BEHIND THE NUMBERS
EARNINGS QUALITY & DIVIDEND SUSTAINABILITY RESEARCH

BTN Research

October 11, 2018 | www.btnresearch.com

Jeff Middleswart
jmiddleswart@btnresearch.com

Bill Whiteside, CFA
bwhiteside@btnresearch.com

Contents

LyondellBasell (LYB)-BUY p. 1
Church & Dwight (CHD) EQ Review p. 19
PepsiCo (PEP) EQ Update p. 28
Danaher (DHR) EQ Preview of Upcoming Quarter p. 28

LyondellBasell (LYB) and A.Schulman Merger – Buy

When we wrote about the merger between Conagra (CAG) and Pinnacle Foods (PF) we noted that it violated three reasons to make an acquisition. Neither company was showing much growth. The price was not cheap. The deal relied heavily on cost-cutting and synergies that appeared to have already been achieved by Pinnacle Foods. The recently completed acquisition of A. Schulman by LyondellBasell (LYB) appears much more likely to succeed as both companies have growth, the price is low, and forecasted cost-cutting and synergies appear realistic.

LYB is trading for about 8x EPS with a 4% dividend that is growing about 10% per year. It has a trailing 12 months EBITDA of $8.5 billion and just added $205 million with Schulman plus potentially another $150 million from synergies. It has projects underway to add another $700 million in EBITDA. That is in addition to end-market growth of about 6%-7%.

- **Chemicals are a growth market. Demand is rising as more people around the world rise to middle class status.** Rising per capita usage is driving demand growth and

keeping capacity operating rates above 90%. There is a big edge in cost from US feedstocks due to fracking.

- **The price of the SHLM deal was not high at 11.0x EBITDA. That EBITDA figure is depressed and forecasted synergies would reduce the price to 6.3x EBITDA.** It adds higher-end growth markets to diversify the LYB business. Streamlining chemical plants is something LYB knows how to do.

- **LYB has a 10+ year history in lowering costs through debottlenecking plants, reducing overhead costs, and increasing its use of lower-priced feedstocks.** It cut $1 billion of fixed costs from its own operations, reduced headcount by 20%, and invested in expanding its base chemical production to supply higher-end applications

- **Revamping SHLM's logistics and procurement is a natural activity for LYB. 35% of the expected synergies are forecast to come from this area. LYB has boosted its base chemical production and has provided lower-cost feedstock to its own divisions for years.** Supplying even modest amounts of SHLM's feedstock internally would make a material change in SHLM operations. Also, being part of a larger buying organization should help SHLM on costs too.

- **SHLM results used in the 11.0x EBITDA figure are depressed. It had a merger blow up in late 2015 due to fraud by the seller. This resulted in sales in this division falling 16% after the acquisition and numerous costs and management focus to correct the issues** with customers, revamp inventory, write-off assets, and ignore growth potential in what SHLM termed The Reset Year. These results are starting to turn up at this point, which is already cutting the multiple LYB paid. This may be $30 million of the $150 million LYB is looking for.

- **SHLM had also started looking at cost savings that materialized after the trailing 12 months of November 2017 used for the 11.0x multiple.** It laid off 120 people saving $11 million and reorganized into three divisions saving $6 million. It had a $3 million payment for supplies it couldn't use – which LYB should correct and $3 million in variable compensation expense since the deal was announced. We think LYB can fix all this – but it's good to see that SHLM is already delivering on cost-cutting.

- **LYB's shareholder-friendly posture should not be impacted by the deal.** The company has a history of boosting the dividend, which only consumes 44% of free cash flow. It can afford to continue buying back stock and debt/EBITDA is only 1.1x.

- **There could be some issues merging inventory.** LYB uses LIFO and average cost for inventory and SHLM uses FIFO and average cost. Both have roughly the same 7x inventory turn and inventory days are about 50. We would expect an inventory step-up for SHLM which would boost its cost of goods sold. We estimate that could be a $20 million headwind in the first year. After that, SHLM is less likely to benefit from inflation if the FIFO is changed.

- **Meshing depreciation schedules will add some tailwind.** LYB depreciates equipment over 25 years and light equipment over 5-20 years. SHLM goes with a 5-10 year schedule. Again, there should be a step in the value of net equipment with the merger. Then, we estimate a $20-$25 million tailwind from lower depreciation or 4-5 cents per share annually.

- **The foreign pensions are very similar in discount rate at 1.5%. We would expect to see both plans enjoy a falling PBO as the rate increases.** LYB does use an expected rate of return that is about 100bp lower but should not cause much of a headwind. We do think SHLM's underfunded percentage of the plan is higher than LYB would want and expect some cash funding in this area of about $40 million over a couple years. That would not be a major issue.

- **The refining operation remains more cyclical than the rest of the business.** LYB has a refinery operation that also provides feedstocks for internal use. All of the business units have some cyclicality due to pricing changes of feedstocks and end products. However, oil moves much more than natural gas and when it undergoes maintenance, there aren't other plants that can pick up the slack. Just FYI – this is an operation that can have a $200 million swing in results from year to year.

Background for Chemical Growth

We talked about the US chemical sector having tremendous long-term growth potential in our January 25, 2018 issue. Here is a quick recap:

Demand is rising for chemicals especially plastics around the world. As more people enter the middle class, per capita consumption will reach 50-70 pounds per year like in North America and Western Europe. India and SE Asia are growing usage but remain at half to

one-third the use of Western countries. China also remains below the West in per capita usage. Those areas are seeing the fastest growth in people becoming middle class as well. There should be decades of increases in per capita use and rising numbers of people becoming consumers. **Annual demand for ethylene has risen over 20% worldwide since 2012.**

The US has a cost advantage over chemical plants around the world. Chemical plants consume natural gas and the US has the cheapest gas in the world. Ethylene and propylene are produced from oil-derivatives. Much of the world uses a refined oil product called naphtha as the raw material for making plastics. In the US, fracking for oil and gas is also producing Natural Gas Liquids (NGLs) like ethane, propane, butane as byproducts. These NGLs can also be used as a feedstock for making ethylene and propylene. When oil prices are high, more oil is drilled and that produces more natural gas and NGLs as byproducts too, which keeps the prices for those feedstocks lower. Given the extra refining and transportation involved via pipeline, the cost edge develops for Gas and NGLs vs. oil feedstocks when the ratio of oil prices to natural gas exceeds 8. Currently, Brent crude is about $84 and West Texas Intermediate about $74. Henry Hub gas in the US is about $3. The ratio is 25-28x easily blowing away the minimum 8x. Gas in the US would need to rise to almost $10 or oil fall to $24 to wreck this situation.

