.

Timing	
Date announced:	Jan 29th, 2018
Date funded:	May 14th, 2018
Date closed:	Jul 9th, 2018
Sizing	
Deal size:	$14.9bn
IG bond issuance:	$8.0bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

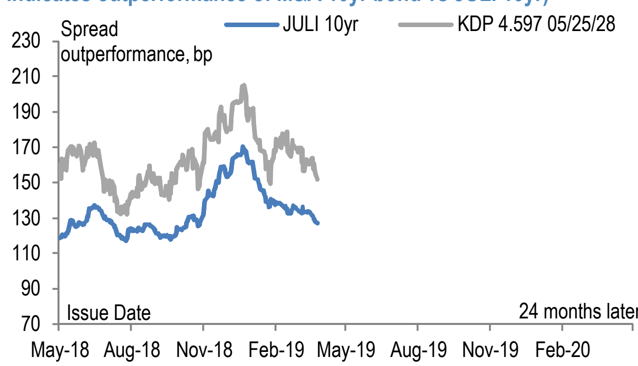


Exhibit 2: Rating trends

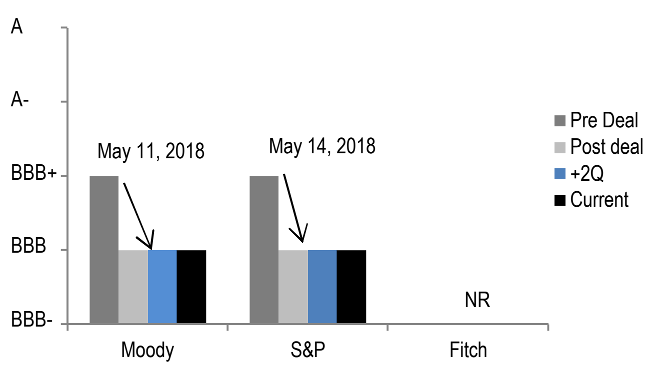
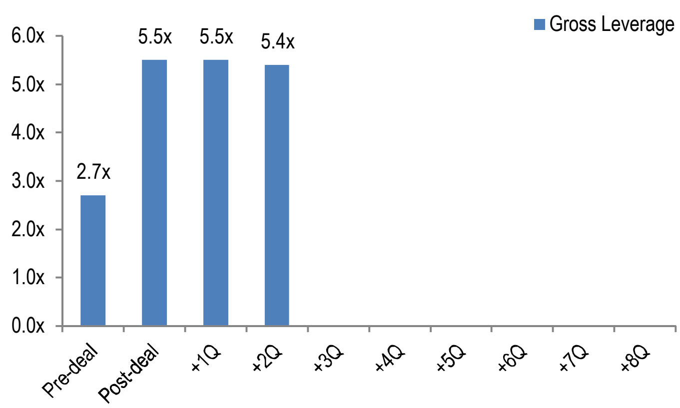


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

AT&T acquires Time Warner Inc

Brian Turner AC – (212) 834-4035; brian.m.turner@jpmorgan.com
Dean Ash – (212) 834- 2641; dean.l.ash@jpmorgan.com

Despite noise from the Justice Department's appeal of the Time Warner transaction (won by AT&T) and mixed financial results, AT&T remains on track with hitting their leverage targets. As of YE2018, AT&T leverage of 2.9x gross/2.8x net is in-line with management's de-leveraging plan. Heading into 2019, management will be working towards a year-end target of ~2.5x net leverage with ~$12bn of FCF after dividends and ~$6-8bn in cash generative asset sales/working capital initiatives available to pay down debt. We continue to believe management is focused on bringing down leverage levels and management has not shied away from their focus on the balance sheet with CEO Randall Stephenson recently commenting that AT&T has "one focus, paying down debt" Furthermore, the company recently added a leverage ratio target as part of executive compensation, though there is no specific numeric target in the proxy statement.

Purpose of Transaction: Time Warner provides AT&T with revenue diversity and an opportunity to strengthen top line growth. AT&T hopes to cross sell Time Warner content with wireless/wireline offerings

Deleveraging Targets at deal close: AT&T targeted leverage of 2.5x on a net basis (~2.7x gross) by the end of the first year after close and reaching historical levels in the 1.8x range by the end of 2022

Timing	
Date announced:	Oct 22nd, 2016
Date funded:	Jul 27th, 2017
Date closed:	Jun 15th, 2018
Sizing	
Deal size:	$85bn
IG bond issuance:	$22.5bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

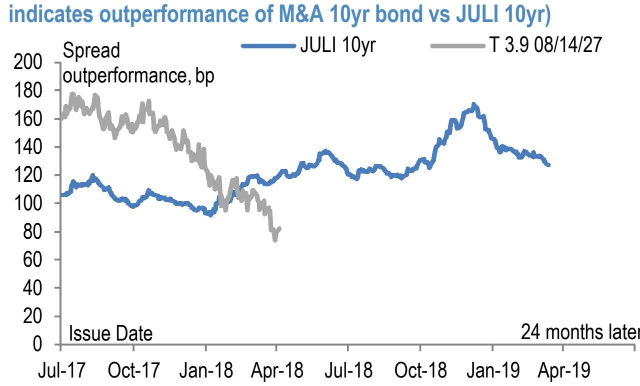


Exhibit 1: Rating trends

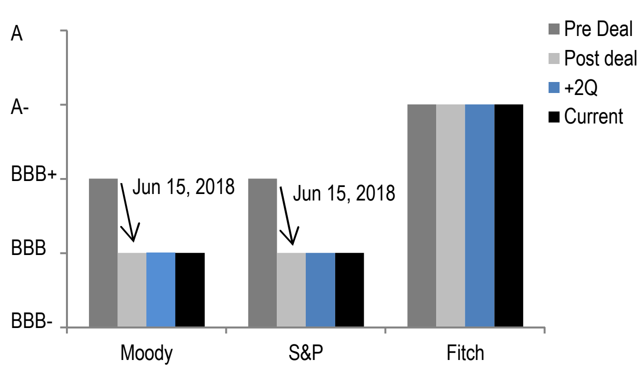
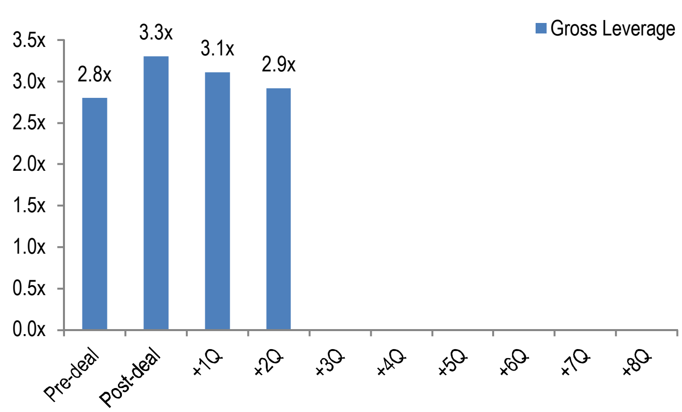


Exhibit 2: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Bayer acquires Monsanto Co

Jemma Permalloo [AC] *– 44-207-134-8153; jemma.permalloo@jpmorgan.com*

Following the completion of the acquisition of Monsanto in a $63bn transaction, Bayer issued $15bn and €5bn notes to partly refinance its $57bn bridge financing. Post the transaction, Bayer was downgraded by two notches to 'BBB' by S&P in June 2018 by Moody's, from 'A3' to 'Baa1'. While this left Bayer's rating weakly positioned in the short-term, Bayer took some actions such as restructuring cost programmes, divestments to BASF and the decision to consider exiting its Animal Health business which is reported to bring ~€8bn in proceeds. Bayer's net debt of €45bn as of June-18 was eventually reduced to €36bn as of FY18 (includes a €1bn lease liability due to IFRS16) which was better than the expected target of reduction to €39bn by Dec-18. The reduction is reflective of Bayer's strong commitment to de-lever and we take comfort in management's reaffirmation to further reduce leverage, at its CMD in November-18. However, we remain cautious on the credit as we see increased risk of cash outflow in light of the ongoing glyphosate litigation. JPM equity currently estimates a liability valuation of €5bn (average liability of €0.5mm per case discounted back, 15k cases estimated), although we highlight that this could potentially and significantly go up depending on the number of future claims and the damages awarded. Bayer disclosed 11,200 outstanding claims as of January-28 and we expect this number to go up in coming quarters. In our view, in the case of a mass settlement of all outstanding claims, it is likely that Bayer would appeal, delay or spread awarded payments over several years. We think that a lump sum payment for all outstanding cases is less likely but liquidity concerns could become a heightened risk. Until now, Bayer has only made provision for legal defense costs and it is still seeing solid demand for glyphosate.

Purpose of Transaction: To strengthen Bayer's Crop Science business and increase its market share. Bayer's objective was to create a one-stop shop for seeds, crop chemicals and computer-aided services to farmers

Deleveraging Targets at deal close: Committed to maintain single A rating

Timing	
Date announced:	May 18th, 2016
Date funded:	Jun 18th, 2018
Date closed:	Jun 7th, 2018
Sizing	
Deal size:	$65.7bn
IG bond issuance:	$15.0bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

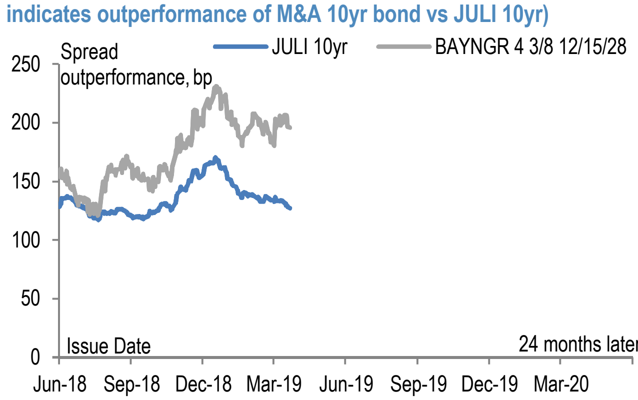


Exhibit 2: Rating trends

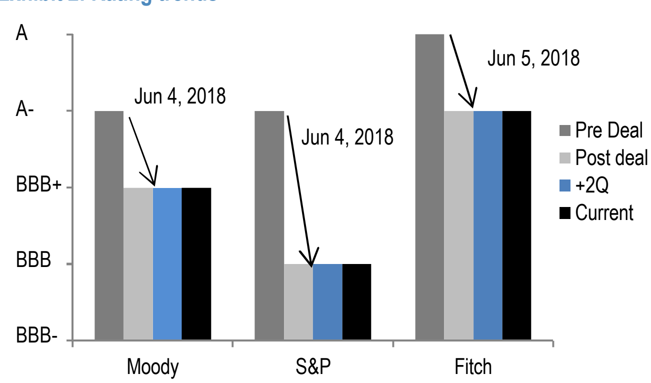
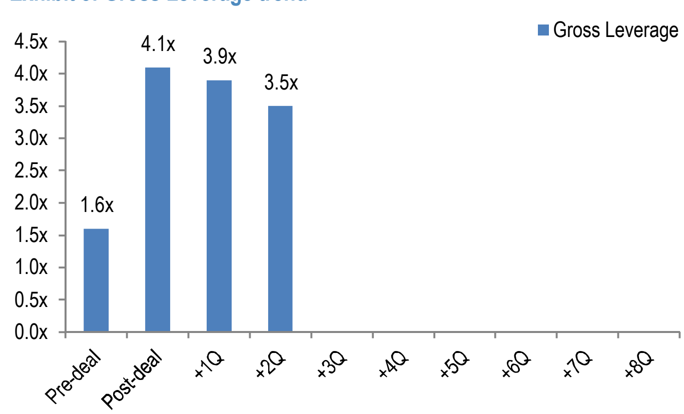


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Northrop Grumman acquires Orbital ATK

Ginger Chambless [AC] *– (212) 834-5481; virginia.chambless@jpmorgan.com*
Jenny Feng – (212) 834-5479; jenny.feng@jpmorgan.com

Northrop Grumman acquired Orbital ATK in June 2018 for $9.2bn (including assumption of OA debt), which it financed with new debt. Strategically, the acquisition of OA brings significant benefits on the innovation side as well as complementary product portfolios. From a financial perspective, estimated cost synergies of $150mn are expected by 2020 with "significant" revenue synergies also seen from new business opportunities in missiles, space, and international. S&P and Fitch downgraded the company by one notch to BBB/BBB and Moody's affirmed its ratings at Baa2. The company is committed to "strong investment grade ratings". Gross pro forma leverage increased to 3.4x initially from 2.1x pre-deal. NOC has repaid ~$800mn of debt and both NOC and OA businesses have seen solid growth, and as a result leverage has already stepped down to 2.9x as of FY18 end.

Purpose of Transaction: Innovation benefits and complementary product portfolio, cost synergies.

Deleveraging Targets at deal close: Not specified

Timing	
Date announced:	Sep 17th, 2017
Date funded:	Oct 17th, 2017
Date closed:	Jun 6th, 2018
Sizing	
Deal size:	$9.2bn
IG bond issuance:	$8.3bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

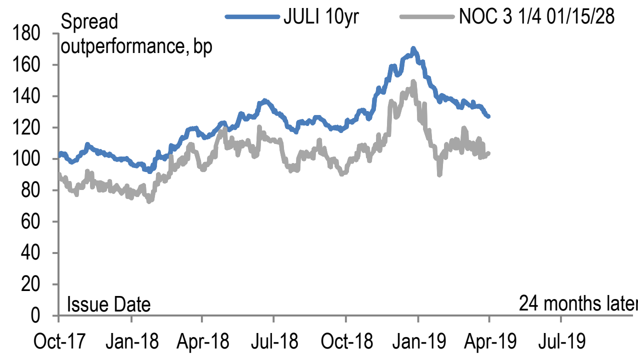


Exhibit 2: Rating trends

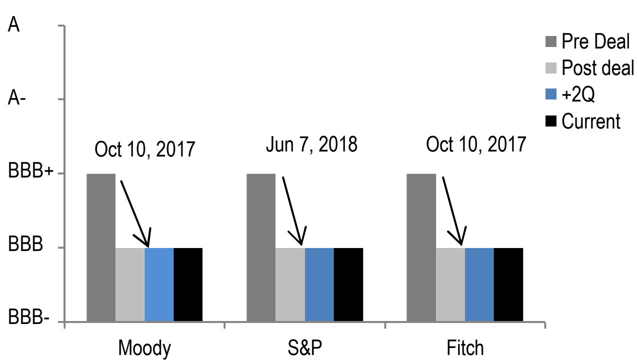
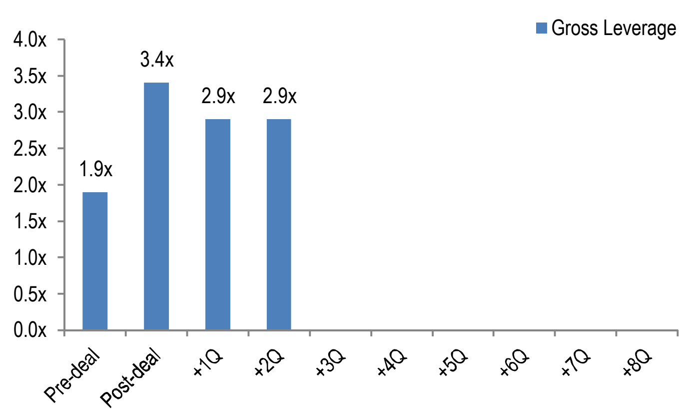


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

General Mills Inc acquires Blue Buffalo Pet Products Inc

Ginger Chambless AC – (212) 834-5481; virginia.chambless@jpmorgan.com
Jenny Feng – (212) 834-5479; jenny.feng@jpmorgan.com

General Mills acquired Blue Buffalo for $7.9bn in April 2018 to diversify its product mix and to enter the faster growing natural pet food segment. Financial benefits of the deal are expected to include cost synergies of $50mn within 24 months post-close, as well as margin growth of +80-100bp from higher margin BUFF. GIS financed the transaction with $6.1bn of new bonds, $1bn of equity, and $1.5bn in cash. As a result of the transaction, pro forma gross leverage initially rose to 4.4x (4.2x net), from 3x prior and credit ratings were lowered to mid-BBB from A3/BBB+. The company is focused on de-leveraging, as evidenced by $1bn of equity financing for the transaction and suspension of share repurchases, while the dividend is held flat. GIS targets net leverage of 3.5x by fiscal 2020 end, and 3x longer-term (~1-2 years after FY20). Leverage at fiscal 3Q19 was 4.1x, down slightly since deal close as GIS repaid $800mn of debt and delivered modest pro forma EBITDA improvement.

Purpose of Transaction: To enter the faster growing natural pet food segment.

Deleveraging Targets at deal close: 3.5x net debt/EBITDA by end of 2020; <3x net longer term

Timing	
Date announced:	Feb 23rd, 2018
Date funded:	Apr 3rd, 2018
Date closed:	Apr 24th, 2018
Sizing	
Deal size:	$7.9bn
IG bond issuance:	$6.1bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

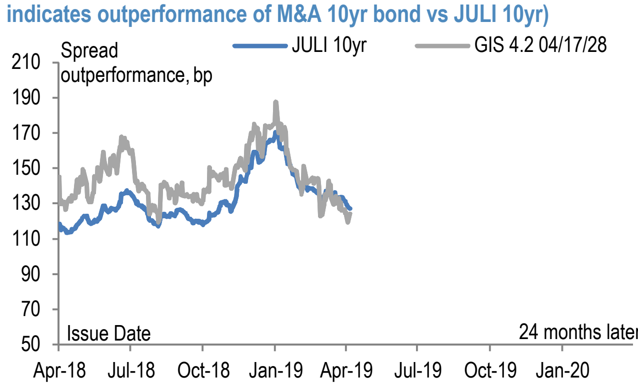


Exhibit 2: Rating trends

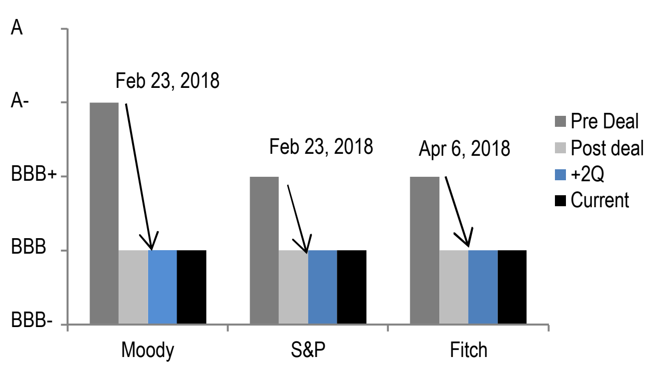
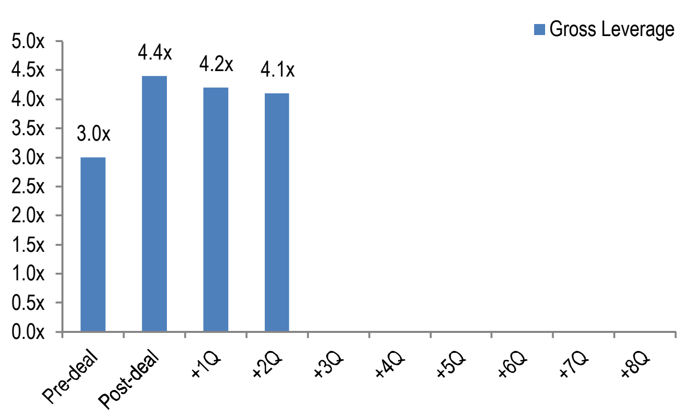


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

General Dynamics Corp acquires CSRA Inc

Ginger Chambless [AC] *– (212) 834-5481; virginia.chambless@jpmorgan.com*
Jenny Feng – (212) 834-5479; jenny.feng@jpmorgan.com

General Dynamics acquired CSRA in April 2018 for $9.6bn, which it funded with new debt and cash on hand. The acquisition of CSRA expanded GD's IT segment into complementary businesses. GD sees potential synergies of ~2% of combined CSRA/GDIT segment revenue of $9.9bn, with savings to be achieved in the first 18-24 months. On ratings, Moody's affirmed GD's A2/Stable rating, while S&P lowered the outlook on GD's A+ rating to Negative from Stable. Gross pro forma leverage increased to 2.6x from 1.4x and GD plans to pay down debt rapidly with free cash flow while maintaining its capital deployment priorities (first internal investment in the business and afterwards sustaining its dividend and tactical share repurchases). GD already repaid ~$1.9bn of debt at the end of 2018 and leverage ticked down to 2.3x. The company is committed to its mid-A credit ratings and keeping a strong balance sheet.

Purpose of Transaction: Expand IT segment into complementary businesses.

Deleveraging Targets at deal close: Not specified

Timing	
Date announced:	Feb 12th, 2018
Date funded:	May 8th, 2018
Date closed:	Apr 2nd, 2018
Sizing	
Deal size:	$9.6bn
IG bond issuance:	$7.5bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

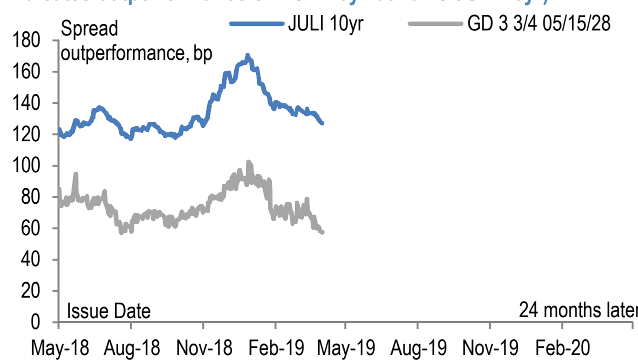


Exhibit 2: Rating trends

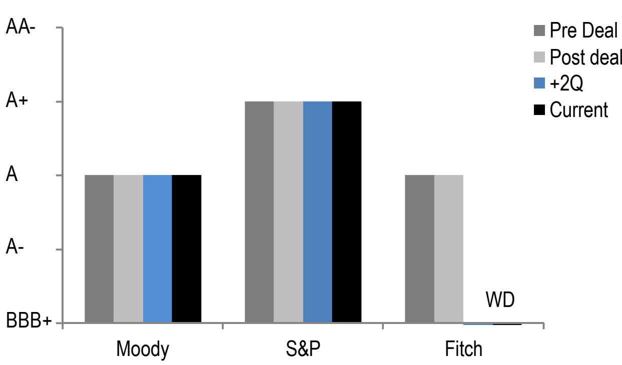
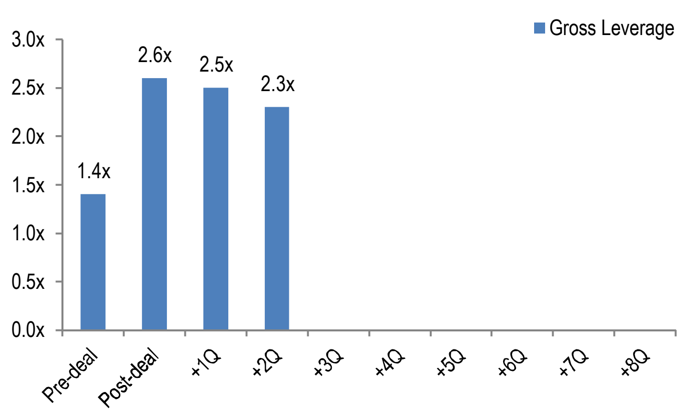


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Campbell Soup Co acquires Snyder's-Lance Inc

Ginger Chambless [AC] – (212) 834-5481; virginia.chambless@jpmorgan.com
Jenny Feng – (212) 834-5479; jenny.feng@jpmorgan.com

Campbell acquired Snyder's-Lance, Inc. for a total cash consideration of $6.1bn. CPB saw LNCE's portfolio of brands to be complementary to its existing snack business, and adds exposure to the higher growth "better for you" snacking categories. On the cost savings front, CPB identified opportunities in distribution, manufacturing, procurement, sales & marketing and administrative. Synergies of $170mn are expected to be achieved by FY22 and management estimates one-time up front costs of $275-$325mn. Additionally, LNCE had a cost savings program underway and CPB sees $125mn of incremental savings to be achieved under this program. CPB financed the acquisition through $6.2bn of new long-term notes and term loans. Pro forma net leverage increased to 4.8x at close and CPB suspended share repurchases to maximize FCF for deleveraging. CPB originally targeted ~3x net leverage by fiscal year 2022, but this was adjusted to fiscal 2021 after CPB performed a strategic review during 2018 and decided to divest its C-Fresh and International businesses. CPB intends to use the proceeds from these asset sales (expected during 2019) to reduce debt. In the meantime, leverage remained elevated following its fiscal 2Q results at 5.0x gross and 4.9x net as ~$400mn of debt reduction since the transaction closed was offset by weaker underlying results.

Purpose of Transaction: Increase CPB's exposure to higher growth snacking categories, and cost synergy opportunities

Deleveraging Targets at deal close: ~3x net leverage by fiscal 2022

Timing	
Date announced:	Dec 18th, 2017
Date funded:	Mar 12th, 2018
Date closed:	Mar 26th, 2018
Sizing	
Deal size:	$6.0bn
IG bond issuance:	$5.3bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

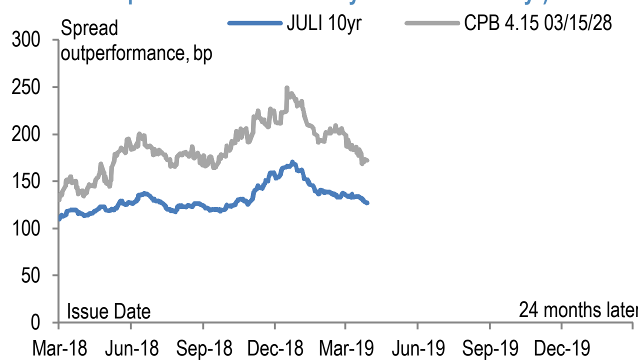


Exhibit 2: Rating trends

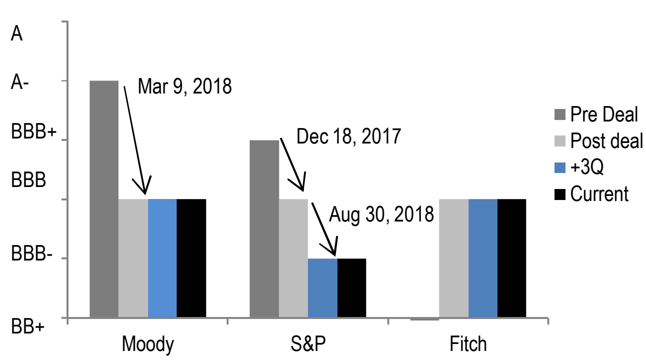
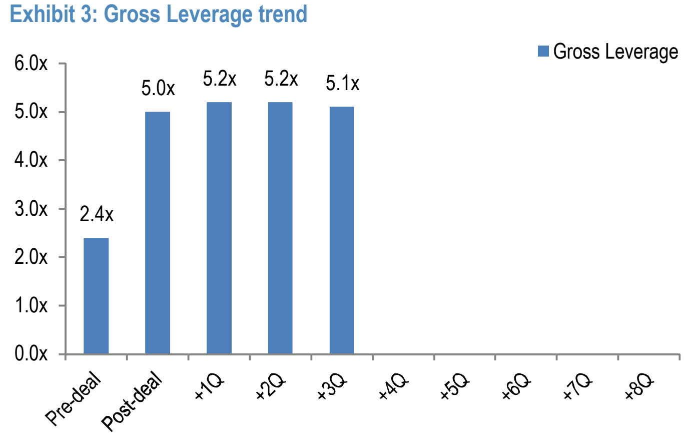


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Note: Fitch initiated rating on 10/17/2018

Discovery acquires Scripps Networks

Brian Turner [AC] *– (212) 834-4035; brian.m.turner@jpmorgan.com*
Dean Ash – (212) 834- 2641; dean.l.ash@jpmorgan.com

Discovery remains ahead of schedule on de-leveraging post Scripps acquisition driven by strong FCF generation and solid financial results. The company exited FY2018 with gross leverage of 3.9x and 3.7x net versus the previous target of 3.8-3.9x net by YE. Management is focused on driving leverage towards a normal range of 3.0-3.5x and relayed expectations to be under 3.5x in the first half of 2019 (originally by YE2019). In terms of capital allocation priorities once leverage targets are reached, the company expects to 1) invest back into the business; 2) fund value-accretive M&A; and 3) return capital to shareholders through share-buybacks.

Purpose of Transaction: Expand content offerings and gain scale, specifically in the real life entertainment genre

Deleveraging Targets at deal close: Around 4x net leverage (now specifically 4x) by YE 2018 and 3.5x net leverage by YE2019 (now likely earlier) or approx. 4.1x gross and 3.6x gross

Timing	
Date announced:	Jul 31st, 2017
Date funded:	Sep 7th, 2017
Date closed:	Mar 7th, 2018
Sizing	
Deal size:	$14.6bn
IG bond issuance:	$6.3bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

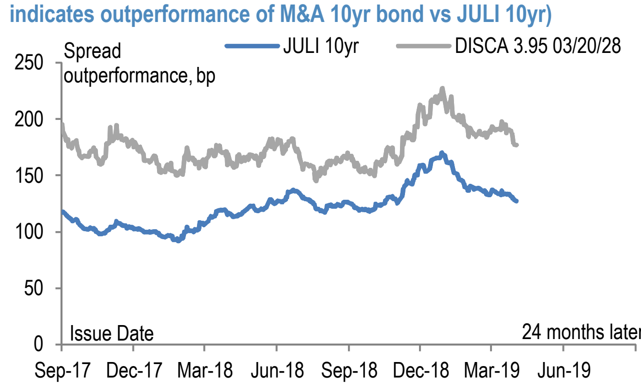


Exhibit 2: Rating trends

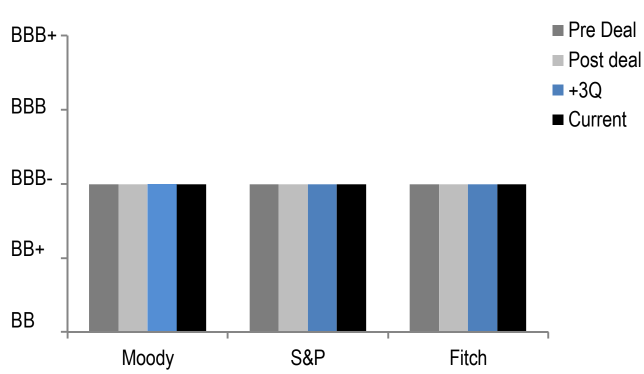
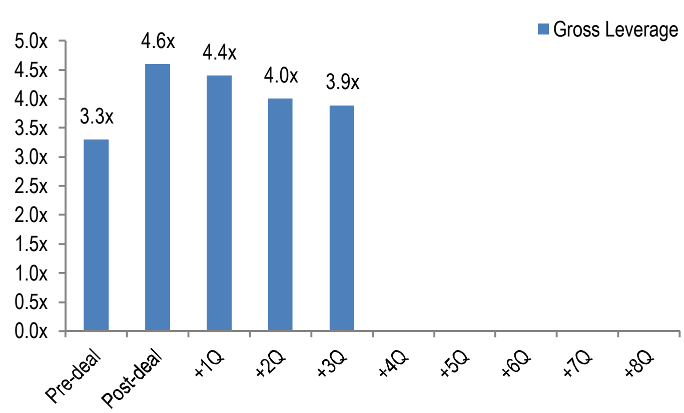


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Becton Dickinson acquires CR Bard Inc

Brett G. Gibson [AC] *– (212) 270-7484; brett.g.gibson@jpmorgan.com*

BDX's 2017 announcement to acquire CR Bard for $24.1bn came as a surprise to many in the market given BDX had just come off a long period of delevering related to the CareFusion deal. In fact, around the same time it achieved the 3.0x leverage target BDX announced the BCR deal. Related to the acquisition, Moody's downgraded BDX's credit rating two notches to Ba1 due to three reasons: 1) the size of the deal, which quickly followed CFN; 2) very high pro-forma leverage; and 3) a view that deleveraging to IG levels would take longer than what the rating agency felt was acceptable. S&P left the ratings at an Investment Grade level while Fitch, who previously did not rate BDX, assigned a first time rating of BBB-. Thus far, deleveraging efforts have been consistent and the company remains committed to its deleveraging targets. Leverage ended the most recent quarter at 3.8x on the company's basis (from initial leverage after the BCR transaction in the high ~4.0x range) after strong cash flows post-deal and $1.6bn in debt paydown during 2018. As of the 4Q18 earnings call, the company said that cost synergies related to the CR Bard transaction are going as planned, expecting synergies to continue to ramp up through the back half of this year, and separately said that it still expects revenue synergies of ~$250mn by FY22. The company noted that it continues to be committed to its target to achieve a leverage target of below 3.0x over 3 years, something that we see as achievable.

Purpose of Transaction: To expand the breadth and depth in medication management and infection prevention and enter in the high-growth therapy-oriented device segment.

Deleveraging Targets at deal close: 3.0x within 3 years

Timing	
Date announced:	Apr 23rd, 2017
Date funded:	May 22nd, 2017
Date closed:	Dec 29th, 2017
Sizing	
Deal size:	$24.1bn
IG bond issuance:	$9.7bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

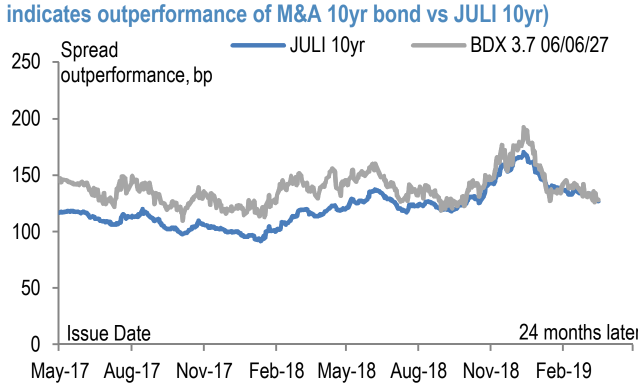


Exhibit 2: Rating trends

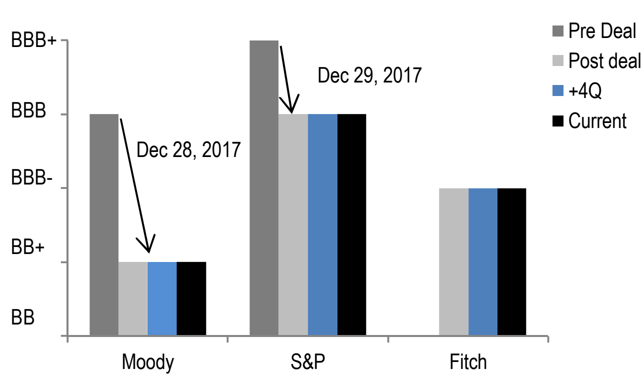
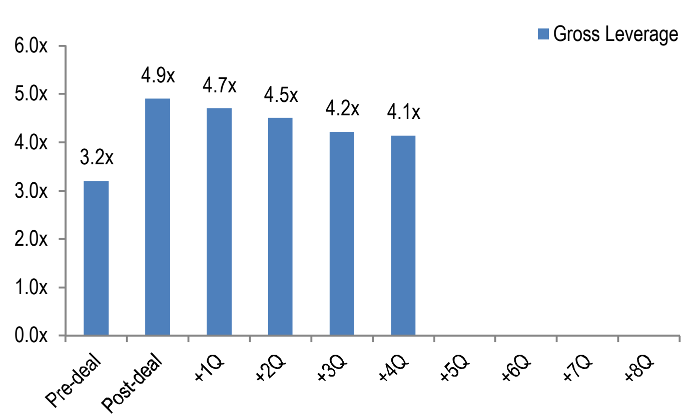


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch
Fitch initiated the rating on 5/4/17

Crown Castle International Corp acquires Lightower

Brian Turner [AC] *– (212) 834-4035; brian.m.turner@jpmorgan.com*
Dean Ash – (212) 834- 2641; dean.l.ash@jpmorgan.com

Crown Castle remains on a steady path towards de-leveraging to their target following the Lightower acquisition, exiting 2018 with leverage of ~5.3x gross/5.2x net as EBITDA growth has offset the slight increases in debt during the year. Management remains committed to IG ratings, outlining a capital allocation plan in 4Q built around maintaining leverage of ~5x. Furthermore, the team at CCI remains confident in their ability to fund CapEx and maintain their target leverage. In terms of M&A, management expects any incremental M&A to be funded in a way to keep IG ratings (likely use of equity), though there don't currently appear to be any large-scale opportunities or dense fiber assets that CCI would be interested in acquiring.

Purpose of Transaction: Crown Castle acquired Lightower for access to the attractive fiber footprint in several top metropolitan markets. The deal brought 32,000 miles of fiber in the Northeast

Deleveraging Targets at deal close: Crown Castle management aimed for 4-5x net leverage as a long term target

Timing	
Date announced:	Jul 18th, 2017
Date funded:	July 25th, 2017
Date closed:	Nov 1st, 2017
Sizing	
Deal size:	$7.1bn
IG bond issuance:	$1.8bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

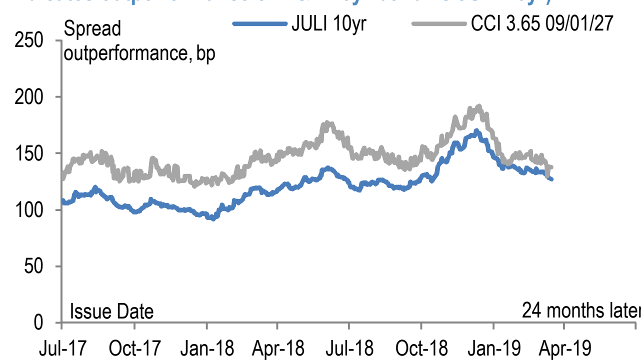


Exhibit 2: Rating trends

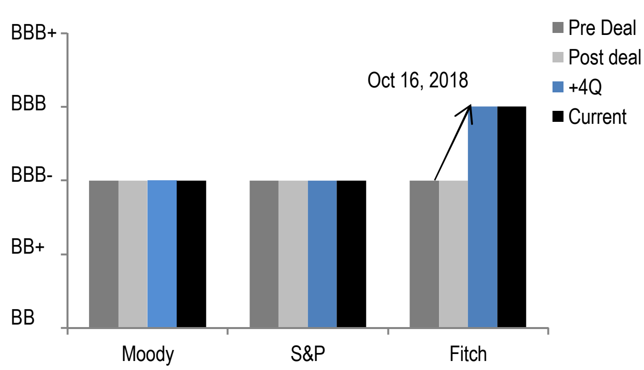
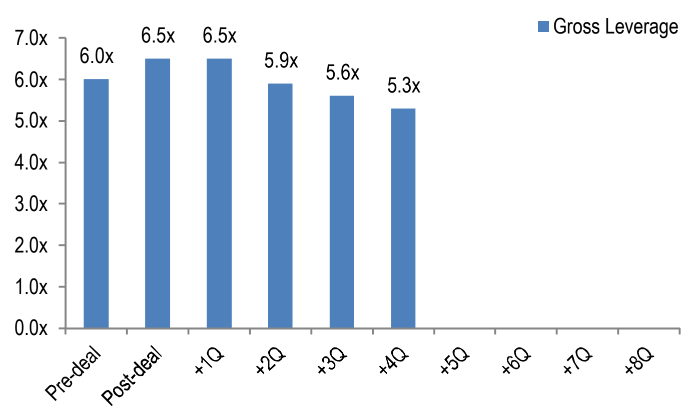


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Amazon.com Inc. acquires Whole Foods Market Inc

Brian Turner [AC] *– (212) 834-4035; brian.m.turner@jpmorgan.com*
Dean Ash – (212) 834- 2641; dean.l.ash@jpmorgan.com

Amazon announced the Whole Foods acquisition on Jun 16, 2017, in an all-cash transaction valued at approximately $13.7bn. Amazon financed the deal with a $16bn bond issuance. As one of the largest technology companies and retailers, Amazon viewed Whole Foods as a unique opportunity to expand its brick and mortar footprint while integrating Amazon Prime with the Whole Foods customer base. Integration between the two companies has been ongoing with Prime discounts now available in stores, but more changes are expected in the future. Ratings on Amazon were affirmed by the agencies as the transaction had a marginal impact on leverage given Amazon's ability to de-lever.

Purpose of Transaction: Amazon acquired Whole Foods to expand into brick and mortar and integrate Amazon Prime with Whole Foods customers

Deleveraging Targets at deal close: NA

Timing	
Date announced:	Jun 16th, 2017
Date funded:	Aug 15th, 2017
Date closed:	Aug 29th, 2017
Sizing	
Deal size:	$13.7bn
IG bond issuance:	$13.7bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

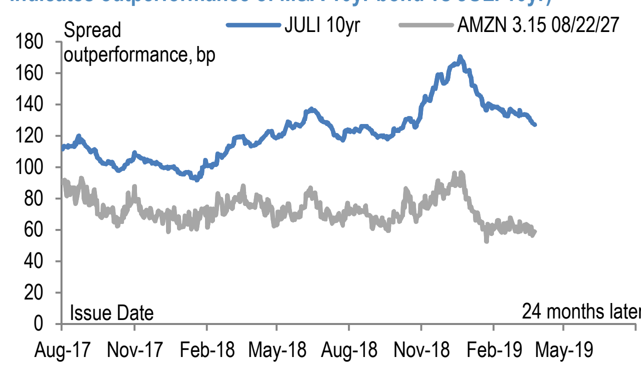


Exhibit 2: Rating trends

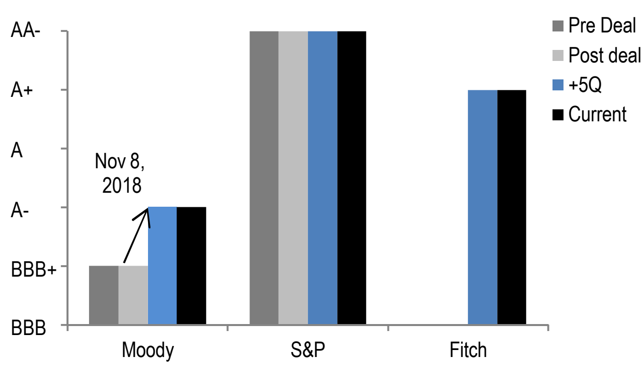
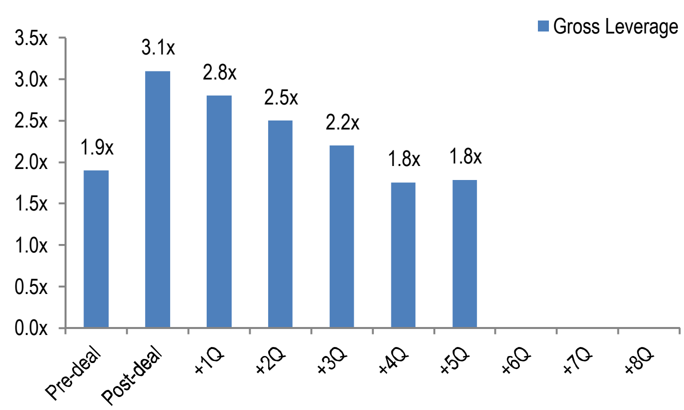


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

British American Tobacco PLC acquires Reynolds American Inc

Ginger Chambless [AC] *– (212) 834-5481; virginia.chambless@jpmorgan.com*
Jenny Feng – (212) 834-5479; jenny.feng@jpmorgan.com

British American Tobacco acquired the 58% stake in Reynolds American it did not previously own in July 2017 for $49.4bn in cash and stock. The cash portion of the transaction was financed with $25bn of new debt including USD term loans of $5bn, new USD bonds of $17bn, new €3.1bn and £450mn of bonds. Strategically the deal gave British American Tobacco full ownership of Reynolds American, allowing the companies to combine product portfolios and leverage research and development investments, especially in Next Generation Products. Financial benefits of the deal were expected to include cost synergies of $400mn by the end of the third year. De-leveraging is a top priority with management targeting net leverage of 3.3-3.5x by the end of 2019 (vs ~4x at 2018 end) and the higher end of the 1.5-2.5x range long-term. With regards to ~$3bn of bond maturities in 2019, management plans for a combination of debt pay down out of free cash flow as well as commercial paper usage. BATS has $6.7bn of bonds and $2.5bn of term loans maturing in 2020, which management expects to partly refinanced later in 2019 or early 2020. Management is very confident in its debt reduction ability with £1.5bn of annual FCF. BATS aims to get credit ratings up one notch to Baa1/BBB+ in the medium term.