Capacity growth has been slower than demand growth, which is keeping operating rates above 90%. High operating rates help pricing on the output. Given the move in oil prices, there is less new capacity being built in Europe. This situation makes the US plants lower-cost producers while the higher cost oil-based plants are setting the prices with high operating rates. US plants have FX issues with the stronger dollar, but in an inflationary environment for oil and oil-based outputs, they have a huge cost edge and the price of their inputs is not rising as much.

LYB has 48% of its sales in the US along with 64% of its long-lived assets. A.Schulman has 31% of its sales in the US along with 49% of its long-lived assets. So, both companies have a good deal of the positives as part of their basic operations.

The Price Paid Is Not Excessive and Adds Growth

Adding SHLM gives LYB access to more growth markets and many are higher-end areas. Pre-merger LYB was 90% in Autos and after adding SHLM it will be about 53%. Packaging

and Consumer will be 14%, Electronics and Appliances will be 9%, Building and Construction will be 5%, and Agriculture will be 4%. According to Research from consulting firms to Fortune 500 companies Grand View and Markets and Markets – the Compound Annual Growth Rates for plastics in these end markets is 5.9%-7.1%.

A big part of LYB has focused on producing base commodity chemicals that are used to make higher end products. Those higher-end areas can get better pricing power and less cyclicality. That also is a benefit from the deal.

The merger price of $2.25 billion was 11.0x EBITDA based on SHLM's trailing 12-months results from November 2017 where EBITDA was $205 million. Without assuming market share gains or cost savings, buying 6.5% growth for 11x is already reasonable with a price-to-growth rate of only 1.7x. However, LYB is forecasting $150 million in synergies over two years. That would cut the price to 6.3x EBITDA and the price-to-growth ratio would fall to under 1x.

We believe many of these synergies can be achieved and will detail these more in the following sections of this report. The breakdown is expected to come from cutting SG&A for 15%, improved operating efficiency for 15%, and then asset optimization and procurement for 35% each. Given that this is a vertical integration and LYB has a history of doing this type of work to reduce we believe these synergies can be achieved for multiple reasons.

Cutting SG&A by that much would be an 8%-9% reduction in spending from SHLM on a stand-alone basis. Combining SHLM plants and offices with LYB facilities could happen as well to drive more of the planned synergies. Below are several reasons why we believe the synergies are likely to occur.

LYB's History of Growth and Improving Operations

LYB has spent over 10 years cutting costs at its own operations. This has included closing high-cost operations and right-sizing staff. It has also included modernizing existing plants to reduce bottlenecks and make them run more efficiently. Other plants have been expanded. The company has operated on three major themes:

1. It is cheaper to expand or correct issues with existing plants than build completely new

2. Cost-advantaged feedstocks like NGLs in the US are a game changer and getting as much production via lower-cost raw materials will make LYB a low-cost producer.
3. Bigger is better in terms of lowering costs – combining facilities, having facilities close together, producing more volume on the same fixed costs all reduce costs.

Looking back on LYB history shows that much of this has been accomplished. More importantly, it has been deep changes to revamp plants and investing for future growth that took investment and longer planning. The cuts were not all simple stuff like sharing secretaries and having the windows washed 10x per year instead of 12x.

Here are some discussions from management at LYB over the years. What is obvious to us is they put considerable effort into lowering costs, while expanding operations. Following several years of comments, you can see the results happening.

> ***2009***
> ***"The original merger plan targeted a fixed-cost reduction of approximately $200 million****. Based on our efforts through the second half of 2008 and particularly in the first quarter 2009,* ***we have increased our goal to $700 million****," said Ed Dineen, LyondellBasell's Chief Operating Officer. "More importantly, we believe we will demonstrate a substantial part of this target in the 2009 bottom line, given first-quarter performance."*
>
> *"The plan encompasses a* ***reduction in employee headcount of more than 3,000,*** *or approximately 17 percent, and a* ***reduction in contractors approaching 2,000****, or nearly 30 percent. It includes* ***the closure of 20 offices*** *and research & development sites and the* ***closure of 10 or more manufacturing plants****, most of which have been announced or completed. "The detailed program identifies actions and timelines, and implementation is well under way as momentum built rapidly throughout the first quarter," said Dineen."*
>
> 2010
> *"We will continue to make several of our largest, most competitive plants even more competitive through low-cost projects that quickly return value and enhance profitability. We will focus on assets that leverage advantaged feedstocks."*
>
> ***"We intend to enhance our U.S. market share as a result of plant debottlenecks. In Europe, we will continue our efforts to improve our basic cost structure.*** *In Asia, we*

will focus on assets that allow us to easily supply emerging economies within the region. We will also continue to invest in differentiated technologies."

2011

*"From a manufacturing perspective, **we completed three key maintenance turnarounds and increased our ethane feedstock flexibility by approximately five percent.** We also announced plans to establish a propylene oxide joint venture in China that will strengthen our focus on large-scale, low-cost operations and allow us to supply emerging economies. We will continue to invest in our existing assets and grow our company."*

"Underlying fixed costs were managed flat during the past three years. We exited lagging businesses and announced aggressive restructuring efforts."

"We continue to target substantial cost reduction and efficiency improvements such as our restructuring efforts, debt refinancing and further upgrades to the Houston refinery."

"We will continue to make several of our largest, most competitive plants even more competitive through low-cost projects that quickly return value and enhance profitability. We will focus on assets that leverage advantaged feedstocks. Our olefins and polyolefins assets in the United States and the Middle East are prime examples."

2012

*"We advanced our North American olefins growth projects and announced additional expansion options. Upon completion, **our olefins expansion programs will increase our total U.S. ethylene capacity by approximately 20 percent** – equivalent to the size of an existing cracker. We will be on stream earlier and at lower-cost than building a new plant. We also advanced other major projects, such as signing a memorandum of understanding to advance our propylene oxide joint venture in China."*

"Normalized fixed costs managed flat since 2009 despite inflationary trends, Reduced headcount 20% since 2008 as a result of efficiency improvements and restructuring, Advanced restructuring and optimization efforts in Europe."

"We plan to invest approximately $1.2 billion to seize the opportunities of competitive U.S. natural gas liquids pricing. Based on 2012 industry conditions, these projects

could generate an incremental EBITDA of approximately $700-850 million per year when completed."

2013

"We reduced fixed costs by about $1 billion in 2009 and, on a normalized basis, have held those costs flat for the past four years despite inflationary pressure."

"We are pursuing debottlenecks and cost-effective expansions at strategic manufacturing locations that will benefit from shale gas production. **Early in 2014, we expect to complete a 200-million-pound polyethylene debottleneck in Matagorda**, Texas. Shortly after **that, we expect to see the completion of our La Porte, Texas olefins facility expansion, followed by an expansion of our crackers at Channelview, Texas in early 2015 and at Corpus Christi, Texas later in the year.** Combined, we expect that these projects will bring us 1.85 billion pounds of additional annual ethylene capacity, which is equivalent to constructing a new standalone cracker. Being the early bird positions us to beat the competition to the market. These projects, in addition to the butadiene expansion and the methanol restart, can potentially add approximately $1.1 billion to our EBITDA, based on 2013 margins."

2014

"I am pleased to report that our growth projects are advancing. **In 2014, we increased polyethylene capacity by 220 million pounds per year at our Matagorda, Texas plant by modifying existing facilities**, and we completed an 800 million pounds per year ethylene expansion project in La Porte, Texas. We began construction of two large cracking furnaces at the Channelview, Texas site that will increase ethylene production capacity by 250 million pounds per year when it comes on line in mid-2015. An additional 800 million pounds per year of capacity is on schedule to start up in mid-2016 at our Corpus Christi, Texas plant. When fully operational, these projects increase our annual ethylene capacity by 1.85 billion pounds, giving us a total estimated US capacity of 11.8 billion pounds."

"We are also developing an expansion project at Channelview to add up to 550 million pounds per year of additional ethylene capacity, and we recently announced plans for a world-scale propylene oxide plant on the US Gulf Coast"

"Americas continues to benefit from abundant North American shale gas and low-cost natural gas liquids (NGLs). We remain focused on investing in cost-effective expansions that leverage feedstock advantage and are in service ahead of the

competition. Expansions at our Texas olefins plants will increase U.S. ethylene capacity by approximately 25% over 2013 and are equivalent to constructing a new standalone cracker."

"In Europe, business unit restructuring and the successful execution of an advantaged feedstock strategy are paying off. More than 50% of European ethylene was produced from cost-advantaged raw materials such as propane, butane and condensates."

2015

"In 2015, we continued to strengthen our long-term competitive advantage and position the company to perform well for decades to come, regardless of market conditions. To this end, we **successfully completed an ethylene expansion at our Channelview olefins plant, the third in a series of planned Texas Gulf Coast expansions** targeted to increase our U.S. ethylene capacity more than 20 percent and ahead of our competition**. During 2015, we saw a full year of benefits from the largest debottleneck to date at our La Porte plant; taking a good asset and making it world-scale.** We also advanced our plans for a world-scale propylene oxide and tertiary butyl alcohol plant on the Texas Gulf Coast. These projects, combined with low feedstock costs, further enhance our scale, efficiency and global competitiveness."

"The largest individual growth project planned is a world-scale PO/TBA complex at our Channelview site. The plant is expected to produce approximately 1 billion pounds-per-year of propylene oxide and approximately 30,000 barrels per day of oxyfuels. Front-end engineering and design work is underway in 2016 and start-up is estimated for 2020."

2016

"We invested more than $2.2 billion of capital during 2016 to support initiatives including capacity expansions, seven major plant turnarounds and dozens of smaller profit-generating projects. These investments will both improve our profitability and ensure that our assets will continue to deliver consistent and reliable performance for years to come."

"We continue to advance a robust pipeline of growth projects. Last summer, we announced the final investment decision on our 1.1 billion pound high density polyethylene plant to be located in La Porte, Texas. This project will employ our new,

proprietary *Hyperzone* PE technology that was developed at our facilities in Ferrara, Italy and Frankfurt, Germany."

"We completed an 800 million pound ethylene expansion at Corpus Christi, Texas, the final project in a multi-year series of planned expansions targeted to increase our U.S. ethylene capacity by 20 percent. In 2016, we continued to advance plans to build the world's largest propylene oxide (PO) and tertiary butyl alcohol (TBA) plant in the Houston area."

The Logistics/Procurement Synergies Play to LYB's Strengths Too

LYB has been boosting its production of NGL and other cheap feedstocks to produce more ethylene and polyethylene. These are basic chemicals used to make higher end plastics and resins. LYB continues to do more of this expansion.