Purpose of Transaction: To combine product portfolios and leverage research and development investments.

Deleveraging Targets at deal close: Approximately 3x Net leverage by the end of 2019 (this target was adjusted to 3.3-3.5x in mid-2018 due to currency translation impacts) and the higher end of the 1.5-2.5x range in the longer-term

Timing	
Date announced:	Jan 17th, 2017
Date funded:	Aug 8th, 2017
Date closed:	Jul 25th, 2017
Sizing	
Deal size:	$49.4bn
IG bond issuance:	$17.0bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

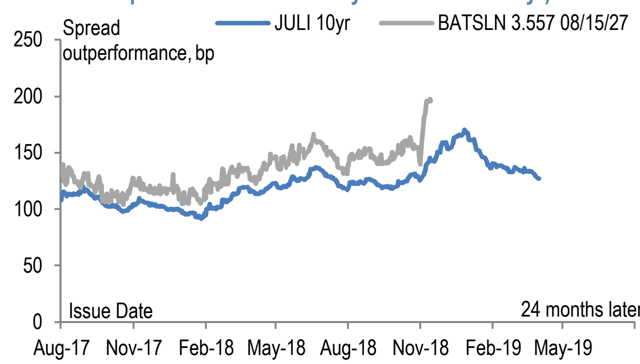


Exhibit 2: Rating trends

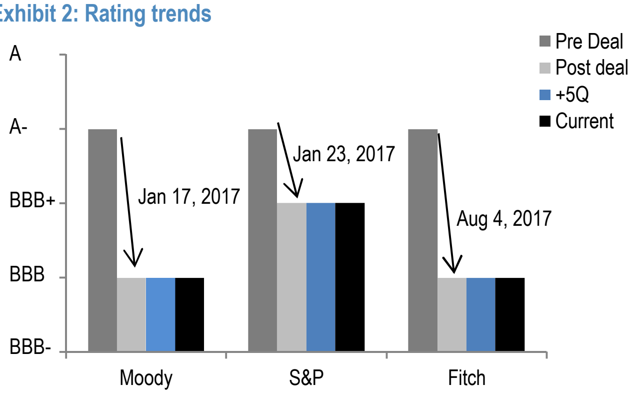
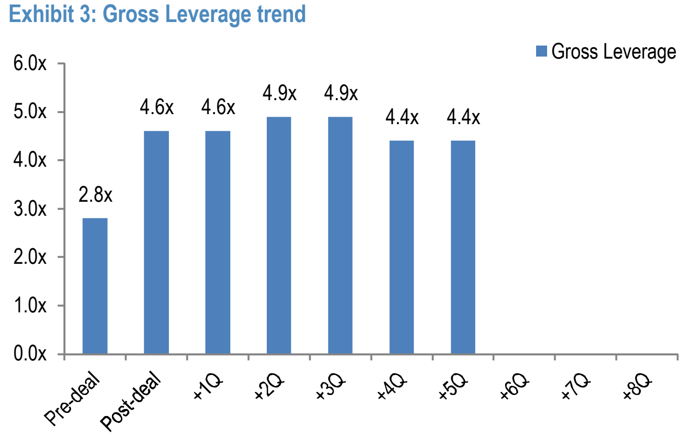


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Reckitt Benckiser PLC acquires Mead Johnson

Ginger Chambless [AC] – (212) 834-5481; virginia.chambless@jpmorgan.com
Jenny Feng – (212) 834-5479; jenny.feng@jpmorgan.com

Reckitt Benckiser PLC acquired Mead Johnson for $16.6bn in cash on June 15, 2017, and assumed $3bn of existing MJN bonds. RB financed the transaction with $7.75bn of new USD bonds, a $4.5bn 3-year term loan and a $4.5bn 5-year term loan. Strategically, the deal adds Mead's leading global infant nutrition business, scale in key geographies (China and other developing markets), and strong R&D, quality control and regulatory capabilities to Reckitt's business. Financial benefits of the deal are expected to include cost synergies of £223mn ($300mn) by the end of the third full year after £450mn of upfront costs. As a result of the transaction, pro forma leverage initially rose to 4.9x from 1x prior and credit ratings were lowered two notches to low single A. Shortly after closing the acquisition of Mead Johnson, Reckitt sold its food unit to McCormick for $4.2bn, and used the proceeds to repay a portion of its term loan borrowings in 2H17, lowering leverage to 3.8x. De-leveraging is a top priority as evidenced by the significant portion of debt financing in term loans and suspension of share repurchases until "debt levels are materially lower." Though management has not specified a leverage target, its medium and long term rating objectives are strong and stable "A" band credit ratings. Leverage at 2H18 was 3.5x, down meaningfully from its peak.

Purpose of Transaction: To enter the infant nutrition business, scale in key geographies, and add strong R&D, quality control & regulatory capabilities.

Deleveraging Targets at deal close: Not specified

Timing	
Date announced:	Feb 10th, 2017
Date funded:	Jun 21st, 2017
Date closed:	Jun 15th, 2017
Sizing	
Deal size:	$16.6bn
IG bond issuance:	$7.8bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

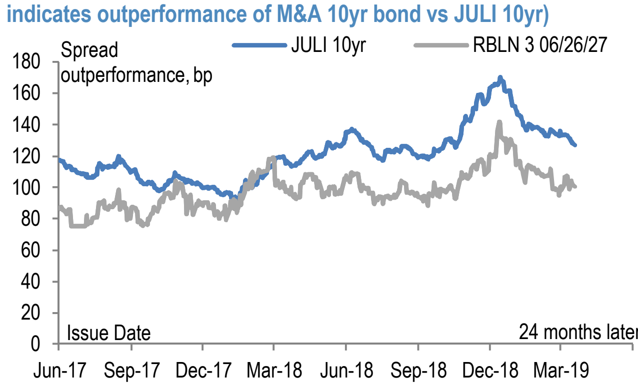


Exhibit 2: Rating trends

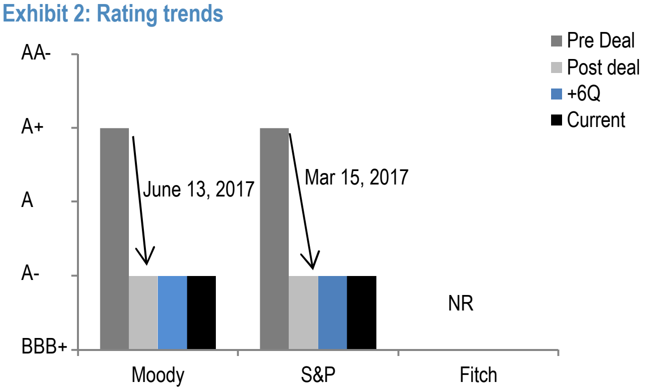
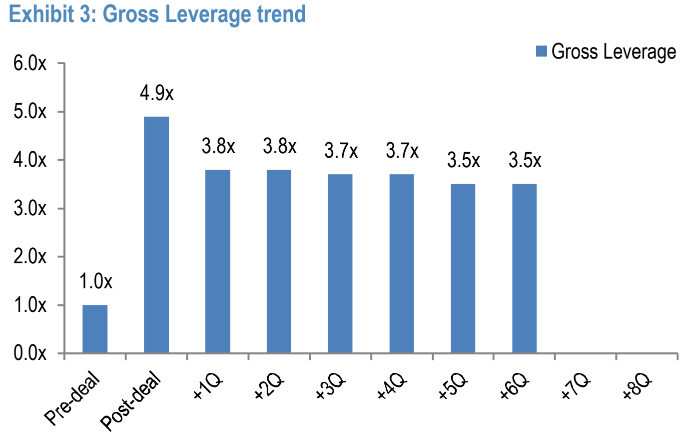


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Sherwin Williams acquires Valspar

Jonathan Rau, CFA [AC] – (212) 834-5237; jonathan.d.rau@jpmorgan.com

Sherwin Williams completed the acquisition of Valspar on 1-Jun-17. The combination expands the company's footprint both geographically and by product. Since the close of the deal the company has made progress in terms of cost synergy realization, ending 2018 with annual run-rate synergies of ~$360mm exceeding its target by $40mm. Sherwin also raised its synergy target for YE19 by $15mm to $415mm. SHW has made progress in terms of debt reduction since we last published this report, paying down ~$1.0bn over the course of 2H18 (and a total of $1.2bn for the full year) to end 2018 with gross debt/adj. EBITDA leverage of 3.3x. Note that this calculation includes company-provided add-backs to EBITDA where disclosed to account for transaction & integration expense and lead pigment litigation charges. Though shy of the 3.0x target by YE18 announced at the close of the deal, SHW has indicated plans to pay down an incremental $600mm of debt throughout 2019 which should result in leverage below 3.0x by YE19. The company continues to target longer term leverage in the 2.0x-2.5x range.

Purpose of Transaction: Expand geographic and product diversity

Deleveraging Targets at deal close: 3x by 2018, 1.9x by 2020

Updated Deleveraging Target as of 4Q18: <3x by YE19, 2.0-2.5x "longer term"

Timing	
Date announced:	Mar 20th, 2016
Date funded:	May 2nd, 2017
Date closed:	Jun 1st, 2017
Sizing	
Deal size:	$11.2bn
IG bond issuance:	$7.5bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

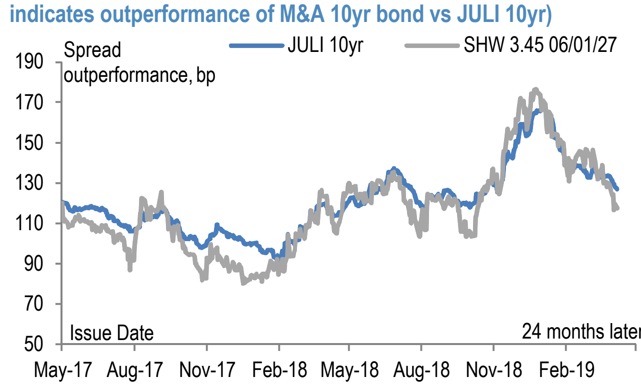


Exhibit 2: Rating trends

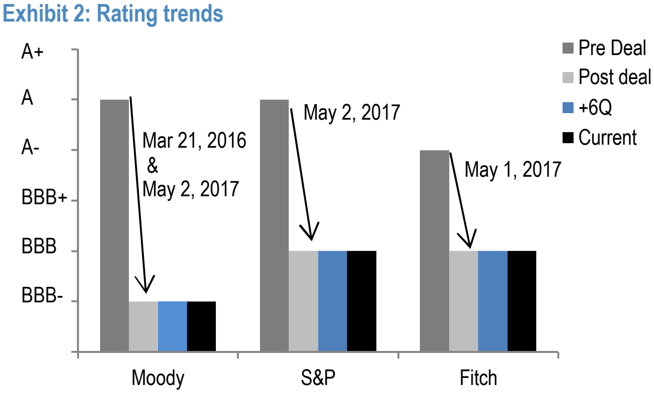
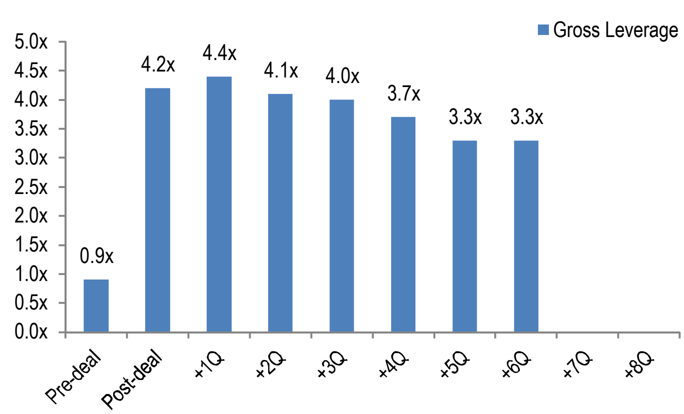


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Analog Devices Inc acquires Linear Technology Corp

Brian Turner [AC] *– (212) 834-4035; brian.m.turner@jpmorgan.com*
Dean Ash – (212) 834- 2641; dean.l.ash@jpmorgan.com

Analog Devices announced the Linear Technology acquisition on July 26, 2016, for a total consideration of $14.8bn funded with cash and stock. Funding included 58 million ADI shares, $7.3bn of debt, and cash on hand. The debt portion was funded with a mix of term loans and IG unsecured issuance. The acquisition was highly complementary; two analog semiconductor companies focused on the Industrial, Automotive, and Communications Infrastructure segments. Furthermore, Linear provided diversification into the Power Management product area. Leverage spiked to approx. 3.7x on a gross basis (from approx. 1.4x) and management pledged to suspend share buybacks until the target 2.0x net leverage was achieved. ADI was downgraded to BBB from A- by S&P and Baa1 from A3 by Moody's. ADI announced on the 3Q18 earnings call that the company's strong cash generation allowed them to achieve the 2.0x net leverage goal three quarters ahead of plan and reinstated a share repurchase program.

Purpose of Transaction: Analog Devices' acquisition of Linear Technology combined two analog semiconductor companies with very complimentary product offerings and provided

Deleveraging Targets at deal close: 2.0x leverage on a net basis or approx. 2.3x on a gross basis in 2 years

Timing	
Date announced:	Jul 26th, 2016
Date funded:	Nov 30th, 2016
Date closed:	Mar 13th, 2017
Sizing	
Deal size:	$14.8bn
IG bond issuance:	$2.1bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

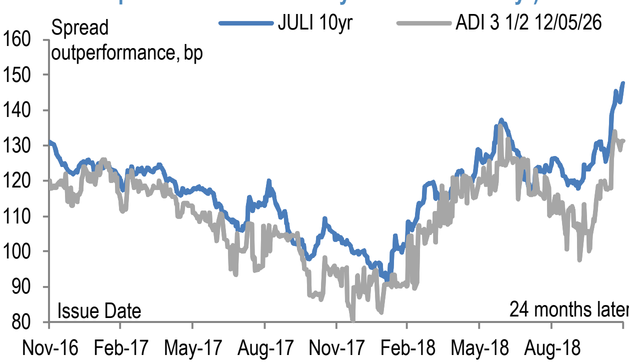


Exhibit 2: Rating trends

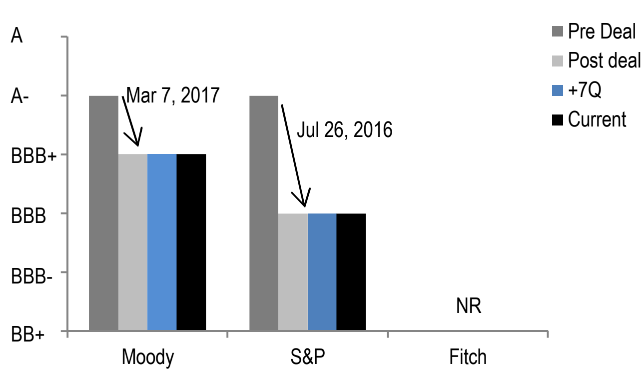
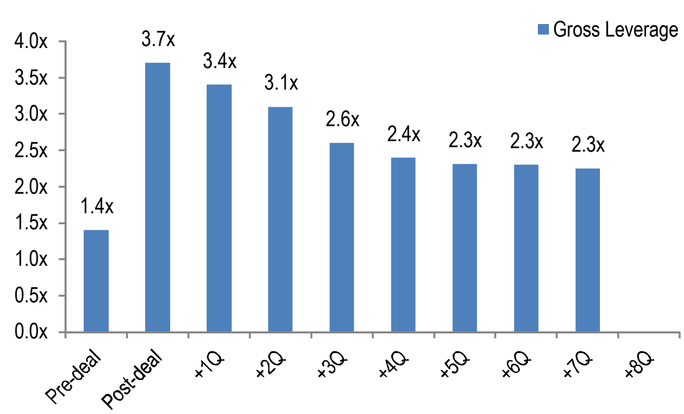


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Verizon Communications acquires Yahoo

Brian Turner [AC] *– (212) 834-4035; brian.m.turner@jpmorgan.com*
Dean Ash – (212) 834- 2641; dean.l.ash@jpmorgan.com

Verizon's acquisition of Yahoo was part of the company's plans to build out a mobile media/digital advertising platform. Verizon initially offered $4.83bn to acquire Yahoo, but after a significant cyber attack at Yahoo lowered the offer to $4.48bn. Leverage was relatively unmoved by the transaction, but the business impact of the deal was more pronounced. Verizon initially sought for a combination of Yahoo and AOL to compete with Google and Facebook and act as a revenue growth driver. However, the transaction has failed to reap significant results for Verizon. Both Yahoo and AOL are now viewed as outdated platforms compared to their competitors at Google and Facebook. Furthermore, Verizon has failed to attract significant content deals or advertisers, who similarly prefer the more tech savvy and far reaching competitors in Silicon Valley.

Purpose of Transaction: Verizon acquired Yahoo to build out a digital advertising and mobile internet business. Verizon planned to integrate Yahoo with AOL and compete in the mobile media space as an alternative offering for advertisers

Deleveraging Targets at deal close: NA

Timing	
Date announced:	Jul 25th, 2016
Date funded:	Mar 13th, 2017
Date closed:	Mar 13th, 2017
Sizing	
Deal size:	$4.5bn
IG bond issuance:	$4.5bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

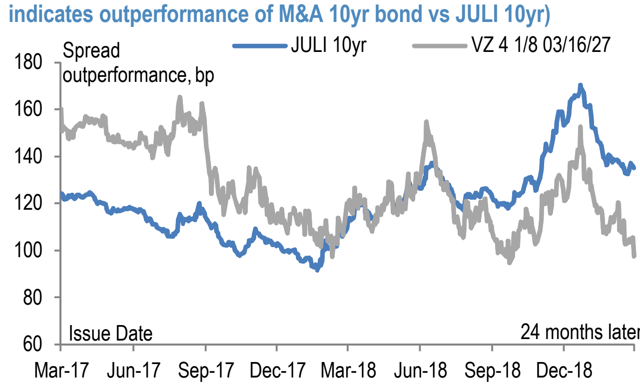


Exhibit 2: Rating trends

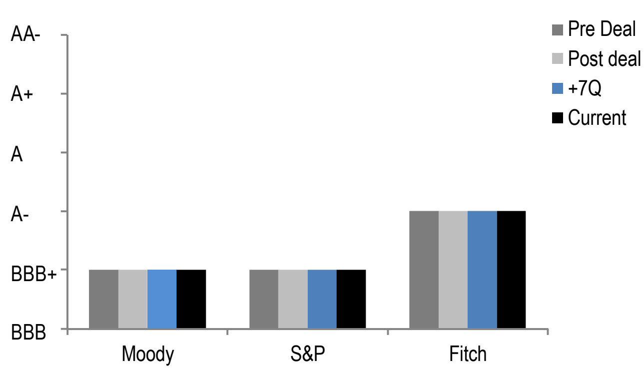
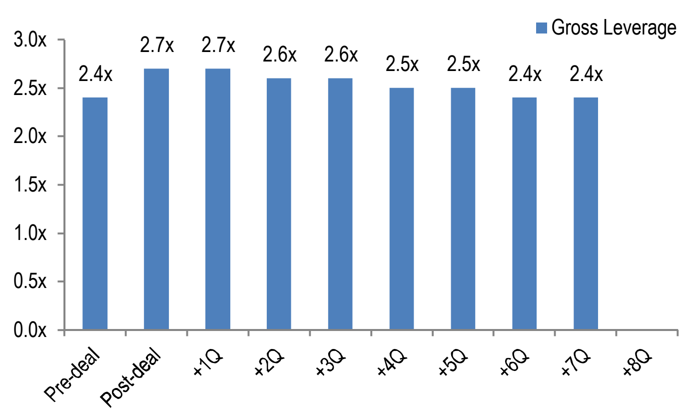


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Abbott Laboratories acquires St Jude Medical Inc

Brett G. Gibson AC – (212) 270-7484; brett.g.gibson@jpmorgan.com

ABT acquired STJ in a deal that totaled $30.1bn. To help fund the merger agreement, the company entered into a $17.2bn senior unsecured bridge loan, with the additional debt bringing the company's post-deal leverage to ~4.7x from a pre-deal leverage of 1.9x. At the time of the deal, ABT set forth a leverage target of 3.5x two years post close, or by 1Q19, which the company easily achieved, bringing leverage to within the target range 5Q post-deal in 1Q18. In 2018, the company repaid more than $8.0bn of debt and on its 4Q18 earnings call, the company commented that continuing to pay down debt remains a high priority. Interestingly, following the closing of the acquisition in Jan 2017, Moody's downgraded ABT four notches to Baa3 from A2 with a stable outlook, citing ratings constraints that included high financial leverage and challenges in delevering as the agency believed the company would be highly reliant on earnings improvement based on relatively weak FCF from high interest expenses, large dividends, and capex. Moody's has since upgraded the company several times to Baa1 with a positive outlook after the quicker than expected deleveraging and as the agency expects leverage to fall below 3.0x by YE19.