We think this portends well for producing logistics and procurement synergies at SHLM. LYB has been using its increased capacity to supply more feedstock internally for years at this point. Adding more to SHLM should not be an issue:

	1H 18	2017	2016	2015
O&P America Sales	$3,814	$7,692	$6,757	$7,344
Intercompany Sales	$1,337	$2,808	$2,320	$2,620
% Intercompany	26%	26%	26%	26%
Refining Sales	$2,815	$6,165	$4,559	$6,059
Intercompany Sales	$251	$683	$576	$498
% Intercompany	8%	10%	11%	8%
Tech Sales	$172	$341	$378	$365
Intercompany Sales	$55	$109	$101	$100
% Intercompany	24%	24%	21%	22%

SHLM sold 2.4 billion pounds of in fiscal 2017. If LYB can save them 3-cents a pound on raw materials for 10% of their volume that is $7.2 million in savings. Playing with these numbers a bit, 4-cents for 20% of the volume is $19.2 million in savings. That doesn't include better logistics at all or buying more as part of a larger organization giving purchasing power. The entire forecast is for $52.5 million of savings in this area. That does not seem very aggressive given LYB's setup.

SHLM Has only Started to Recover from Lucent Deal

Keep in mind, the base EBITDA being used is the trailing 12 months of November 2017. A.Schulman made an $802 million purchase of Citadel in June 2015. Citadel is a plastics materials business that catered to some fast-growing higher-end industries. It has customers in electronics, aerospace, medical in addition to consumer and construction. This was a vertical merger for SHLM – it would be able to cut some costs and use its own plants to expand into these new areas.

Two months after closing the deal, SHLM found discrepancies on lab data and certifications that Citadel had been providing to customers and to Underwriter Laboratories. This led to an internal investigation at SHLM and it notified the certification organization and customers about the problems. It was found that the prior owners were at fault for these issues, not SHLM.

Rather than expanding the businesses and developing new products, SHLM found itself having to reformulate products and work with customers to correct issues. Plastics News had an article on the matter last week talking about what SHLM had to deal with in its legal proceedings against Citadel. (Incidentally, SHLM shareholders kept a contingent right apart from LYB that entitles them to proceeds of any damages SHLM recovers from the prior owners of Citadel.) Here is a good excerpt from the article:

> *"For at least seven months after the fraud, Schulman's resources were commandeered to fix defective products ... and otherwise clean up [Citadel's] mess," Schulman attorneys wrote. "During this time, Schulman's managerial, technical and marketing resources couldn't pursue new business opportunities. Schulman continues to address problems caused by [Citadel] to this day."*
>
> *False information provided by Citadel also inflated the firm's earnings (EBITDA), Schulman lawyers argued, as a result driving up the price Schulman paid when it used an earnings multiple to arrive at a purchase price.*
>
> *Schulman's closing arguments also cited testimony given by former Schulman CEO Bernard Rzepka, executive Daniel Baek and others. Rzepka said that "the entire team was focused on remediating this issue and making sure that these products which go out in the markets are OK."*

> *He added that "there was no time whatsoever with the team to go after new business" and that "your customer will tell you, actually, 'you know what,* before you come to me and talk about new projects, you better fix this mess here.'"

Within a year of closing on the deal, SHLM wrote off $402 million of the $802 million purchase price of Citadel. This was mostly goodwill of $361 million and other intangibles such as trademarks that were discontinued of $34 million. At the end of the year, SHLM wrote off another $6.5 million of software licenses.

Not only did cleaning up this situation consume management time and cost it sales, SHLM listed $10 million in costs in 2016 related to eliminating inventory, investigating the problems, and producing new product for customers. Another $2 million was spent on legal actions. The sales for Citadel fell by 16% in fiscal 2016 with volumes down 14%. In fiscal 2017, SHLM noted a 5.6% drop in performance materials in Europe and 7.6% drop in the US and Canada. Even before adding in the write-offs and costs, it's clear that results were down for SHLM in fiscal 2017:

	8/31/17	8/31/16	8/31/15
Operating Income	$126.5	$146.0	$120.7

The August 2017 quarter was the first positive comp in sales for the US/Canada unit in 5Qs. That is where Citadel is. In the November 2017 quarter, operating income rose slightly by $1.8 million and there was a $1.5 million negative impact from Hurricane Harvey. In the May 2018 quarter, SHLM noted increased sales at performance materials.
Looking at a forecast of picking up $150 million in synergies – It may be reasonable to see $30 million of better results simply by having the Citadel acquisition perform more closely to expectations over the next two years. It is showing some improvement already.

SHLM Has Already Started to Focus on Cost Savings

Again, keep in mind that SHLM attention was diverted with the Citadel merger and it even called fiscal 2017 – the Reset Year. Some minor restructuring was already in the works before LYB completed the deal.

For example, SHLM announced it was moving from six product families to three. This simplification is expected to save $6 million annually. It would also eliminate some back-office positions and consolidate some real estate and the reduction of 120 people would save $11 million annually as well. There's 11% of the synergies and cost savings that LYB is looking for.

Also, in the May quarter, SLHM noted that it took a $3.1 million charge to cover purchase commitments for inventory it didn't need and another $3.1 million negative impact from higher variable compensation expense. It does not specify what that is. Given that we expect LYB to become a supplier to SHLM at a lower price – purchase commitment costs should decline. We would also expect LYB to reduce headcount more with the merger. SHLM had 4,900 employees in August 2017. Given there is overlap in what the two companies do, the merger should result in more than 120 job cuts which SHLM already made. It is important to note that LYB cut staff by 17% in 2009, which rose to 20% a few years later. They may find more cuts than SHLM's 120 with the merger.

We Do Not Expect the SHLM Deal to Disrupt LYB's Shareholder-friendly Stance

LYB has always been shareholder-friendly with attractive dividends that grow:

	1H18	2017	2016	2015
Dividend Growth	10%	7%	10%	13%

While people may think we object to share repurchases as we criticize them in many cases – we have little problem with LYB's stock purchases. There are three reasons for this that few other companies can claim: 1) LYB can afford it, it's not borrowing heavily to repurchase shares. 2) LYB is buying its shares cheap – often under 10x EPS and a PEG ratio under 1x. 3) LYB's share count is actually declining rather than buying back 10% of shares and issuing 8% to management. Share repurchases here make financial sense and are accretive to EPS.