Purpose of Transaction: To expand in the cardiovascular devices sector, specifically the heart-failure devices, atrial fibrillation products and technology to manage cardiac rhythm which ABT felt would mesh well with its own coronary-intervention products.

Deleveraging Targets at deal close: 3.5x two years post-close

Timing	
Date announced:	Apr 28th, 2016
Date funded:	Nov 17th, 2016
Date closed:	Jan 4th, 2017
Sizing	
Deal size:	$30.1bn
IG bond issuance:	$15.1bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

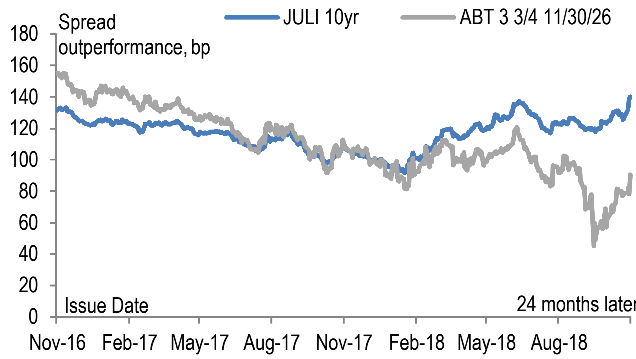


Exhibit 2: Rating trends

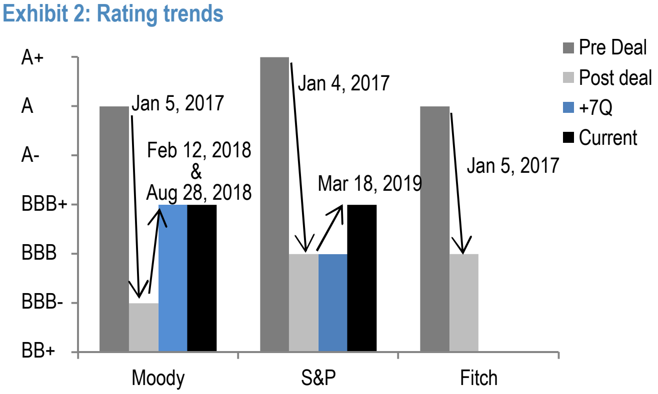
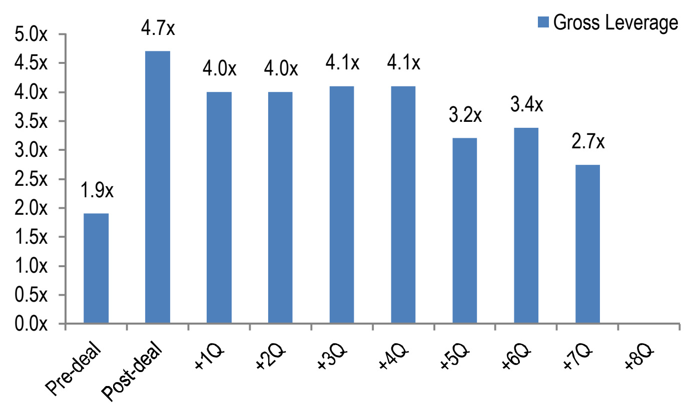


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Microsoft Corp acquires LinkedIn Corp

Brian Turner [AC] *– (212) 834-4035; brian.m.turner@jpmorgan.com*
Dean Ash – (212) 834- 2641; dean.l.ash@jpmorgan.com

On June 13, 2016, Microsoft announced its largest ever acquisition, LinkedIn, valued at $26.2bn. S&P affirmed Microsoft's AAA rating with a stable outlook, while Moody's moved to a negative outlook. Moody's outlook change was based on the view that Microsoft may continue with aggressive shareholder returns and/or more debt funded M&A. One year later, Moody's revised the outlook to stable as Microsoft's business continued to thrive while limiting debt funded acquisitions and moderating shareholder returns. Leverage post close was slightly above 2x, but Microsoft has quickly de-levered the balance sheet with robust cash generation and EBITDA growth. Looking at the transaction, the key selling point for acquiring LinkedIn was the ability to combine private data (Outlook/Exchange/Office 365) and public profiles (Linkedin) into a massive source of data that Microsoft would now own. Linkedin is also an asset that has proven difficult to replace given the lack of viable competitors in the networking space. While initially a drag on corporate margins, in FY2018 Linkedin is ramping up with accelerated revenue growth amidst strong (and broad based) sales execution and is now accretive to EPS ahead of initial expectations. The general consensus is that the acquisition is exceeding expectations, with management commenting LinkedIn appears to be even more of a strategic asset than it originally thought.

Purpose of Transaction: Purchasing Linkedin offered a treasure trove of data and an asset with few competitors to Microsoft

Deleveraging Targets at deal close: NA

Timing	
Date announced:	Jun 13th, 2016
Date funded:	Aug 1st, 2016
Date closed:	Dec 8th, 2016
Sizing	
Deal size:	$26.2bn
IG bond issuance:	$19.8bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

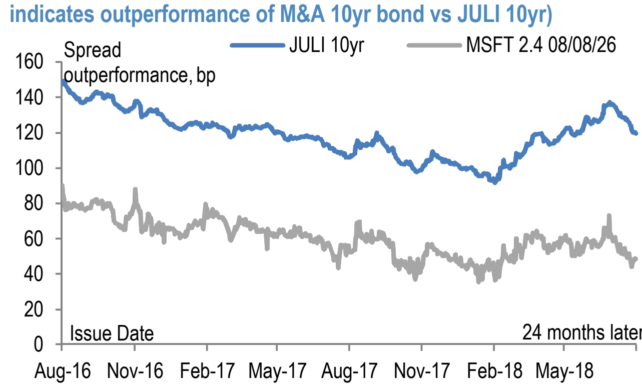


Exhibit 2: Rating trends

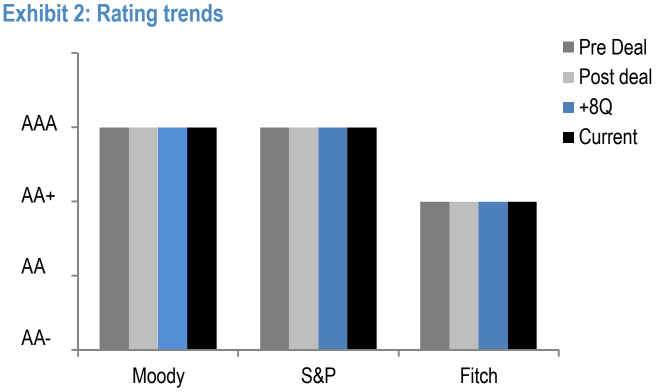
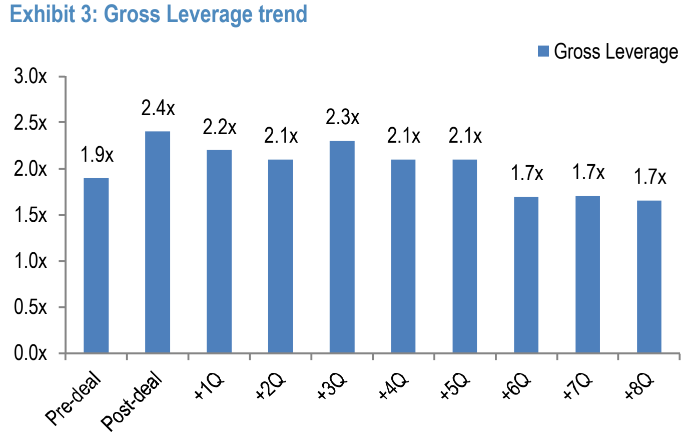


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Oracle Corp acquires NetSuite Inc

Brian Turner [AC] *– (212) 834-4035; brian.m.turner@jpmorgan.com*
Dean Ash – (212) 834- 2641; dean.l.ash@jpmorgan.com

Oracle acquired NetSuite for $9.3bn on July 28, 2016, funded using cash on hand from a $14bn debt issuance in June 2016. Prior to tax reform, Oracle was one of the largest issuers in the Technology space, issuing debt for acquisitions, share repurchases, and dividends. The NetSuite purchase bolstered Oracle's enterprise cloud offerings. The combination of NetSuite's enterprise offerings and Oracle's scale was an attractive opportunity for Oracle. While S&P affirmed the ratings of Oracle after the transaction, Moody's noted the transaction was Credit Negative due to the steep price tag and expectations that Oracle would continue to issue debt to fund acquisitions and repurchases. Ultimately the transaction had a minimal impact on Oracle's leverage.

Purpose of Transaction: Oracle acquired NetSuite as a complementary cloud addition to strengthen Oracle's market position and share

Deleveraging Targets at deal close: NA

Timing	
Date announced:	Jul 28th, 2016
Date funded:	Jun 29th, 2016
Date closed:	Nov 7th, 2016
Sizing	
Deal size:	$9.3bn
IG bond issuance:	$9.3bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

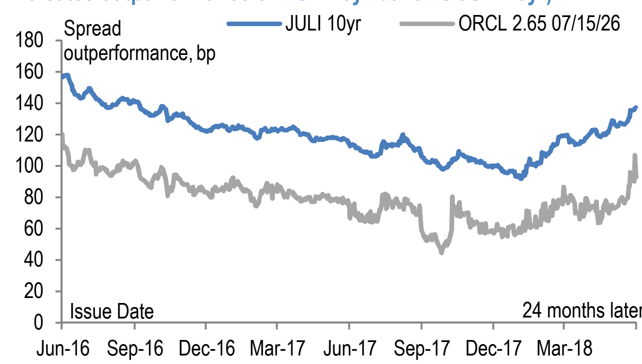


Exhibit 2: Rating trends

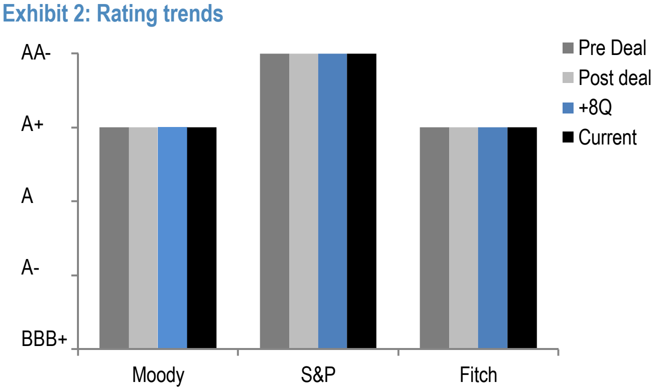
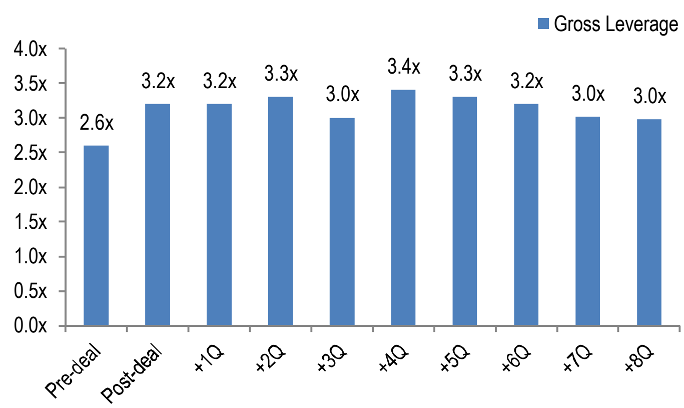


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Molson Coors Brewing Co acquires MillerCoors LLC

Ginger Chambless [AC] *– (212) 834-5481; virginia,chambless@jpmorgan.com*
Jenny Feng – (212) 834-5479; jenny.feng@jpmorgan.com

Molson Coors acquired the 58% stake in its US JV MillerCoors it did not previously own for $12bn in October 2016. The transaction was related to Anheuser-Busch Inbev's acquisition of SABMiller, and its need to divest SABMiller's US business for anti-trust purposes. Molson Coors financed the purchase with $2.6bn of new equity, $3bn of term loans, and $5.3bn of new US$ bonds, an €800mn bond, and two CAD bonds totaling $1bn. Strategic and financial benefits of the deal were expected to include larger go to market scale in the US, cost synergy opportunities of $200mn by the fourth year and annualized cash tax savings of $250mn. Net debt/EBITDA rose from 2x to slightly over 5x on a pro forma basis, and credit ratings were lowered to low BBB from all three agencies. This was a one notch downgrade from Moody's and Fitch and a two notch downgrade by S&P. TAP expressed a strong commitment to maintaining investment grade ratings, and guided for capital allocation to prioritize strengthening its balance sheet. TAP achieved its targeted net debt/EBITDA of 4x by the end of 2018 and continues to expect 3.75x net leverage by mid-2019. TAP does not have an official long-term leverage target but expects to continue deleveraging below 3.75x.

Purpose of Transaction: Larger go to market scale in the US, cost synergy opportunities

Deleveraging Targets at deal close: 4x net debt / EBITDA by the end of 2018 and 3.75x by mid-2019

Timing	
Date announced:	Nov 11th, 2015
Date funded:	Jun 28th, 2016
Date closed:	Oct 11th, 2016
Sizing	
Deal size:	$12.0bn
IG bond issuance:	$5.3bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

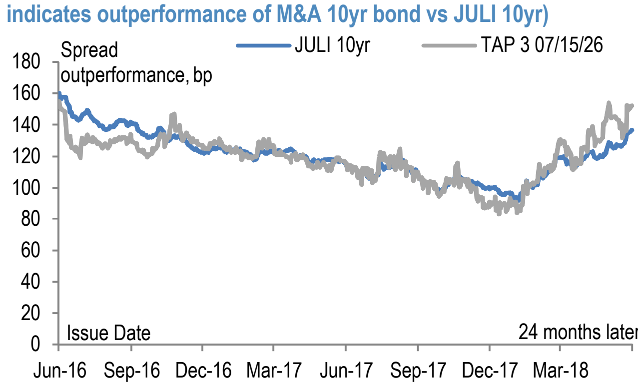


Exhibit 2: Rating trends

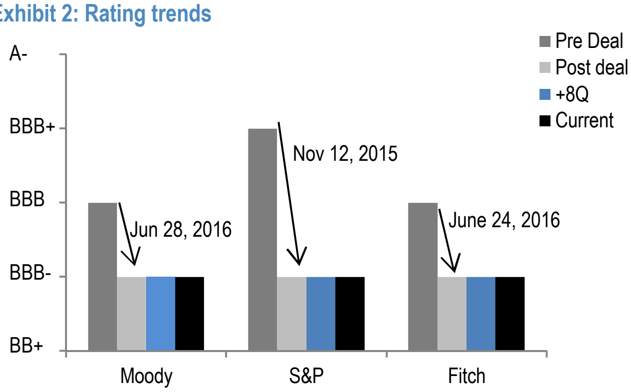
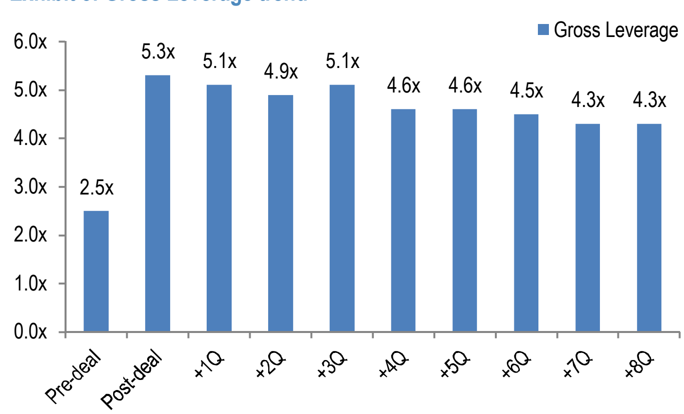


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Anheuser-Busch InBev acquires SABMiller

Ginger Chambless [AC] – (212) 834-5481; virginia.chambless@jpmorgan.com
Jenny Feng – (212) 834-5479; jenny.feng@jpmorgan.com

Anheuser-Busch InBev closed on its $110bn acquisition of SAB Miller in October 2016 after a year long regulatory review process. The transaction was initially financed with $80bn of new debt including bridge and term loans and $46bn of new IG bonds, with $12bn of the bridge loans immediately repaid by proceeds from its divestment of its 58% stake in its MillerCoors JV to Molson Coors. Additional asset sale proceeds of approximately $6bn were achieved over the course of 2017 which were also applied to net debt reduction. Cost synergy opportunities of $3.2bn are expected by October 2019, a year earlier than originally expected, with $2.94bn achieved as of 2H18. ABI articulates its "optimal capital structure" as having a net debt/EBITDA ratio of approximately 2x and its capital allocation priorities of 1) invest in organic growth, 2) deleverage, 3) selective M&A, and 4) return cash to shareholders (growing dividend). Net debt/EBITDA currently stands at 4.6x versus 5.8x when the deal closed and the company is targeting <4x by the end of 2020. While ABI has made some progress on lowering leverage, it is about 0.5-1x behind its original plan. ABI lowered its dividend by 50% in October 2018 to free up ~ $4bn of annual cash flow to accelerate deleveraging.

Purpose of Transaction: To build the first truly global beer company, growth, cost synergy opportunities.

Deleveraging Targets at deal close: 2x net debt / EBITDA

Timing	
Date announced:	Oct 13th, 2015
Date funded:	Jan 13th, 2016
Date closed:	Oct 10th, 2016
Sizing	
Deal size:	$110.0bn
IG bond issuance:	$46.0bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

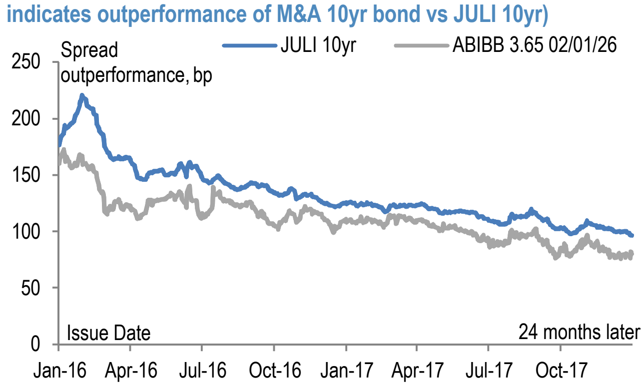


Exhibit 2: Rating trends

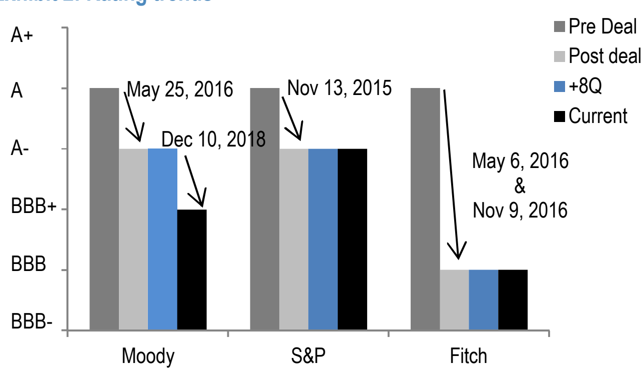
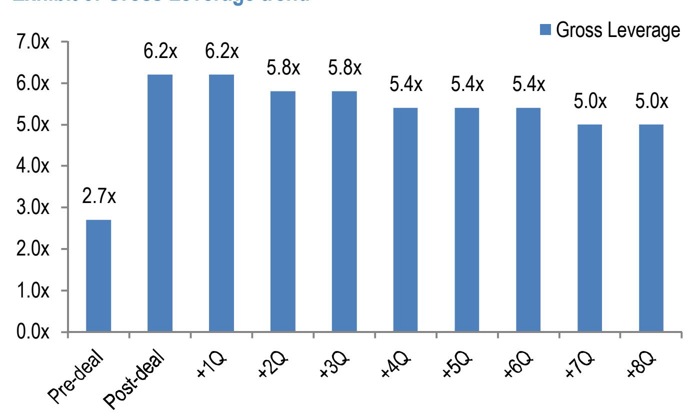


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Dell Technologies Inc. acquires EMC Corp

Brian Turner [AC] *– (212) 834-4035; brian.m.turner@jpmorgan.com*
Dean Ash – (212) 834- 2641; dean.l.ash@jpmorgan.com

Dell announced the EMC acquisition in October 2015 in a cash/tracking stock deal valued at approx. $67bn. The rationale behind the transaction was that Dell was experiencing revenue and margin declines from 2010 to 2013 as worldwide PC sales slowed, increasing competition, and the introduction of new hardware technologies cannibalized traditional PC sales. With the acquisition of EMC, Dell became the largest privately owned tech company with leading market share in servers, storage, virtualization and PCs. Dell funded the acquisition with a combination of IG secured debt, term loans and HY unsecured debt. While Dell became more strategically complete, leverage (calculated using total debt through Dell Inc. excluding structured debt) spiked up significantly from 3.6x pre-deal to 5.4x post- deal. Initial expectations had been that Dell would rapidly de-lever through asset sales, strong cash flow, and heavy cost cuts with the goal of becoming an IG company within 2 years. However, Dell (post-merger) began to face a market environment of secular weakness in both its PC and storage business combined with significant component cost headwinds throughout fiscal 2017, which slowed cash generation and de-leveraging efforts. Leverage hovered around 6x as Dell worked to get its storage business into a better position, which started to show improvement in F4Q18 when management changes helped start a turnaround in the business. Improving profitability in the storage business has helped drive cash flow and EBITDA growth and leverage has since declined to approx. 5.2x.

Purpose of Transaction: With the PC business slowing down, Dell acquired EMC to diversify into the storage and server market

Deleveraging Targets at deal close: The target for Dell was to become an IG company within 2 years of the EMC acquisition

Timing	
Date announced:	Oct 12th, 2015
Date funded:	May 17th, 2016
Date closed:	Sep 7th, 2016
Sizing	
Deal size:	$67bn
IG bond issuance:	$20.0bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

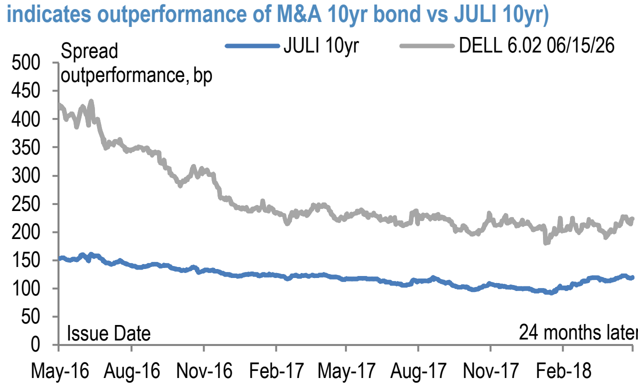
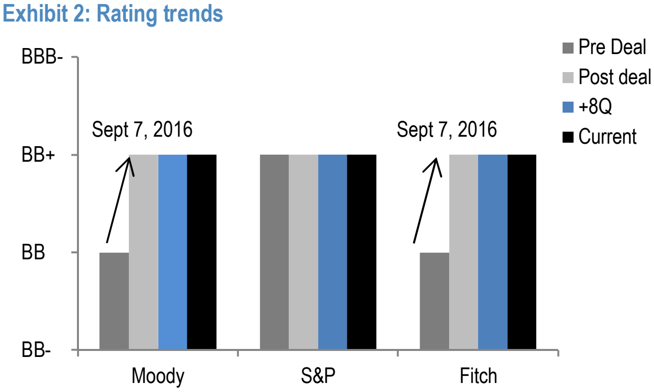
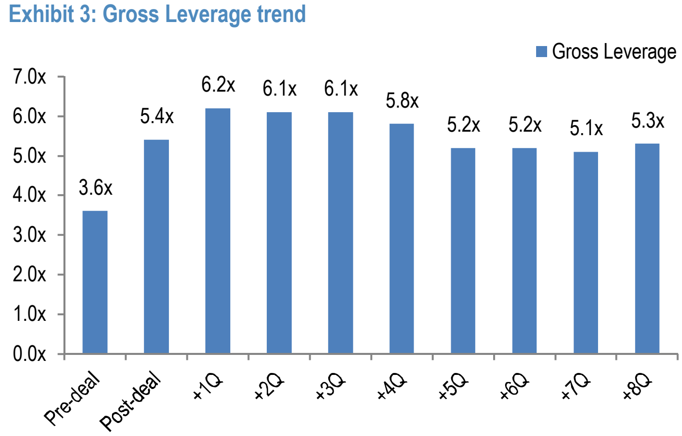


Exhibit 2: Rating trends



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Exhibit 3: Gross Leverage trend



Eric Beinstein
(1-212) 834-4211
eric.beinstein@jpmorgan.com

Mylan NV acquires Meda AB

Brett G. Gibson [AC] *– (212) 270-7484; brett.g.gibson@jpmorgan.com*

In the years since the close of the transaction, MYL's leverage has remained elevated. In 2017, management pushed back its 2017 YE goal of delevering to 3.0x due to weakness in the business as well as a delay in product launches and diverting $500mn of cash in 4Q17 towards share repurchases instead of debt paydown. At the end of 2017, with leverage at 3.8x, management set a target of delevering to below 3.5x by year-end 2018 before continuing to delever towards its long term 3.0x goal but quickly started the year with $432mn in share repurchases. During 2018 MYL experienced additional product launch delays and continued to see weak underlying trends leading to the company changing the language of deleveraging to "decreasing towards 3.5x by year end" still with a long-term target of 3.0x (MYL ended 2018 at 3.8x). Looking forward, management has identified $1.1bn in debt that it anticipates paying down to help delever over the next 12 months and guidance implies ending 2019 at 3.6x. Additionally the board of the company is currently in the process of conducting a strategic review and is evaluating a "wide range of alternatives".

Purpose of Transaction: To further enhance the Rottapharm and EPD acquisitions by leveraging the company's infrastructure in Europe and Emerging Markets. Meda also expanded Mylan's branded portfolio and created a $1bn OTC business.

Deleveraging Targets at deal close: Below 3.0x by end of 2017

Timing	
Date announced:	Feb 10th, 2016
Date funded:	May 31st, 2016
Date closed:	Aug 24th, 2016
Sizing	
Deal size:	$9.9bn
IG bond issuance:	$6.5bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

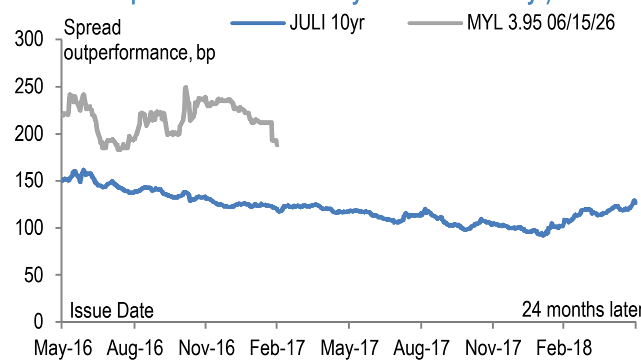


Exhibit 2: Rating trends

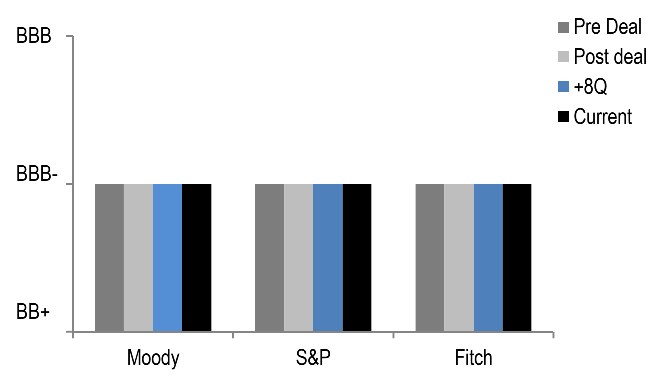
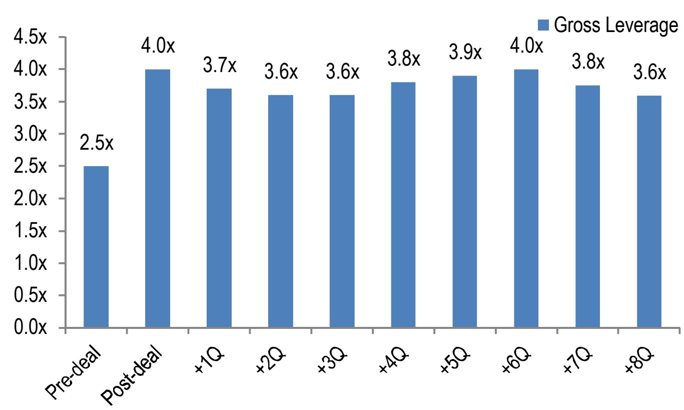


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Teva acquires Allergan PLC's generic drug business

Brett G. Gibson [AC] *– (212) 270-7484; brett.g.gibson@jpmorgan.com*

At the time of the transaction announcement Allergan's generic business was experiencing high growth and was anticipated to allow for significant synergies after combining with TEVA's generics business. Immediately following the announcement of the acquisition, all three rating agencies announced they would downgrade the company one-notch to the mid-BBB equivalent upon closure. Due to regulatory hurdles, the acquisition did not close until 3Q16, delayed from the original 1Q16 target. In addition, during 2016 the generics market started to experience deteriorating market dynamics with significant pricing erosion. Therefore, TEVA and the new acquired business significantly underperformed original expectations and saw EBITDA shortfalls lead to the company not hitting any of its deleveraging targets. Further compounding the issue, in October 2017 the FDA approved a generic competitor to 40mg Copaxone (TEVA's largest concentration product) which led to forward expectations of EBITDA significantly declining. In November 2017, as the underlying business continued to face price erosion and leverage remained at elevated levels, Fitch Ratings downgraded TEVA to HY with Moody's and S&P following with downgrades of the company to HY in January and February 2018. Despite the downgrade to HY and current elevated leverage metrics, on its YE18 earnings call the company said that its long term target remained at 3.0x net-debt/EBITDA and that it expects to progress towards that over the next 3-5 years.

Purpose of Transaction: To build the company's already large and global generics business with an anticipated $1.2bn of synergies.

Deleveraging Targets at deal close: 3.5x gross debt/EBITDA 18 months post close

Timing	
Date announced:	Jul 27th, 2015
Date funded:	Jul 19th, 2016
Date closed:	Aug 2nd, 2016
Sizing	
Deal size:	$40.5bn
IG bond issuance:	$15.0bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

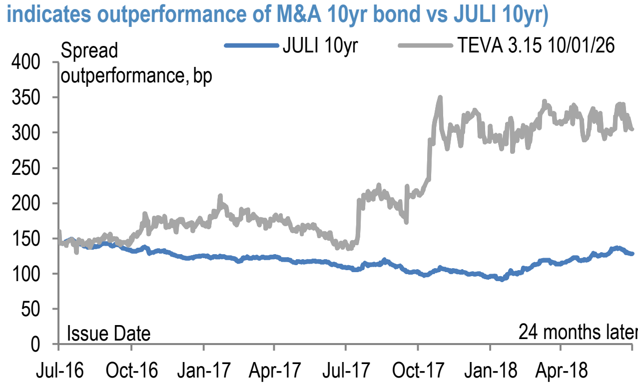


Exhibit 2: Rating trends

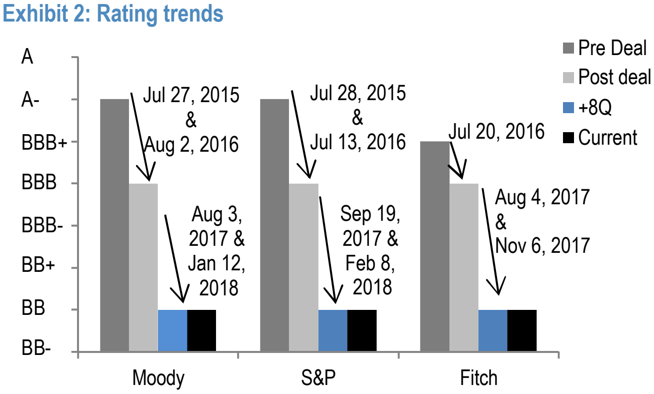
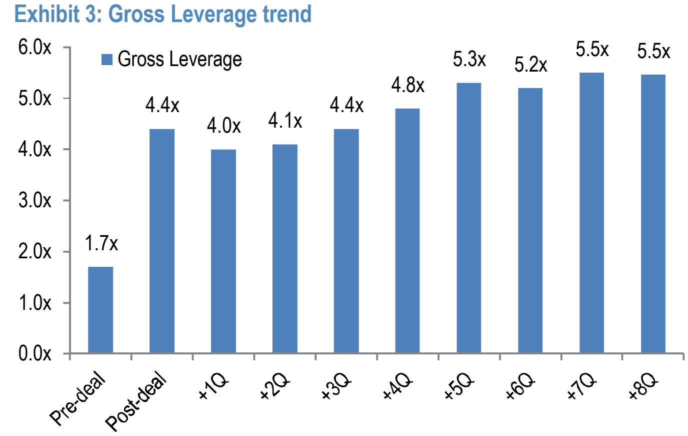


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Southern Co acquires AGL resources

Matt Anavy [AC] *– (212) 834-3568; matt.anavy@jpmorgan.com*
Claire Barbour - (212) 270-6861; claire.barbour@jpmorgan.com

The acquisition of AGL enabled SO to capture the changing dynamic of natural gas consumption, which facilitated additional growth opportunities for the utility. When the transaction was first announced, SO anticipated the debt financing portion of the deal would be approximately $5.0 billion. Ultimately, in May 2016, SO issued a total of $8.0 billion long-term debt, of which $6.75 billion was specifically allocated towards funding the AGL transaction. Prior to the new issuance, both Moody's and Fitch downgraded SO's rating, while S&P affirmed the rating but maintained their Negative outlook. While the transaction has improved SO's overall regulated earnings profile, the utility's credit metrics have remained weakly positioned within their current ratings, due to cost overruns for the construction of Vogtle and the negative impact from tax reform. Recently, SO has taken various supportive measures to strengthen their balance sheet and mitigate ratings pressure, including asset sales, deleveraging, and commitment to raise a total of $7.0 billion of equity over 5 years. Despite these initiatives, SO's credit metrics are expected to remain pressured over the next few years. Specifically, FFO/debt is expected to average 14.5% through 2020.

Purpose of Transaction: The strategic rationale behind the transaction was growth driven. The acquisition of AGL enabled SO to capture the changing dynamic of natural gas consumption, which facilitated additional growth opportunities for the utility.

Deleveraging Targets at deal close: SO targeted a return to credit metrics commensurate with their ratings at the time the transaction was announced by 2019.

Timing	
Date announced:	Aug 24th, 2015
Date funded:	May19th, 2016
Date closed:	Jul 1st, 2016
Sizing	
Deal size:	$11.9bn
IG bond issuance:	$6.8bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

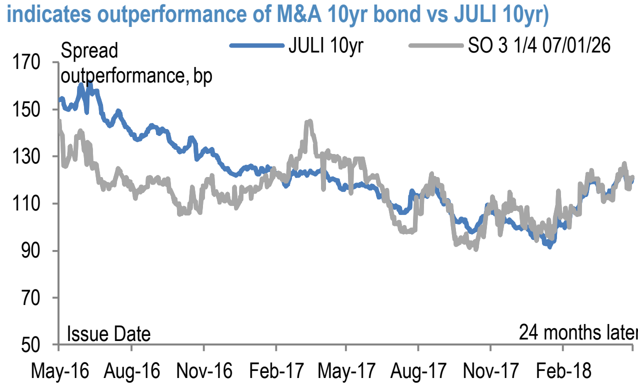


Exhibit 1: Rating trends

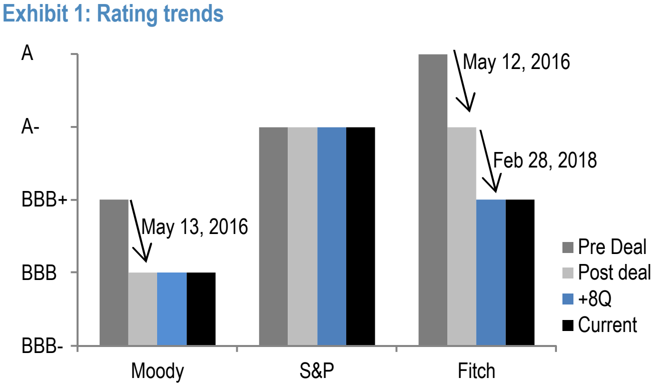
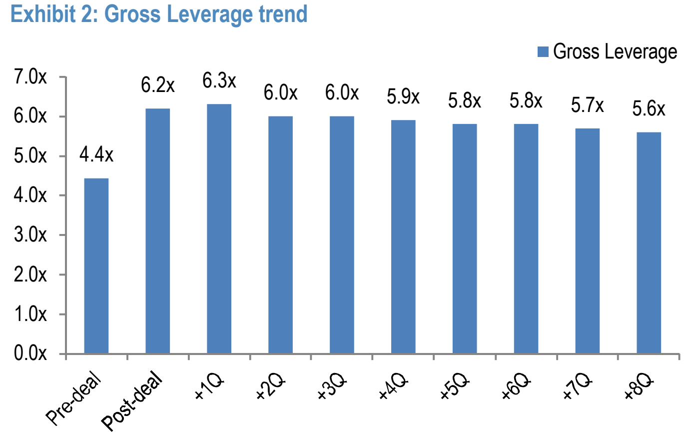


Exhibit 2: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Charter acquires Time Warner Cable

Brian Turner [AC] *– (212) 834-4035; brian.m.turner@jpmorgan.com*
Dean Ash – (212) 834- 2641; dean.l.ash@jpmorgan.com

Charter announced the acquisition of TWC on May 26, 2015, in a cash/stock deal valued at $78.7bn. Funding for the deal included $19bn in new senior secured debt, in addition to term loans and HY debt. Charter structured the capital structure for the deal with the intention of maintaining access to long-dated low-cost financing in the investment grade market. Additionally, the company committed to maintain IG index eligibility for the legacy TWC notes and new secured notes. Charter's leverage post close was approx. 4.4x gross and has remained relatively flat since the acquisition, at the higher end of management's initial target leverage guidance. The secured debt has also remained in line with management's initial targets at slightly below 3.5x. The business case for acquiring TWC was focused on increased scale. With TWC, Charter significantly increased their geographical footprint, allowing new Charter to compete with national competitors. Pro forma for the transaction, Charter now would pass through approx. 48 million homes and become the second-largest U.S. cable company behind Comcast. Additionally, Charter/TWC stood to gain from growth in video and broadband as Charter's penetration in both areas was previously hovering below industry levels. While the increased scale has been a positive for Charter, secular weakness in the cable business due to cord cutting has led to declining video subscriber numbers. However, the broadband side of the business has been strong as increased data usage and demand for higher internet speeds have driven better profitability.

Purpose of Transaction: Charter acquired TWC with the goal of achieving national scale and a competitive advantage in video and broadband, which would allow the company to increase product offerings with a wide array of consumer and commercial customers.

Deleveraging Targets at deal close: Target total leverage of 4.0x-4.5x, ±0.5x to enable strategic activity, and secured leverage of approximately 3.5x

Timing	
Date announced:	May 26th, 2015
Date funded:	Jul 9th, 2015
Date closed:	May 18th, 2016
Sizing	
Deal size:	$78.7bn
IG bond issuance:	$19.0bn

Exhibit 1: Rating trends

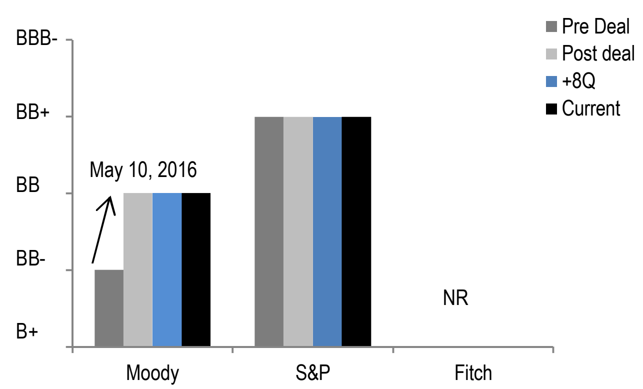
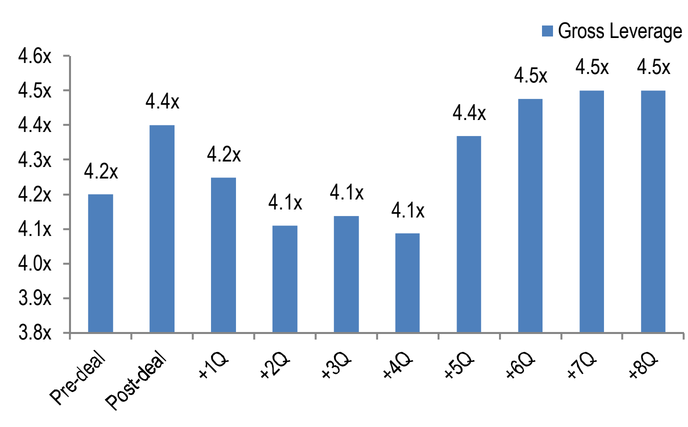


Exhibit 2: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Eric Beinstein
(1-212) 834-4211
eric.beinstein@jpmorgan.com

Newell Rubbermaid and Jarden Corporation Merger

Ginger Chambless [AC] *– (212) 834-5481; virginia.chambless@jpmorgan.com*
Jenny Feng – (212) 834-5479; jenny.feng@jpmorgan.com

When Newell announced its acquisition of Jarden in late 2015, the strategic rationale was for the combination to bring together two strong portfolios of branded consumer and household products, add significant scale and cost synergy opportunities. NWL expected the deal to be immediately accretive to normalized earnings and to deliver $500mn of run rate synergies within four years. The combined company was estimated to generate $16bn of revenue and approximately $3bn of EBITDA (post synergies). NWL's leverage increased from 3x pre-deal to 4.5x post deal, and it committed to de-lever to 3-3.5x in two to three years, with planned repayment of $1.5bn of term loan borrowings and $900mn of maturities as well as capturing cost synergies. While NWL has reduced outstanding debt by $6bn since closing the transaction in April 2016 and was successful in achieving $568mn of cost synergies/savings in 2016-2017, leverage has only slightly improved due to weaker underlying business performance and divestitures. In addition, NWL announced a major business transformation strategy in March 2018 including divestment of a significant portion of its portfolio (35% of revenues) for expected net cash proceeds of $9bn (original expectation for $10bn). NWL used $3.5bn of asset sale proceeds in 2018 to reduce debt.