	1H18	2017	2016	2015
Cash Ops	$2,733	$5,206	$5,606	$5,842
Cap Exp	$925	$1,547	$2,243	$1,440
Free Cash Flow	$1,808	$3,659	$3,363	$4,402
Dividends	$787	$1,415	$1,395	$1,410
Repurchases	$470	$866	$2,938	$4,656
Dividends/FCF	44%	39%	41%	32%
Debt/EBITDA	1.1	1.2	1.4	1.1

There is some cyclical nature to the results depending on when plants are getting maintenance and pricing/FX differences. But, the dividend is amply covered. We used debt to EBITDA without netting the debt against cash. That is because the company bought SHLM for $2.25 billion in cash after the quarter. That would have consumed much of the cash on hand. So SHLM will add to free cash flow, they didn't borrow to buy it and debt is about 1x EBITDA.

Merging Inventory Could Squeeze Schulman Earnings

LYB uses LIFO (Last In First Out) inventory accounting for 86% of its operation and average cost for the remaining 14%. Historically, LIFO results in lower earnings during inflation and higher earnings in deflation. SHLM uses a combination of FIFO (First In First Out) and weighted average cost for its inventory accounting. FIFO should boost earnings during inflation.

Both companies have similar inventory turns and Days Sales of Inventories:

Inventory Turn	2017	2016	2015
SHLM	7.4	7.4	7.4
LYB	7.0	5.9	6.0

The days sales of inventory are basically 47-50 days for both companies too. Thus, neither company is likely selling very old inventory. The difference in inflation over 30-60 days would be the impact on margins we are looking at. Prices of ethane are up about 10% YTD and 5% in the summer. Henry Hub gas was essentially flat through the summer and fell slightly from the start of the year. Brent crude was about $70 at the start of the year, $75 for most of the summer and is over $80 now. The 4Qs average inventory rose at SHLM to $313 million in May 2018 from $282 million from August 2017.

SHLM does not list its FIFO % for inventory. We would believe the weighted average cost method would be similar to LYB's. We can make some rough estimates assuming a 25%/50%/75% FIFO percentage of inventory of roughly $300 million.

	25%	50%	75%
Inventory	$300	$300	$300
% FIFO	$75	$150	$225
Turn 7.4x	$555	$1,110	$1,665
5% inflation	$28	$56	$83

We know SHLM is turning inventory of about $300 million 7.4x per year. Every 25% of COGS run with FIFO under 5% inflation would boost gross profit by about $28 million. Two things are likely to happen with the merger. First, LYB will mark SHLM's inventory to fair market value. Given some recent inflation, that is likely to result in a higher inventory figure. As that newly elevated inventory figure is expensed, it could reduce the gross profit from past levels at SHLM. Higher selling prices would offset that squeeze. Second, on a going forward basis, we would expect SHLM margins to decline during inflation.

It is difficult to quantify what this could be. The fast inventory turn mitigates the ultimate impact regardless of inventory method. But, we would not be surprised to see this as a $20 million headwind in the first year of merged operations. Remember, we expect LYB to provide more ethylene to SHLM in the future which should also lower the prices paid by SHLM. That should offset some of the inventory issues after a potential increase in inventory value that hurts gross margin in the first quarter after the deal.

Meshing Depreciation Schedules Could Help Earnings

Shulman has 64% of its PP&E as machinery and equipment. It uses a 5-10 year depreciation rate for this account that was a gross $472 million in August 2017. By comparison, LYB depreciates major equipment over 25 years, which is 61% of gross PP&E and light equipment over 5-20 years, which is 13% of gross PP&E.

LYB will value the assets at fair market value, which should be a figure lower than the gross figure, but may be higher than the net figure Shulman has been using. We do not have firm figures to work with, so we are going to make some estimates. Shulman had $44 million in total depreciation in fiscal 2017 using the 5-10 year depreciation schedule and a

net PP&E of $299 million. Let's assume that the undepreciated value of equipment is $225 and Schulman is depreciating that over 7.5 years. That would give it a depreciation figure from equipment of about $30 million.

LYB may value the equipment at $300 million, given that it would not have depreciated as quickly in the first place. Then it may deprecation over 20 years. That would make future depreciation from equipment only $6 million.

This type of exercise will have better answers in a few months. This will be a non-cash expense, so it will not impact cash flow. However, this could be a $20-$25 million benefit to earnings by running SHLM equipment over the LYB depreciation schedule. On 391 million shares, that is 4-5 cents in EPS.

Meshing Bad Debt Reserves Could Be a Minor Tailwind

Neither company has excessive bad debt reserves, but LYB is noticeably lower than SHLM:

	2017	2016
LYB Reserve	$17	$16
LYB %	0.5%	0.6%
SHLM Reserve	$11	$11
SHLM %	2.7%	2.9%

Cutting SHLM reserves to 0.7% or 1.7% would add 1-2 cents to EPS one time.

Pensions

Schulman has a pension plan for its European operations. LYB maintains a US pension and one for Europe as well. The discount rates for each company's European pensions are almost perfectly matched:

European Discount Rates	2017	2016	2015
SHLM	1.50%	2.60%	2.80%
LYB	1.52%	2.70%	2.84%

We do not expect a change in pension expense from the merger-related to the discount rate. However, if the SHLM plan has a cut in the expected rate of return of 100bp to match LYB's, there could be an increase in the pension expense by about $0.5 million. We would regard this as insignificant.

European Exp Rate Return	2017	2016	2015
SHLM	3.10%	4.50%	4.70%
LYB	2.15%	3.37%	3.63%

Both pensions may benefit from a rising discount rate. SHLM gave a forecast that a 25bp increase in the discount rate would reduce PBOs (Pension Benefit Obligations) by $8.4 million. A full point increase over the next couple years may not be unreasonable to expect, which would reduce the PBO by $33.4 million for the SHLM plan. Right now, both foreign plans are underfunded:

2017 Funded Status	SHLM	LYB
PBO	$185	$1,511
Assets	$46	$852
Underfunding	-$139	-$659
Percentage	-75%	-44%

Getting the SHLM plan more fully funded may be a cash headwind of about $40 million over a couple years along with a higher discount rate for both plans. So minimal earnings impact from the merger overall.