Purpose of Transaction: To add scale, diversification and cost synergy opportunities.

Deleveraging Targets at deal close: 3-3.5x gross debt/EBITDA two to three years after the close

Timing	
Date announced:	Dec 14th, 2015
Date funded:	Mar 18th, 2016
Date closed:	Apr 15th, 2016
Sizing	
Deal size:	$17.9bn
IG bond issuance:	$8.0bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

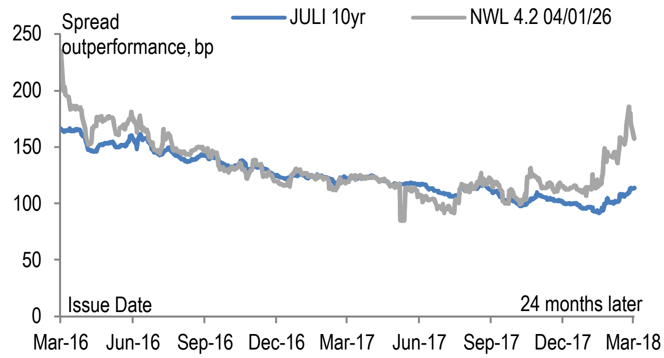


Exhibit 2: Rating trends

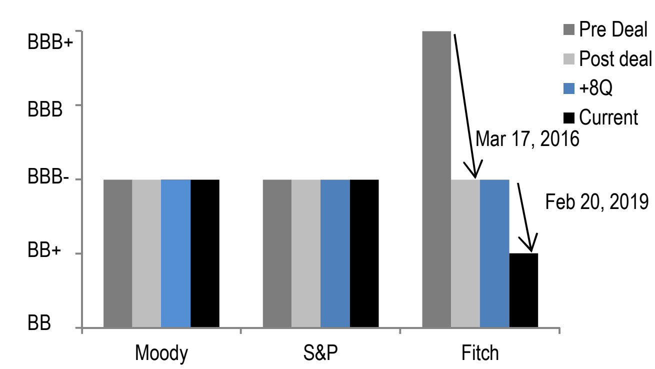


Exhibit 3: Gross Leverage trend

Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Avago acquires Broadcom

Brian Turner [AC] *– (212) 834-4035; brian.m.turner@jpmorgan.com*
Dean Ash – (212) 834- 2641; dean.l.ash@jpmorgan.com

Avago announced on May 28, 2015, their intentions to acquire Broadcom for a total consideration of $37 billion. Financing for the deal included 140 million new shares valued at $20bn, $9bn of new debt, and $8bn of company cash. Avago initially issued term loans to fund the debt portion of the deal, which were then exchanged out for IG unsecured bonds. The acquisition would create the third largest semiconductor company, trailing only Intel and Qualcomm in revenue (LTM) at the time of acquisition. Importantly, Broadcom provided further diversification into the Infrastructure & Networking and Broadband & Connectivity product areas. The opportunity within Networking for Data Centers has proved to be extremely valuable for the combined companies as the area is one of the fastest growing within the semiconductor space. Pro forma for the transaction, leverage post close was 2.9x on a gross basis and 2.6x net. Avago announced intentions to de-lever to approximately 2x leverage. The acquisition has been very successful from both a business and financial perspective as the added densification of Broadcom has proven vital in driving growth in the ever-changing semiconductor industry. Furthermore, Avago successfully de-levered to the stated goal of approximately 2x. However, soon after de-levering from the Broadcom transaction, Avago announced the purchase of Brocade for $5.9bn. The acquisition ticked up leverage .3x to 2.3x for a brief period before de-leveraging once again to approximately 1.9x. The Brocade transaction strengthened Avago's position in enterprise data centers and enhanced the companies FCF profile.

Purpose of Transaction: Avago acquired Broadcom to provide diversification into the Infrastructure/Networking and Broadband/Connectivity product areas

Deleveraging Targets at deal close: Avago announced intentions to de-lever to approximately 2x gross leverage

Timing	
Date announced:	May 28th, 2015
Date funded:	Aug 8th, 2015
Date closed:	Feb 2nd, 2016
Sizing	
Deal size:	$37.0bn
IG bond issuance:	$9.0bn

Exhibit 1: Rating trends

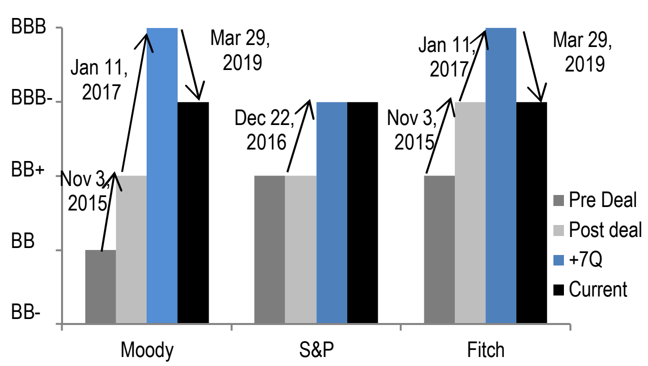
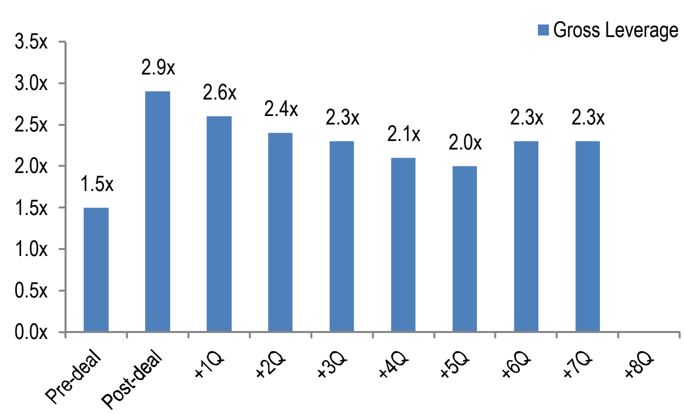


Exhibit 2: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Intel Corp acquires Altera Corp

Brian Turner [AC] *– (212) 834-4035; brian.m.turner@jpmorgan.com*
Dean Ash – (212) 834- 2641; dean.l.ash@jpmorgan.com

Intel announced the acquisition of Altera on June 1st 2015 in an all cash transaction valued at approx. $16.7bn. The cash portion was funded with a combination of new debt and existing balance sheet cash. Both S&P and Moody's affirmed Intel ratings following the acquisition, highlighting the positive business profile impact of the deal and Intel's exceptional liquidity. Leverage increased to approx. 1x after the transaction. The acquisition of Altera was an important step for Intel to diversify away from the declining PC business, refocusing company efforts on cloud computing. Altera specializes in configurable field programmable gate arrays (FPGAs), which are an essential (and high margin) component in the very profitable data center market. We believe the Altera business is very well positioned to take advantage of the high growth and compute intensive IoT/autonomous driving applications amidst record levels of capex spending from cloud service providers. Leverage has remained relatively stable at Intel with the company acquiring Mobileye in 2017 using around $15bn of offshore cash.

Purpose of Transaction: Intel purchased Altera to diversify away from the declining PC business and focus on cloud computing

Deleveraging Targets at deal close: NA

Timing	
Date announced:	Jun 1st, 2015
Date funded:	Jul 22nd, 2015
Date closed:	Dec 29th, 2015
Sizing	
Deal size:	$16.7bn
IG bond issuance:	$7.0bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

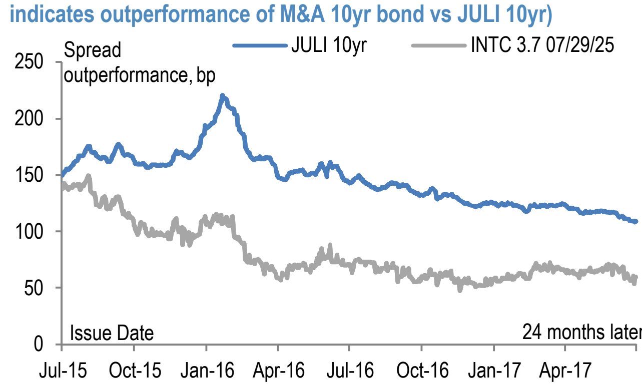


Exhibit 2: Rating trends

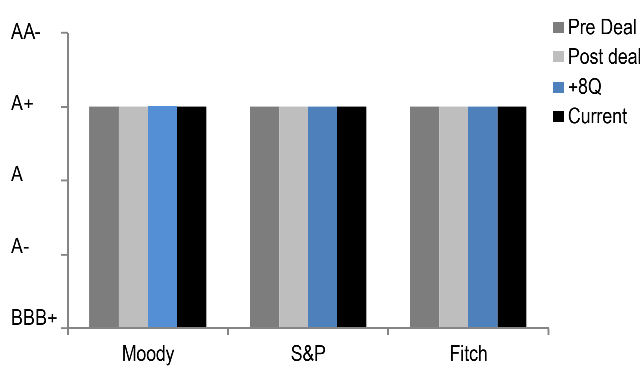
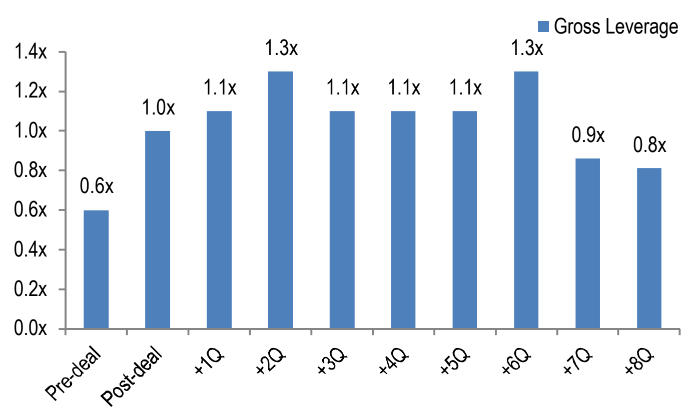


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Lockheed Martin acquires Sikorsky Aircraft Corporation

Ginger Chambless [AC] *– (212) 834-5481; virginia.chambless@jpmorgan.com*
Jenny Feng – (212) 834-5479; jenny.feng@jpmorgan.com

Lockheed Martin acquired Sikorsky from United Technologies in November 2015 for $9bn in cash. The transaction was initially funded with $6.0bn of borrowings under LMT's 364-day revolver, commercial paper and cash on hand, which was later replaced with $7bn of IG issuance. The acquisition of Sikorsky was expected to benefit LMT through diversification and growth into the large helicopter market segment which had a mix of commercial and military customers both domestic and international. Although Lockheed took a one notch downgrade for the acquisition of Sikorsky and leverage increased ~1x, management made a commitment to strong IG ratings at high BBB with a longer term goal of getting back to low A. Lockheed has repaid about $1.1bn of debt since the close of the Sikorsky transaction. Leverage has steadily improved to 1.7x on the debt reduction and also strong earnings growth over the last few years. LMT's improving credit profile has been reflected in positive rating actions by S&P and Fitch, which have raised their outlooks on Lockheed's BBB+ ratings to Positive in April-May 2018.

Purpose of Transaction: To add diversification and expansion into the large helicopter market segment

Deleveraging Targets at deal close: Not specified, expect gradual deleveraging

Timing	
Date announced:	Jul 20th, 2015
Date funded:	Nov 16th, 2015
Date closed:	Nov 6th, 2015
Sizing	
Deal size:	$9.0bn
IG bond issuance:	$7.0bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

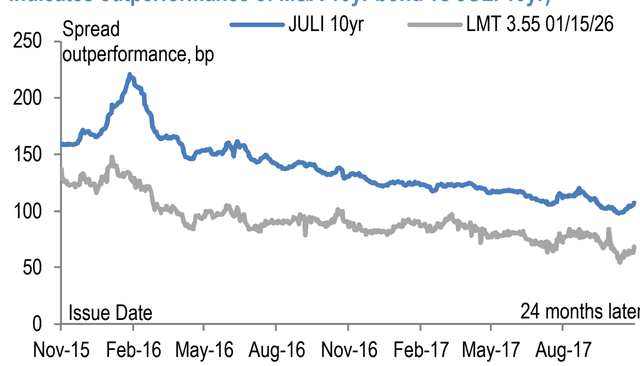


Exhibit 2: Rating trends

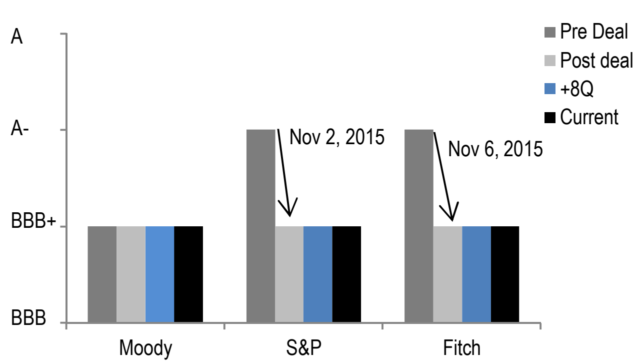
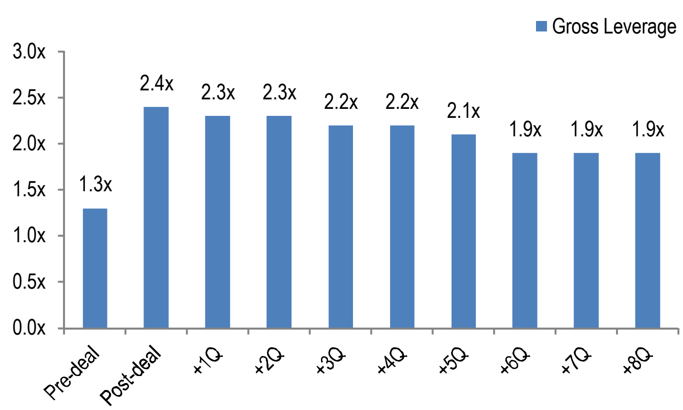


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Eric Beinstein
(1-212) 834-4211
eric.beinstein@jpmorgan.com

CVS Health Corp acquires Omnicare Inc

Brett G. Gibson [AC] *– (212) 270-7484; brett.g.gibson@jpmorgan.com*

In May 2015, CVS agreed to acquire Omnicare for $11.3bn and one month later announced it would acquire Target Corp's pharmacy and clinic businesses for $1.9bn. CVS funded both acquisitions collectively through a July 2015 issuance. Management targeted returning leverage to 2.7x in the long term and maintained a high-BBB rating. In 2016 due to stronger than anticipated FCF, management paid down debt ahead of schedule and therefore said it would leave leverage "constant" in 2017 and forego debt paydown until 2018. In December 2017, CVS announced the acquisition of AET, further delaying and changing the company's plans to return rent adjusted leverage to the low-3.0x level. Overall, management was happy with the integration of businesses as they set up CVS's pivot to healthcare. In August 2018, CVS took a $3.9bn goodwill impairment charge related to the Omnicare business reflected "industry-wide financial challenges" leading to lower growth than expected. In 4Q18, the company recorded another $2.2bn goodwill impairment charge related to the acquisition reflecting continued weakness, specifically related to the skilled nursing facilities. CVS is working to improve operating performance at Omnicare and expects performance will "stabilize and improve" going forward.

Purpose of Transaction: CVS acquired Omnicare, Inc. expanding its specialty pharmacy care to a new dispensing channel, long-term care pharmacy. One month later, CVS announced the acquisition of the pharmacy and clinic business of Target Corp, acquiring 1,672 pharmacies across 47 states, expanding its footprint in the United States.

Deleveraging Targets at deal close: Long-term 2.7x adjusted debt-to-EBITDA.

Timing	
Date announced:	May 21st, 2015
Date funded:	Jul 13th, 2015
Date closed:	Aug 18th, 2015
Sizing	
Deal size:	$11.3bn
IG bond issuance:	$11.3bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

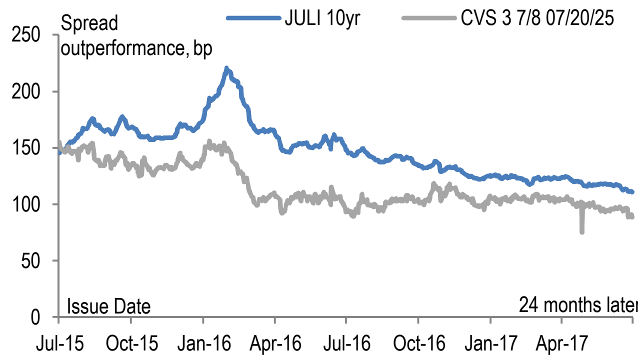


Exhibit 2: Rating trends

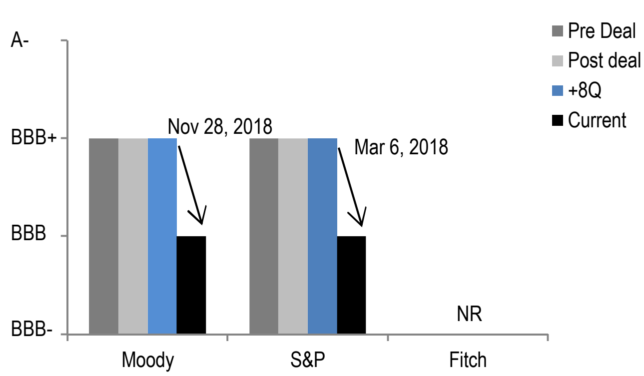
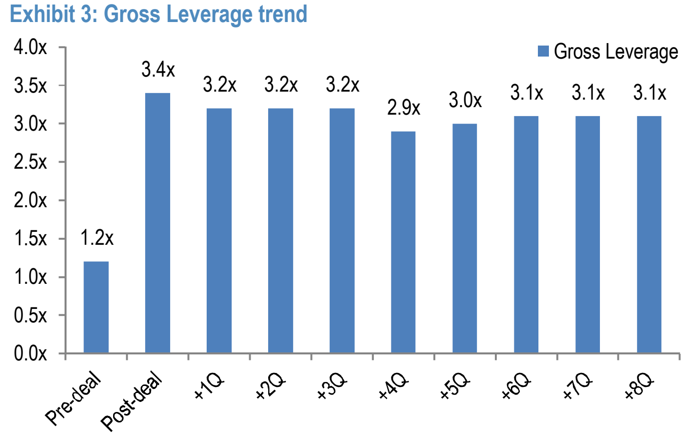


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

UnitedHealth Group acquires Catamaran Corp

Brett G. Gibson [AC] – (212) 270-7484; brett.g.gibson@jpmorgan.com

Catamaran was the largest acquisition in the company's history and took leverage to never before seen levels. Unlike many other Healthcare companies, however, UNH has never focused on its debt/EBITDA ratio, rather managing towards a debt-to-capital target ratio. Debt-to-capital increased from about 35% pre-deal to about 49% upon funding the deal. Over the next 5 quarters, the company increased debt by about $2bn but saw their leverage ratio decline to about 46% by the end of 2016. In 2017 the company focused more fully on debt pay down and reduced debt-to-capital below 40% in 3Q17, two years post deal close, thus achieving the company's deleveraging goal. The acquisition has allowed for added scale to UNH and has helped maintain its spot as a leader in the ever changing Healthcare service industry as the space continues to evolve.

Purpose of Transaction: The acquisition of PBM Catamaran increased UNH's PBM scale, allowing it to gain greater purchasing/operating efficiencies.

Deleveraging Targets at deal close: Debt-to-cap below 40%

Timing	
Date announced:	Mar 30th, 2015
Date funded:	Jul 20th, 2015
Date closed:	Jul 28th, 2015
Sizing	
Deal size:	$13.2bn
IG bond issuance:	$10.5bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

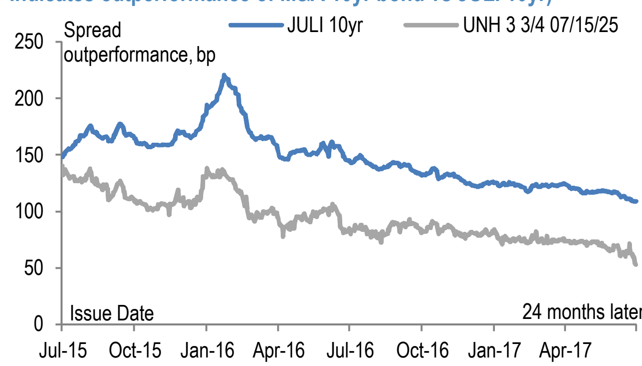


Exhibit 2: Rating trends

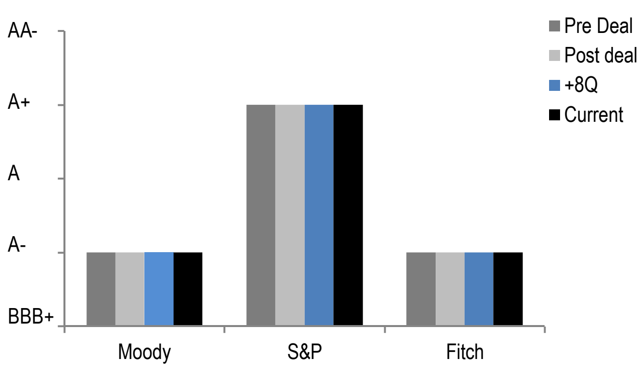
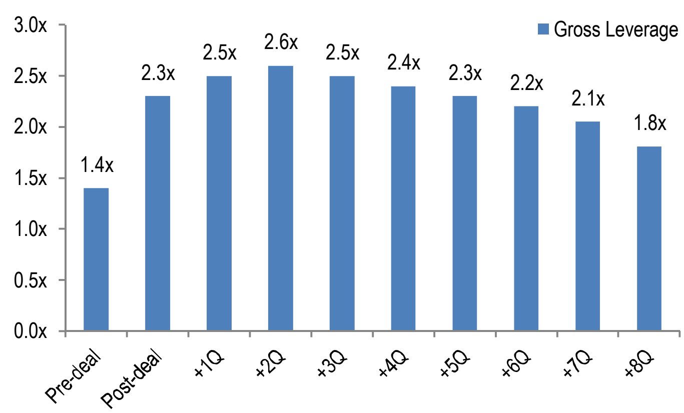


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

HJ Heinz Corp merges with Kraft Foods Group Inc

Ginger Chambless [AC] – (212) 834-5481; virginia.chambless@jpmorgan.com
Jenny Feng – (212) 834-5479; jenny.feng@jpmorgan.com

HJ Heinz and Kraft Foods Group merged in July 2015 with KRFT shareholders receiving a $16.50/share special cash dividend and equity in the combined company, representing 49% ownership. The $16.50 dividend was funded by a cash investment of $10bn by 3G and Berkshire, which own the other 51% of the combined company. There was no incremental debt added to the capital structure as part of the transaction, but combined leverage rose due to the higher leveraged Heinz. The merger was expected to strategically benefit both sides through increased revenue and EBITDA scale, cost synergy opportunities of $1.5bn within two years and strong cash flow generation. Other strategic benefits included the potential to expand Kraft's brands internationally through Heinz's infrastructure and a path to a more sustainable long term capital structure. Management provided a very clear commitment to an investment grade credit profile including plans to de-lever. A debt pay down commitment of $2bn within two years was met, but some debt has been added back and weaker EBITDA has caused leverage to stay elevated above 4x its medium term net leverage target of 3x. In conjunction with reporting weaker than expected 2018 results, KHC announced the reduction of its quarterly dividend by ~36% to free up ~$1.1bn of cash flow annually and also committed to using planned and potential asset sale proceeds for debt reduction. KHC remains focused on strengthening its balance sheet and improving its investment grade status.

Purpose of Transaction: Increased scale, cost synergies, international growth, and long term capital structure.

Deleveraging Targets at deal close: Repay $2bn of debt in first two years; medium term net leverage of <3x

Timing	
Date announced:	Mar 25th, 2015
Date funded:	Jun 23rd, 2015
Date closed:	Jul 2nd, 2015
Sizing	
Deal size:	$55.4bn
IG bond issuance:	$10.0bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

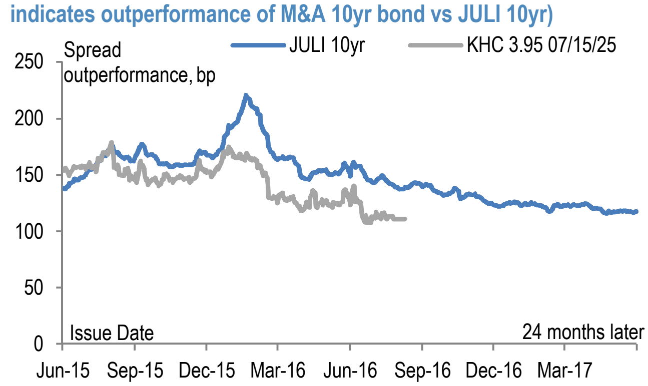


Exhibit 2: Rating trends

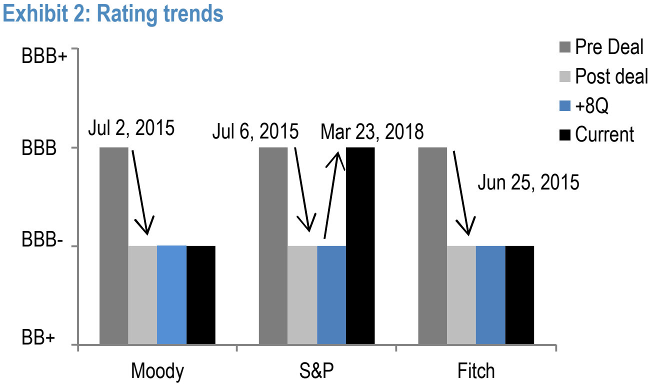
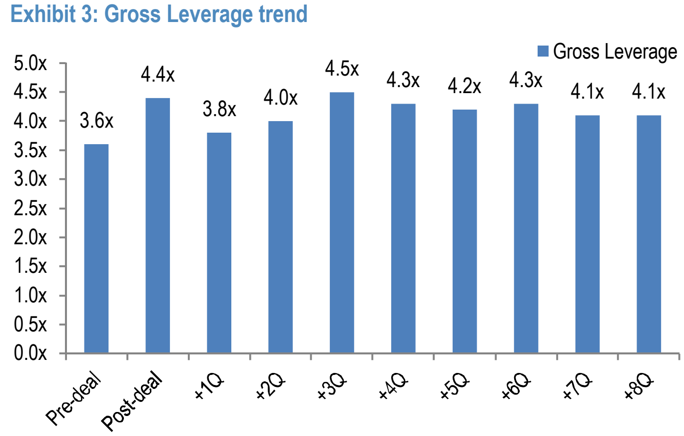


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Siemens acquires Dresser-Rand Group

Ginger Chambless [AC] *– (212) 834-5481; virginia.chambless@jpmorgan.com*
Jenny Feng – (212) 834-5479; jenny.feng@jpmorgan.com

Siemens acquired Dresser Rand in mid-2015 in an all cash transaction for $7.6bn valuing the enterprise at 16x EBITDA. The acquisition was meant to strengthen Siemens' portfolio for the oil & gas industry and also distributed power and expand its presence in the US. While the timing of the acquisition was sub-optimal due to a downturn in oil & gas markets beginning in the second half of 2015, Siemens was able to increase its expected synergy target from more than €150 million in annual synergies by 2019 to €250 million. Leverage has declined modestly since the transaction was closed. Challenges in other business areas (power generation) and portfolio changes have altered the composition of the company since the Dresser Rand acquisition. Siemens continues to maintain a very strong credit profile with 0.7x net leverage at the Industrial company currently which is in line with its target of <1x. Siemens does not have a stated credit ratings target, but its leverage target of <1x is in line with a single A rating.

Purpose of Transaction: To enhance Siemens product portfolio for the oil & gas industry, gain US exposure

Deleveraging Targets at deal close: <1x net leverage

Timing	
Date announced:	Sep 21st, 2014
Date funded:	May 18th, 2015
Date closed:	Jul 1st, 2015
Sizing	
Deal size:	$7.6bn
IG bond issuance:	$7.6bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

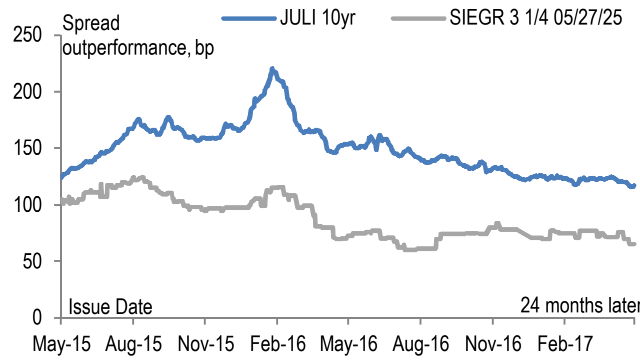


Exhibit 2: Rating trends

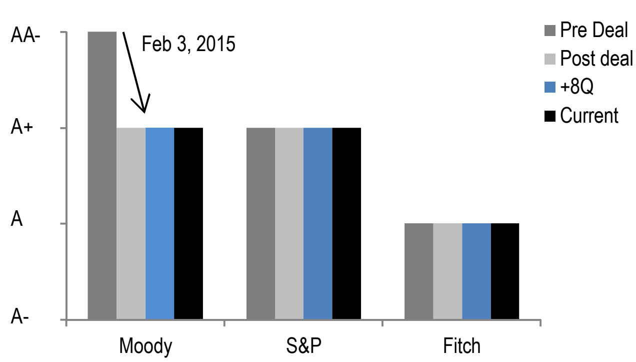


Exhibit 3: Gross Leverage trend

Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

AbbVie Inc acquires Pharmacyclics Inc

Brett G. Gibson [AC] – (212) 270-7484; brett.g.gibson@jpmorgan.com

AbbVie acquired Pharmacyclics for roughly $20bn and gave the existing stockholders of Pharmacyclics an option to elect 100% cash, 100% stock or a mix of cash and stock. Promptly after the close of the transaction the company completed a $5bn stock repurchase program to repurchase half of the equity issued in the transaction. The debt financing was used to support both the share repurchase as well as the original debt financing. Pharmacyclics, manufacturer of oncology drug IMBRUVICA, was acquired to add diversity to ABBV's Humira concentration. Management never set out a leverage target or deleverging path but the company's ratings at the time were sustained due to the significant EBITDA growth ABBV was experiencing. This growth allowed the company to delever from the PF leverage of 4.4x (LTM 12/31/2014) to 3.4x by the end of 2Q15. In April 2016, ABBV announced an agreement to acquire Stemcentrx for $5.8bn, funding the acquisition 100% in debt. Subsequent to the announced transaction both Moody's and S&P downgraded ABBV's credit rating by one notch. While IMBRUVICA has performed well since the acquisition, the company's perceived concentration risk related to Humira continues to be a core concern among investors.

Purpose of Transaction: To grow AbbVie's late-stage pipeline in the hematological oncology space.

Deleveraging Targets at deal close: NA

Timing	
Date announced:	Mar 4th, 2015
Date funded:	May 5th, 2015
Date closed:	May 27th, 2015
Sizing	
Deal size:	$19.8bn
IG bond issuance:	$16.7bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

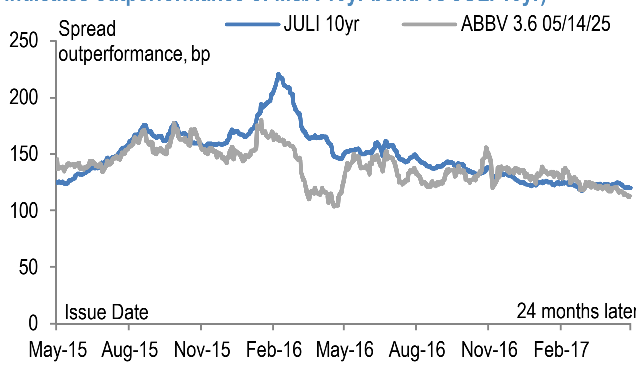


Exhibit 2: Rating trends

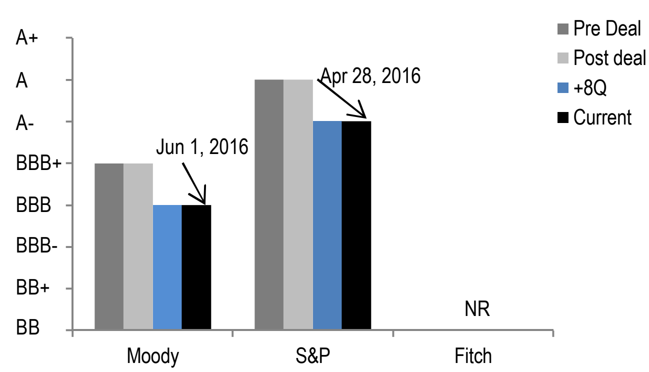
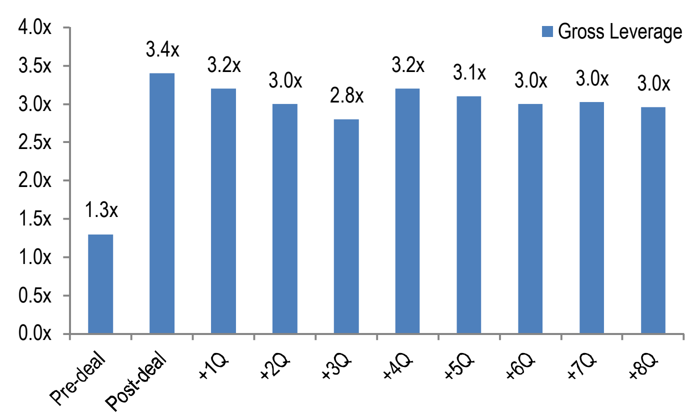


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Becton Dickinson acquires CareFusion Corp

Brett G. Gibson [AC] *– (212) 270-7484; brett.g.gibson@jpmorgan.com*

BDX's $12.2bn acquisition of CareFusion led to a two notch downgrade from both S&P and Moody's, as the company's post acquisition target leverage was significantly higher than the previously guided range. Over the next two years the company stayed on track to deliver on synergy expectations and hit its leverage target in the early part of 2017. About the same time it achieved its leverage target BDX announced it would acquire CR Bard for $24.1bn. Following the close of the acquisition, Moody's downgraded BDX's credit rating another two notches to Ba1 due to three reasons: 1) the size of the deal, which quickly followed CFN; 2) very high pro-forma leverage; and 3) a view that deleveraging to IG levels would take longer than what the rating agency felt was acceptable. S&P left the ratings at an Investment Grade level while Fitch, who previously did not rate BDX, later assigned a first time rating of BBB-. As of the 2Q18 earnings call, BDX surpassed its $250mn cost synergy target for CareFusion, recognizing $350mn of synergies and said it is on track with the integration of CR Bard and "delivering on financial commitments." Later on the 4Q18 call BDX said it expects CareFusion revenue synergies of $150-$175mn by YE19 and continues to be committed to getting below 3.0x leverage over 3 years after the BCR transaction.

Purpose of Transaction: Expand operations to include Medical Systems and Procedural Solutions. The combination was thought to enable a simpler more effective parenteral drug delivery.

Deleveraging Targets at deal close: 3.0x within 2 years

Timing	
Date announced:	Oct 5th, 2014
Date funded:	Dec 4th, 2014
Date closed:	Mar 17th, 2015
Sizing	
Deal size:	$12.2bn
IG bond issuance:	$6.2bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

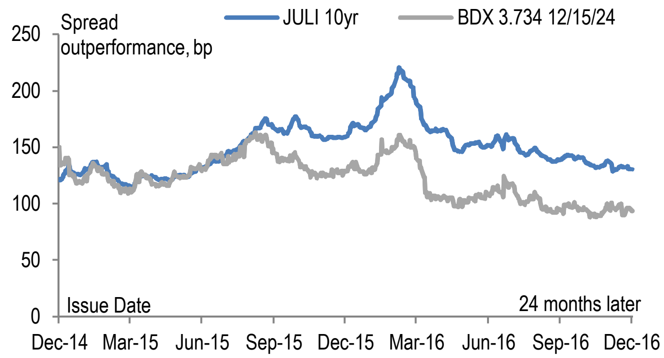


Exhibit 2: Rating trends

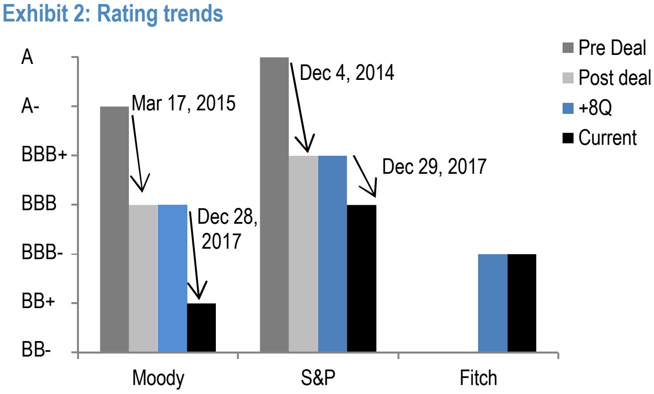
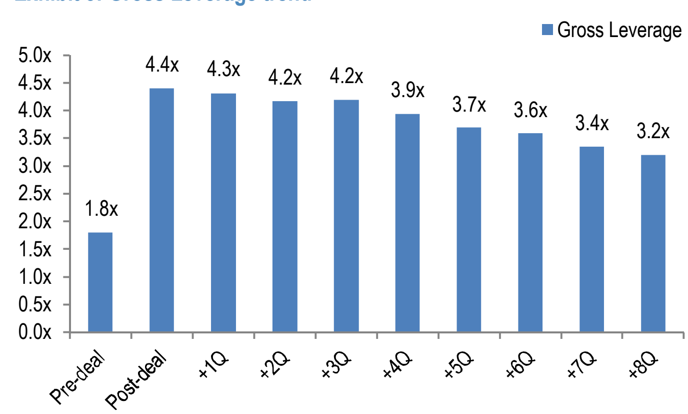


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch
Fitch initiated the rating on 5/4/17

Actavis PLC acquires Allergan Inc

Brett G. Gibson [AC] – (212) 270-7484; brett.g.gibson@jpmorgan.com

ACT used the transaction to change its name and ticker to Allergan and AGN as part of a broad re-branding effort. In addition, three months after the close of the transaction, AGN agreed to divest its generic drug business to TEVA for $39.6bn. With the divestiture the company's deleveraging originally slowed as the company waited to close the transaction, though once closed net leverage dropped precipitously. As part of the generic drug business divestment to TEVA, the company used $8bn of proceeds to pay down debt. Note that the company's leverage goal was on a net-basis and while it did achieve its 18 month target, the 12 month target was pushed back until the close of the TEVA divestment that occurred 15 months post close of the original acquisition. Gross leverage further declined thereafter, as the company continued to pay down debt as it matured. As of 4Q18, while some of the small acquisitions the company made in the wake of the Generics sale have not worked out as expected, the company has reduced gross and net leverage to 3.0x and 2.8x, respectively, (much of this through open market repurchases) and is pursuing a target net leverage ratio of 2.5x by YE20.

Purpose of Transaction: ACT acquired AGN to create a top 10 global growth pharmaceutical company.

Deleveraging Targets at deal close: Net leverage of 3.5x 12 months post close & 3.0x 18 months post close.

Timing	
Date announced:	Nov 17th, 2014
Date funded:	Mar 3rd, 2015
Date closed:	Mar 17th, 2015
Sizing	
Deal size:	$65.0bn
IG bond issuance:	$21.0bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

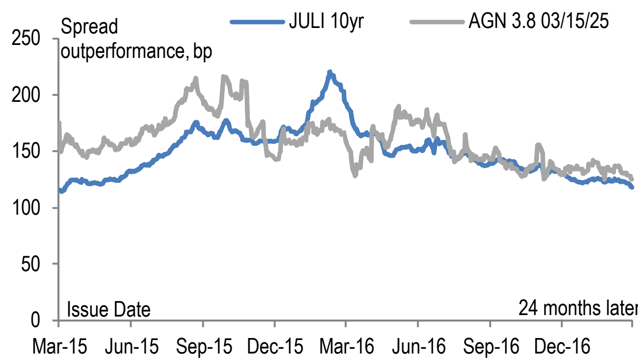


Exhibit 2: Rating trends

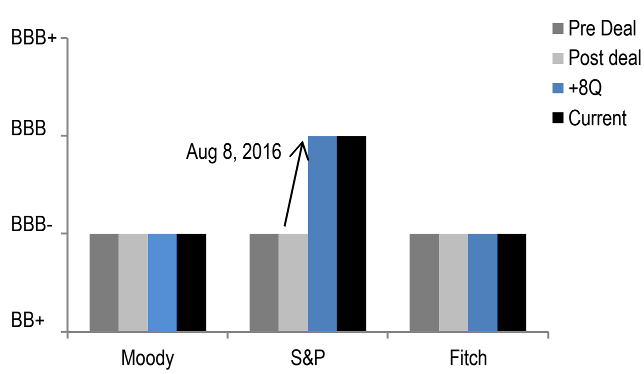
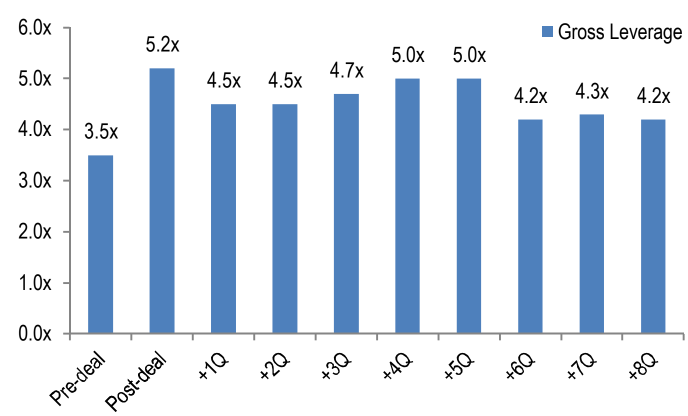


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Bayer acquires Merck consumer care unit

Jemma Permalloo AC – 44-207-134-8153; jemma.permalloo@jpmorgan.com

At the close of the Merck OTC acquisition, Bayer committed to maintaining a single-A rating, which aligned with having leverage sustained below 2.0x. The OTC business added scale and diversification to the company and was integrated on track with management expectations. Management initially delivered on deleveraging goals and keeping the single-A rating, but less than two years post-close the company signed an agreement to acquire MON for $63bn which resulted in multiple notches of downgrades.