The Refining Operation is More Volatile than the Chemicals

The refinery is part of the total business and about 10% of its sales go toward feedstocks for other LYB divisions. However, depending on maintenance schedules, volumes can drop by 20%, the spread is not within LYB's control, the unit usually makes more money when oil prices are dropping – which can be offset by marking inventories to the lower of cost or market. Oil is much more volatile in price than natural gas and NGLs.

It's a very cyclical business and one that doesn't necessarily conform to the drivers for the plastic chemical market. Here is a quick overview of the refinery results:

Refinery	1H18	2017	2016	2015	2014	2013	2012
Sales	$4,826	$6,848	$5,135	$6,557	$11,710	$11,698	$13,291
EBITDA	$167	$157	$72	$342	$65	$182	$482
LCM/chg.	$0	$0	$0	$177	$344	$24	$24
EBITDA %	3.5%	2.3%	1.4%	5.2%	0.6%	1.6%	3.6%
Spread/barrel	$23.41	$20.56	$19.24	$22.30	$24.43	$22.94	$24.91
Barrels/day 000s	255	236	201	238	259	232	255

All of the LYB business is cyclical, just keep in mind that there is a wildcard business within LYB. For a company that is doing about $7.0 billion in EBITDA on average, there are some common $200 million swings in refining.

Church & Dwight (CHD) EQ Review

Current EQ Rating*	Previous EQ Rating
2+	NA

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

We initiate coverage of Church & Dwight (CHD) with a rating of 2+ (Weak).

CHD reported adjusted EPS of $0.49 in the 6/18 quarter which was 2 cents ahead of the Zack's consensus number. However, we see several red flags with the company's recent results including:

- Accounts Receivable DSOs have been tracking relatively in-line with the year-ago numbers the last few quarters. However, the company disclosed in its 10-K that it maintains a receivables factoring program under which it sells receivables to third parties. Unfortunately, the company does not disclose any information regarding the factoring program on a quarterly basis and only shows the total amount of receivables sold during the year in its annual disclosure. This minimal disclosure leaves no visibility into the amount of receivables sold and still outstanding at the end of each period from which an adjusted receivables balance can be calculated. This leaves open the possibility that actual DSOs could be materially different than the receivables on the balance sheet indicate. Reported operating cash flow growth could be clouded as well.

- Inventory days (DSIs) have been rising over the last several quarters. This is made more concerning by the fact that the bulk of the increase came from finished goods inventory.

- CHD historically accounted for about 17-20% of its inventories under the LIFO (last-in, first-out) method of accounting with the balance reported under the FIFO (first-in, first-out) method. However, beginning in the 6/18 quarter, the company began utilizing the FIFO method for all of its inventories. This change results in an increase in the matching of older, lower-cost inventory against current sales. The impact of switching to FIFO added $4 million to gross profit in the quarter and a boost to gross margin by about 40 basis points. However, this benefit was not mentioned in the company's discussion of margins, nor was it adjusted out of non-GAAP results. We

estimate this added about 1.3 cents to EPS in the period and accounted for the bulk of the earnings beat.

- The company has dramatically increased its commodity hedges in the last four quarters, yet it still stated that higher raw materials costs weighed down gross margin by 120 bps in the 6/18 quarter. While details about its hedging program are limited, management comments seem to indicate that the current hedges will unwind by the end of the year, which could leave the company more exposed to higher costs.

- Accounts payable days (DSPs) have declined year-over-year in each of the last two quarters. Management stated in the last conference call that it is working to improve its payables experience. While DSPs are already more than two months, we note that the company does not appear to utilize structured payables arrangements like some of its peers in the consumer goods and packaged foods industries are doing. It is possible the company could boost its cash flow on a short-term basis by stretching payables further.

Receivables Factoring

On the surface, CHD's accounts receivable balances look very stable with days of sales (DSOs) remaining relatively in line on a year-over-year basis for the last three quarters as seen in the following table:

	6/30/2018	3/31/2018	12/31/2017	9/30/2017
Sales	$1,028	$1,006	$1,033	$968
Accounts Receivable	$349	$361	$346	$378
Accounts Receivable DSOs	30.9	32.8	30.6	35.6

	6/30/2017	3/31/2017	12/31/2016	9/30/2016
Sales	$898	$877	$896	$871
Accounts Receivable	$304	$305	$287	$265
Accounts Receivable DSOs	30.9	31.7	29.2	27.8

Note that the 9/17 quarter DSO was elevated from the acquisition of Pik Holdings (Waterpik) 8/7/2017 which resulted in only two months of revenue from Pik being recorded in that quarter.

However, the company discloses the following in its 10-K regarding factored receivables:

"The Company entered into a factoring agreement with a financial institution to sell certain customer receivables at discounted rates in 2015. Transactions under this agreement are accounted for as sales of accounts receivable and were removed from the Consolidated Balance Sheet at the time of the sales transaction. The Company factored an additional $45.3 in 2017, resulting in a total of $105.4 and $60.1 as of December 31, 2017 and 2016, respectively."

The disclosed amounts seem to indicate the total amount of receivables that were sold during the periods, but there is no mention of the amount of receivables sold but still uncollected as of the end of the period. In addition, CHD only discloses the above figures annually with no mention of the factoring program in its quarterly 10-Q filings. We find this disclosure to be less than adequate to understand the true trends in trade receivables. If we assume that the additional $45.3 million in receivables factored in 2017 were done so evenly across the four quarters, this comes to $11.3 million in receivables that were generated but kept off the balance sheet. This would have resulted in DSOs being over 1 day higher in the 12/17 quarter, for example. If the factoring was concentrated in a particular quarter, the impact could have been even greater. The current level of disclosure does not allow us to see if the last couple of quarters could have benefitted from the extension of more generous credit terms.

In addition, cash flow growth could be receiving a material boost from the increased use of factoring. For reference, reported cash from operations rose by just over $26 million in 2017. An increase of $45.3 million in the use of factoring could have been a very material contributor to that growth depending on the timing of the receivables sales.