Purpose of Transaction: To build the company's non-prescription medicines business. After close the company held the #2 Global market share and #1 US market share in the Consumer healthcare markets.

Deleveraging Targets at deal close: Committed to maintaining single A ratings

Timing	
Date announced:	May 6th, 2014
Date funded:	Oct 1st, 2014
Date closed:	Oct 10th, 2014
Sizing	
Deal size:	$14.2bn
IG bond issuance:	$7.0bn

Exhibit 1: 10yr M&A funding deal bond vs JULI 10yr (Larger number indicates outperformance of M&A 10yr bond vs JULI 10yr)

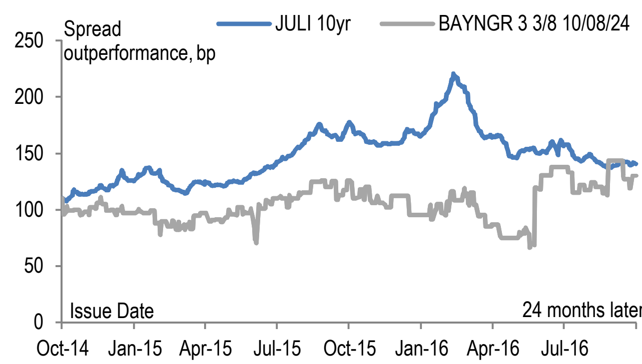


Exhibit 2: Rating trends

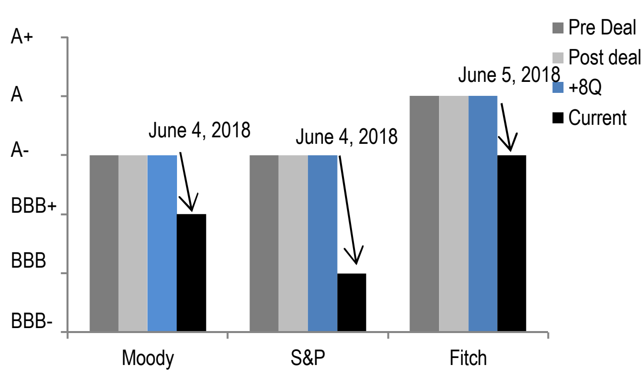
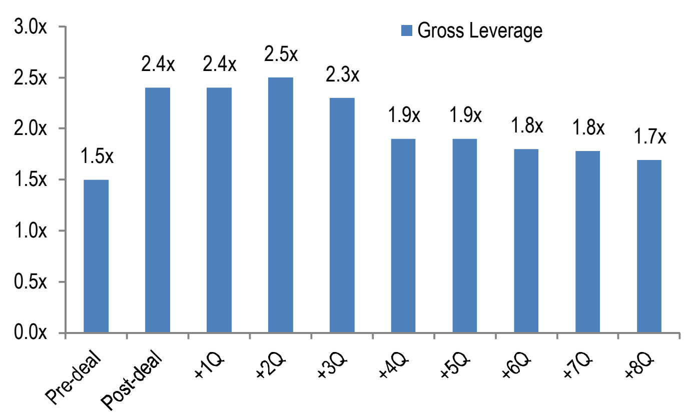


Exhibit 3: Gross Leverage trend



Source: J.P. Morgan, Capital I.Q., Moody's, S&P and Fitch

Analyst Certification: All authors named within this report are research analysts unless otherwise specified.The research analyst(s) denoted by an "AC" on the cover of this report certifies (or, where multiple research analysts are primarily responsible for this report, the research analyst denoted by an "AC" on the cover or within the document individually certifies, with respect to each security or issuer that the research analyst covers in this research) that: (1) all of the views expressed in this report accurately reflect his or her personal views about any and all of the subject securities or issuers; and (2) no part of any of the research analyst's compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed by the research analyst(s) in this report. For all Korea-based research analysts listed on the front cover, they also certify, as per KOFIA requirements, that their analysis was made in good faith and that the views reflect their own opinion, without undue influence or intervention.

Important Disclosures

Company-Specific Disclosures: Important disclosures, including price charts and credit opinion history tables, are available for compendium reports and all J.P. Morgan–covered companies by visiting https://www.jpmm.com/research/disclosures, calling 1-800-477-0406, or e-mailing research.disclosure.inquiries@jpmorgan.com with your request. J.P. Morgan's Strategy, Technical, and Quantitative Research teams may screen companies not covered by J.P. Morgan. For important disclosures for these companies, please call 1-800-477-0406 or e-mail research.disclosure.inquiries@jpmorgan.com.

Explanation of Credit Research Valuation Methodology, Ratings and Risk to Ratings:
J.P. Morgan uses a bond-level rating system that incorporates valuations (relative value) and our fundamental view on the security. Our fundamental credit view of an issuer is based on the company's underlying credit trends, overall creditworthiness and our opinion on whether the issuer will be able to service its debt obligations when they become due and payable. We analyze, among other things, the company's cash flow capacity and trends and standard credit ratios, such as gross and net leverage, interest coverage and liquidity ratios. We also analyze profitability, capitalization and asset quality, among other variables, when assessing financials. Analysts also rate the issuer, based on the rating of the benchmark or representative security. Unless we specify a different recommendation for the company's individual securities, an issuer recommendation applies to all of the bonds at the same level of the issuer's capital structure. This report also sets out within it the material underlying assumptions used.

We use the following ratings for bonds (issues) and issuers: Overweight (over the next three months, the recommended risk position is expected to outperform the relevant index, sector, or benchmark); Neutral (over the next three months, the recommended risk position is expected to perform in line with the relevant index, sector, or benchmark); and Underweight (over the next three months, the recommended risk position is expected to underperform the relevant index, sector, or benchmark). J.P. Morgan Emerging Markets Sovereign Research uses Marketweight, which is equivalent to Neutral. NR is Not Rated. In this case, J.P. Morgan has removed the rating for this particular security or issuer because of either a lack of a sufficient fundamental basis or for legal, regulatory or policy reasons. The previous rating no longer should be relied upon. An NR designation is not a recommendation or a rating. NC is Not Covered. An NC designation is not a rating or a recommendation.

For CDS, we use the following rating system: Long Risk (over the next three months, the credit return on the recommended position is expected to exceed the relevant index, sector or benchmark); Neutral (over the next three months, the credit return on the recommended position is expected to match the relevant index, sector or benchmark); and Short Risk (over the next three months, the credit return on the recommended position is expected to underperform the relevant index, sector or benchmark).

J.P. Morgan Credit Research Ratings Distribution, as of April 06, 2019

	Overweight	Neutral	Underweight
Global Credit Research Universe	25%	58%	17%
IB clients*	67%	63%	57%

*Percentage of subject companies within each of the "buy," "hold" and "sell" categories for which J.P. Morgan has provided investment banking services within the previous 12 months.
The Credit Research Rating Distribution is at the issuer level. Issuers with an NR or an NC designations are not included in the table above. This information is current as of the end of the most recent calendar quarter.

Analysts' Compensation: The research analysts responsible for the preparation of this report receive compensation based upon various factors, including the quality and accuracy of research, client feedback, competitive factors, and overall firm revenues.

Other Disclosures

J.P. Morgan is a marketing name for investment banking businesses of JPMorgan Chase & Co. and its subsidiaries and affiliates worldwide.

Any data discrepancies in this report could be the result of different calculations and/or adjustments.

Options and Futures related research: If the information contained herein regards options or futures related research, such information is available only to persons who have received the proper options or futures risk disclosure documents. Please contact your J.P. Morgan Representative or visit https://www.theocc.com/components/docs/riskstoc.pdf for a copy of the Option Clearing Corporation's Characteristics and Risks of Standardized Options or http://www.finra.org/sites/default/files/Security_Futures_Risk_Disclosure_Statement_2018.pdf for a copy of the Security Futures Risk Disclosure Statement.

Private Bank Clients: Where you are receiving research as a client of the private banking businesses offered by JPMorgan Chase & Co. and its subsidiaries ("J.P. Morgan Private Bank"), research is provided to you by J.P. Morgan Private Bank and not by any other division of J.P. Morgan, including but not limited to the J.P. Morgan corporate and investment bank and its research division.

Legal Entities Disclosures
U.S.: JPMS is a member of NYSE, FINRA, SIPC and the NFA. JPMorgan Chase Bank, N.A. is a member of FDIC. **Canada**: J.P. Morgan Securities Canada Inc. is a registered investment dealer, regulated by the Investment Industry Regulatory Organization of Canada and the Ontario Securities Commission and is the participating member on Canadian exchanges. **U.K**.: JPMorgan Chase N.A., London Branch, is authorised by the Prudential Regulation Authority and is subject to regulation by the Financial Conduct Authority and to limited regulation by the Prudential Regulation Authority. Details about the extent of our regulation by the Prudential Regulation Authority are available from J.P. Morgan on request. J.P. Morgan Securities plc (JPMS plc) is a member of the London Stock Exchange and is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. Registered in England & Wales No. 2711006. Registered Office 25 Bank Street, London, E14 5JP. **Germany**: This material is distributed in Germany by J.P. Morgan Securities plc, Frankfurt Branch which is regulated by the Bundesanstalt für Finanzdienstleistungsaufsich and also by J.P. Morgan AG (JPM AG) which is a member of the Frankfurt stock exchange and is regulated by the Federal Financial Supervisory Authority (BaFin), JPM AG is a company incorporated in the Federal Republic of Germany with registered office at Taunustor 1, 60310 Frankfurt am Main, the Federal Republic of Germany. **South Africa**: J.P. Morgan Equities South Africa Proprietary Limited is a member of the Johannesburg Securities Exchange and is regulated by the Financial Services Board. **Hong Kong**: J.P. Morgan Securities (Asia Pacific) Limited (CE number AAJ321) is regulated by the Hong Kong Monetary Authority and the Securities and Futures Commission in Hong Kong and/or J.P. Morgan Broking (Hong Kong) Limited (CE number AAB027) is regulated by the Securities and Futures Commission in Hong Kong. **Korea**: This material is issued and distributed in Korea by or through J.P. Morgan Securities (Far East) Limited, Seoul Branch, which is a member of the Korea Exchange(KRX) and is regulated by the Financial Services Commission (FSC) and the Financial Supervisory Service (FSS). **Australia**: J.P. Morgan Securities Australia Limited (JPMSAL) (ABN 61 003 245 234/AFS Licence No: 238066) is regulated by ASIC and is a Market, Clearing and Settlement Participant of ASX Limited and CHI-X. **Taiwan**: J.P. Morgan Securities (Taiwan) Limited is a participant of the Taiwan Stock Exchange (company-type) and regulated by the Taiwan Securities and Futures Bureau. **India:** J.P. Morgan India Private Limited (Corporate Identity Number - U67120MH1992FTC068724), having its registered office at J.P. Morgan Tower, Off. C.S.T. Road, Kalina, Santacruz - East, Mumbai – 400098, is registered with Securities and Exchange Board of India (SEBI) as a 'Research Analyst' having registration number INH000001873. J.P. Morgan India Private Limited is also registered with SEBI as a member of the National Stock Exchange of India Limited (SEBI Registration Number - INB 230675231/INF 230675231/INE 230675231), the Bombay Stock Exchange Limited (SEBI Registration Number - INB 010675237/INF 010675237) and as a Merchant Banker (SEBI Registration Number - MB/INM000002970). Telephone: 91-22-6157 3000, Facsimile: 91-22-6157 3990 and Website: www.jpmipl.com. For non local research reports, this material is not distributed in India by J.P. Morgan India Private Limited. **Thailand**: This material is issued and distributed in Thailand by JPMorgan Securities (Thailand) Ltd., which is a member of the Stock Exchange of Thailand and is regulated by the Ministry of Finance and the Securities and Exchange Commission and its registered address is 3rd Floor, 20 North Sathorn Road, Silom, Bangrak, Bangkok 10500. **Indonesia**: PT J.P. Morgan Sekuritas Indonesia is a member of the Indonesia Stock Exchange and is regulated by the OJK a.k.a. BAPEPAM LK. **Philippines**: J.P. Morgan Securities Philippines Inc. is a Trading Participant of the Philippine Stock Exchange and a member of the Securities Clearing Corporation of the Philippines and the Securities Investor Protection Fund. It is regulated by the Securities and Exchange Commission. **Brazil**: Banco J.P. Morgan S.A. is regulated by the Comissao de Valores Mobiliarios (CVM) and by the Central Bank of Brazil. **Mexico**: J.P. Morgan Casa de Bolsa, S.A. de C.V., J.P. Morgan Grupo Financiero is a member of the Mexican Stock Exchange and authorized to act as a broker dealer by the National Banking and Securities Exchange Commission. **Singapore:** This material is issued and distributed in Singapore by or through J.P. Morgan Securities Singapore Private Limited (JPMSS) [MCI (P) 058/04/2019 and Co. Reg. No.: 199405335R], which is a member of the Singapore Exchange Securities Trading Limited and/or JPMorgan Chase Bank, N.A., Singapore branch (JPMCB Singapore) [MCI (P) 046/09/2018], both of which are regulated by the Monetary Authority of Singapore. This material is issued and distributed in Singapore only to accredited investors, expert investors and institutional investors, as defined in Section 4A of the Securities and Futures Act, Cap. 289 (SFA). This material is not intended to be issued or distributed to any retail investors or any other investors that do not fall into the classes of "accredited investors," "expert investors" or "institutional investors," as defined under Section 4A of the SFA. Recipients of this document are to contact JPMSS or JPMCB Singapore in respect of any matters arising from, or in connection with, the document. **Japan**: JPMorgan Securities Japan Co., Ltd. and JPMorgan Chase Bank, N.A., Tokyo Branch are regulated by the Financial Services Agency in Japan. **Malaysia**: This material is issued and distributed in Malaysia by JPMorgan Securities (Malaysia) Sdn Bhd (18146-X) which is a Participating Organization of Bursa Malaysia Berhad and a holder of Capital Markets Services License issued by the Securities Commission in Malaysia. **Pakistan**: J. P. Morgan Pakistan Broking (Pvt.) Ltd is a member of the Karachi Stock Exchange and regulated by the Securities and Exchange Commission of Pakistan. **Saudi Arabia**: J.P. Morgan Saudi Arabia Ltd. is authorized by the Capital Market Authority of the Kingdom of Saudi Arabia (CMA) to carry out dealing as an agent, arranging, advising and custody, with respect to securities business under licence number 35-07079 and its registered address is at 8th Floor, Al-Faisaliyah Tower, King Fahad Road, P.O. Box 51907, Riyadh 11553, Kingdom of Saudi Arabia. **Dubai**: JPMorgan Chase Bank, N.A., Dubai Branch is regulated by the Dubai Financial Services Authority (DFSA) and its registered address is Dubai International Financial Centre - Building 3, Level 7, PO Box 506551, Dubai, UAE. **Russia:** CB J.P. Morgan Bank International LLC is regulated by the Central Bank of Russia. **Argentina:** JPMorgan Chase Bank Sucursal Buenos Aires is regulated by Banco Central de la República Argentina ("BCRA"- Central Bank of Argentina) and Comisión Nacional de Valores ("CNV"- Argentinian Securities Commission")

Country and Region Specific Disclosures
U.K. and European Economic Area (EEA): Unless specified to the contrary, issued and approved for distribution in the U.K. and the EEA by JPMS plc. Investment research issued by JPMS plc has been prepared in accordance with JPMS plc's policies for managing conflicts of interest arising as a result of publication and distribution of investment research. Many European regulators require a firm to establish, implement and maintain such a policy. Further

information about J.P. Morgan's conflict of interest policy and a description of the effective internal organisations and administrative arrangements set up for the prevention and avoidance of conflicts of interest is set out at the following link https://www.jpmorgan.com/jpmpdf/1320742677360.pdf. This report has been issued in the U.K. only to persons of a kind described in Article 19 (5), 38, 47 and 49 of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (all such persons being referred to as "relevant persons"). This document must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this document relates is only available to relevant persons and will be engaged in only with relevant persons. In other EEA countries, the report has been issued to persons regarded as professional investors (or equivalent) in their home jurisdiction. **Australia:** This material is issued and distributed by JPMSAL in Australia to "wholesale clients" only. This material does not take into account the specific investment objectives, financial situation or particular needs of the recipient. The recipient of this material must not distribute it to any third party or outside Australia without the prior written consent of JPMSAL. For the purposes of this paragraph the term "wholesale client" has the meaning given in section 761G of the Corporations Act 2001. J.P. Morgan's research coverage universe spans listed securities across the ASX All Ordinaries index, securities listed on offshore markets, unlisted issuers and investment products which Research management deem to be relevant to the investor base from time to time. J.P. Morgan seeks to cover companies of relevance to the domestic and international investor base across all GIC sectors, as well as across a range of market capitalisation sizes. **Germany:** This material is distributed in Germany by J.P. Morgan Securities plc, Frankfurt Branch which is regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht. **Korea:** This report may have been edited or contributed to from time to time by affiliates of J.P. Morgan Securities (Far East) Limited, Seoul Branch. **Singapore:** As at the date of this report, JPMSS is a designated market maker for certain structured warrants listed on the Singapore Exchange where the underlying securities may be the securities discussed in this report. Arising from its role as designated market maker for such structured warrants, JPMSS may conduct hedging activities in respect of such underlying securities and hold or have an interest in such underlying securities as a result. The updated list of structured warrants for which JPMSS acts as designated market maker may be found on the website of the Singapore Exchange Limited: http://www.sgx.com. In addition, JPMSS and/or its affiliates may also have an interest or holding in any of the securities discussed in this report – please see the Important Disclosures section above. For securities where the holding is 1% or greater, the holding may be found in the Important Disclosures section above. For all other securities mentioned in this report, JPMSS and/or its affiliates may have a holding of less than 1% in such securities and may trade them in ways different from those discussed in this report. Employees of JPMSS and/or its affiliates not involved in the preparation of this report may have investments in the securities (or derivatives of such securities) mentioned in this report and may trade them in ways different from those discussed in this report. **Taiwan**: Research relating to equity securities is issued and distributed in Taiwan by J.P. Morgan Securities (Taiwan) Limited, subject to the license scope and the applicable laws and the regulations in Taiwan. According to Paragraph 2, Article 7-1 of Operational Regulations Governing Securities Firms Recommending Trades in Securities to Customers (as amended or supplemented) and/or other applicable laws or regulations, please note that the recipient of this material is not permitted to engage in any activities in connection with the material which may give rise to conflicts of interests, unless otherwise disclosed in the "Important Disclosures" in this material. **India:** For private circulation only, not for sale. **Pakistan:** For private circulation only, not for sale. **New Zealand:** This material is issued and distributed by JPMSAL in New Zealand only to "wholesale clients" (as defined in the Financial Advisers Act 2008). The recipient of this material must not distribute it to any third party or outside New Zealand without the prior written consent of JPMSAL. **Canada:** This report is distributed in Canada by or on behalf of J.P.Morgan Securities Canada Inc. The information contained herein is not, and under no circumstances is to be construed as an offer to sell securities described herein, or solicitation of an offer to buy securities described herein, in Canada or any province or territory thereof. The information contained herein is under no circumstances to be construed as investment advice in any province or territory of Canada and is not tailored to the needs of the recipient.

General: Additional information is available upon request. Information has been obtained from sources believed to be reliable but JPMorgan Chase & Co. or its affiliates and/or subsidiaries (collectively J.P. Morgan) do not warrant its completeness or accuracy except with respect to any disclosures relative to JPMS and/or its affiliates and the analyst's involvement with the issuer that is the subject of the research. All pricing is indicative as of the close of market for the securities discussed, unless otherwise stated. Opinions and estimates constitute our judgment as of the date of this material and are subject to change without notice. Past performance is not indicative of future results. This material is not intended as an offer or solicitation for the purchase or sale of any financial instrument. The opinions and recommendations herein do not take into account individual client circumstances, objectives, or needs and are not intended as recommendations of particular securities, financial instruments or strategies to particular clients. The recipient of this report must make its own independent decisions regarding any securities or financial instruments mentioned herein. JPMS distributes in the U.S. research published by non-U.S. affiliates and accepts responsibility for its contents. Periodic updates may be provided on companies/industries based on company specific developments or announcements, market conditions or any other publicly available information. Clients should contact analysts and execute transactions through a J.P. Morgan subsidiary or affiliate in their home jurisdiction unless governing law permits otherwise.

"Other Disclosures" last revised April 06, 2019.