Jump in Inventory DSIs and Finished Goods

CHD's inventory days (DSIs) have been registering a year-over-year increase for the last several quarters, as shown in the table below:

	6/30/2018	3/31/2018	12/31/2017	9/30/2017
COGS	$573	$555	$552	$529
Inventory	$369	$357	$331	$336
Inventory DSIs	58.8	58.8	54.7	57.9

	6/30/2017	3/31/2017	12/31/2016	9/30/2016
COGS	$488	$478	$488	$475
Inventory	$292	$280	$258	$286
Inventory DSIs	54.7	53.5	48.3	54.9

CHD closed on the Passport Food Safety deal on 3/8/2018, but this would have had a very minimal impact on the DSIs above. However, the 8/7/2018 acquisition of Pik Holdings was large enough to impact the above figures. While CHD discloses that it booked $95 million in current assets at the close of the deal, it does not offer a further breakdown showing inventory and receivables balances. Since we calculate our DSIs on a quarterly basis, the 9/17 quarter DSI was most likely the most inflated since it would have incorporated only two months of sales from Pik but reflected the entire balance of acquired inventory. However, the comparisons in the last three quarters would have only been impacted to the degree that the Pik business carries a higher level of inventory than CHD's base business. While it is possible this has had some impact on year-over-year comparisons of DSIs, it is concerning that the year-over-year increase has only widened in the quarters since the close of the Pik acquisition. Even more concerning is that the increase has been more focused in finished goods, which has risen noticeably as a percentage of total inventory in the last two quarters:

	6/30/2018	3/31/2018	12/31/2017	9/30/2017
Raw Materials % of inventory	23.7%	24.8%	25.9%	24.6%
In-Progress % of inventory	8.7%	9.8%	9.3%	10.1%
Finished Goods % of inventory	67.6%	65.4%	64.8%	65.2%

	6/30/2017	3/31/2017	12/31/2016	9/30/2016
Raw Materials % of inventory	25.6%	25.1%	27.0%	25.3%
In-Progress % of inventory	11.3%	10.0%	11.2%	10.7%
Finished Goods % of inventory	63.1%	64.9%	61.8%	63.9%

The finished goods inventory percentage rose to a historically high level in the 6/18 quarter which increases our level of concern that CHD might be experiencing an unexpected buildup in product despite the relatively strong sales growth the company has been posting. This could also be a reflection of rising raw materials costs which the company has been citing in recent quarters. This brings us to another inventory-related concern- the company's recent change in inventory accounting method which we discuss in the next section.

Change in Inventory Accounting Method

As of the end of 2017, CHD utilized the last-in, first-out (LIFO) method of accounting for certain of its inventories as disclosed in its 10-K filing:

> *"Inventories are valued at the lower of cost or market (net realizable value, which reflects any costs to sell or dispose). Approximately 17% and 20% of the inventory at December 31, 2017 and 2016, respectively, including substantially all inventory in the Company's Specialty Products Division ("SPD") segment as well as domestic inventory sold primarily under the ARM & HAMMER trademark in the Consumer Domestic segment, was determined utilizing the last-in, first-out ("LIFO") method."*

However, on April 1, 2018, the company converted all of its inventories to the first-in, first-out (FIFO) method as disclosed in the 10-Q filing for the 6/18 quarter:

> *"On April 1, 2018, the Company changed its method of accounting for inventories from last-in-first-out ("LIFO") to first-in-first-out ("FIFO") for the approximately 17% of consolidated inventory not previously valued using FIFO. Substantially all of the Company's Specialty Products Division segment inventory as well as domestic inventory sold primarily under the ARM & HAMMER trademark in the Consumer Domestic segment was previously determined using LIFO. After this change, all the Company's inventory will be determined by the FIFO method. The Company believes this change is preferable as the predominant method to value inventory has been FIFO, which will provide a uniform costing method across all inventory. Prior financial statements have not been retroactively adjusted due to immateriality.* ***The cumulative effect of the change in accounting principle of approximately $4.0 pre-tax was recorded as a decrease to cost of goods sold for the quarter ending June 30, 2018."***

There are several things to take away from this. First, if we adjust the 6/18 quarter DSI calculation by adding $4 million back to cost of sales and subtracting it from inventory, we get we get an adjusted DSI figure of 57.8 which is still a 3.1-day increase over the year-ago period. Likewise, if we take the $4 million increase in inventory out of finished goods, the adjusted finished goods inventory percentage is 66.5% which is still noticeably higher than recent quarters. Note that since the $4 million is as cumulative adjustment, the maximum impact on inventory would be $4 million or it could have been less. Still, we see that taking the full $4 million out of inventory leaves the above ratios at high levels.

More importantly, the move to FIFO inventory will benefit CHD in a rising cost environment as older, lower-cost inventory is matched against current sales on the income statement. We find it interesting that the company stated that prior financial statements have not been restated for the change "due to immateriality." However, cost of sales was $4 million lower in the 6/18 quarter than it would have been if it had continued using the LIFO method on some of its inventory. Let's take a look at the impact on reported gross margin by taking out the $4 million of incremental gross profit created by the switch to all-FIFO inventory accounting:

Reported 6/18 Sales	$1,028
Reported 6/18 Gross Profit	$455
Reported 6/18 Gross Margin	44.3%

Reported 6/18 Sales	$1,028
Adjusted 6/18 Gross Profit	$451
Adjusted 6/18 Gross Profit	43.9%

We see in the above table that reported gross profit benefitted by 40 basis points from the switch to FIFO. However, consider the company's discussion of its gross margin from the Management's Discussion and Analysis of Results" section of its 6/18 10-Q:

> *"Our gross profit was $454.9 for the three months ended June 30, 2018, a $44.5 increase as compared to the same period in 2017. Gross margin decreased 140 basis points ("bps") in the second quarter of 2018 compared to the same period in 2017, primarily due to higher commodity costs of 120 bps, higher transportation costs of 40 bps, the impact of lower margins on acquired businesses of 30 bps, unfavorable price/mix of 20 bps, and other manufacturing cost increases of 10 bps, partially offset by productivity programs of 80 bps. The impact of acquired businesses and price/mix includes charges associated with a voluntary recall and a FDA mandated withdrawal for certain oral care products."*

Noticeably absent from the commentary is the 40-basis point boost to margins from the accounting change. Likewise, we saw no discussion of it in the second quarter conference call transcript, nor is it accounted for in the company's non-GAAP earnings figure.

According to Zack's, CHD's adjusted EPS of $0.49 was 2 cents ahead of the consensus average. For reference, the $4 million pretax benefit translates to about 1.3 cents per share which represents the majority of the upside surprise.

Increased Use of Commodities Contracts

The company's primary raw materials include soda ash (used to make sodium bicarbonate), surfactants (cleaning agents), paper products and resin-based molded components. CHD does not disclose much about its commodity derivate contracts on a quarterly basis other than the following regarding the number of pounds hedged:

	6/30/2018	3/31/2018	12/31/2017	9/30/2017
Commodities Contracts (million lbs.)	161.1	89.7	28.3	31.9
	6/30/2017	3/31/2017	12/31/2016	9/30/2016
Commodities Contracts (million lbs.)	0.0	0.0	0.0	0.0

We see that from 9/16 to 6/17, the company was completely unhedged on the commodity front, yet that has rapidly increased in the last four quarters. CHD describes its commodities hedging program as follows in its 2017 10-K filing:

> *Commodity Hedges*
> *"The Company is subject to exposure due to changes in prices of commodities used in production. To limit the effects of fluctuations in the future market price paid and related volatility in cash flows, the Company enters into Over-the-Counter commodity forward swap contracts. These hedges are designated as cash flow hedges for accounting purposes and, therefore, changes in the fair value of the contracts are recorded in Other Comprehensive Income (Loss) and reclassified to earnings when the hedged transaction affected earnings. The fair value of these commodity hedge agreements is reflected in the Consolidated Balance Sheet within Other Current Assets and Accounts Payable and Accrued Expenses."*

There is no description of the current value of these contracts in the 10-Q, so we will rely on an exchange in the second quarter conference call to gauge their current impact on earnings:

> *Richard Dierker*
> *"Really, the biggest hedges we have out there are really for and you'll see this in the 10-Q are for surfactants or ethylene for HTPE for resin and for diesel, and net-net as they're close to washing. I mean it's nice to have certainty and now we're 88% hedged and we're already hedging 2019 in some cases in order to again have predictable movements on our cost structure. But in general, I'd say those net differences aren't that material."*

For clarification, the company's diesel contracts are disclosed separately from commodities and have actually declined significantly for the last four quarters. Management's statement above seems to indicate that the hedges are not having a material impact on its results at the moment. It also seems to indicate that the bulk of the current contracts will unwind prior to 2019. Should there be a spike in commodity prices over the next couple of quarters, the company would appear to be more protected than in the past. However, management has already cited rising costs as being a 120 bps drag on margins in the 6/18 quarter. A concern would be if the company has actually been shielded from rising costs and this protection could fade as the current contracts unwind over the next couple of quarters.

Payables Are Declining

CHD lumps accounts payable in with other accrued liabilities on the balance sheet. However, it discloses trade payables in a footnote which we use to calculate days payable (DSPs) in the following table:

	6/30/2018	3/31/2018	12/31/2017	9/30/2017
COGS	$573	$555	$552	$529
Accounts payable	$420	$405	$399	$390
Accounts payable DSPs	66.9	66.7	66.0	67.3

	6/30/2017	3/31/2017	12/31/2016	9/30/2016
COGS	$488	$478	$488	$475
Accounts payable	$375	$346	$332	$320
Accounts payable DSPs	70.2	66.1	62.0	61.4

After expanding for several quarters on a year-over-year basis, DSPs declined in the last two quarters. This runs contrary to what we are seeing with many consumer goods and packaged foods companies that are boosting cash flow (albeit temporarily) by leaning hard on suppliers and increasing the utilization of structured payable arrangements. CHD does not disclose any such arrangements whereby it facilitates financing for suppliers to get their money up front so the company can capture early-pay discounts while taking longer to actually pay supplier invoices. Management admitted in the conference call that it has room for improvement on payables. We note that a DSP exceeding two months hardly seems excessive and doubt it could sustain a long-term number much if any higher than that. However, we admit that if the company began to pull some of the same levers we have seen

other companies utilizing, it does appear to have some room to expand DSP to the benefit of short-term cash flow growth.

PepsiCo (PEP) EQ Update- 9/18 Quarter

Current EQ Rating*	Previous EQ Rating
4+	4+

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

We maintain our rating of PepsiCo (PEP) at 4+ (Acceptable).

We saw no material developments in the quarter that reduce our view of the reliability of the company's reported results. However, we observe that it would improve the transparency of PEP's results significantly for it to begin providing quarterly supplemental balance sheet information breaking out trade accounts payable from other current liabilities and trade receivables from other receivables.

PEP's reported results were penalized by higher mark-to-market impact from commodity derivatives, higher restructuring charges, and a charge related to additional tax provision for the TCJ. In addition, the company recorded a one-time tax benefit of $364 million from beneficial settlement of international tax audits. All these impacts were adjusted out of the company's non-GAAP EPS.

Foreign currency had a negative impact on the quarter, shaving 2% off of reported sales growth. Management raised its guidance for organic revenue growth for 2018 from 2.3% to 3%, but also now expects FX translation to have a 1% negative impact on sales and EPS growth. It had previously predicted a negative impact.

Danaher (DHR) EQ Preview for 9/18 Quarter

Current EQ Rating*
4+

Danaher reports earnings next Thursday. We saw little to concern us with DHR's earnings quality in the 6/18 quarter. We did note a 2-day year-over-year increase in inventory days, but this was not alarming given the uptick in sales growth and the inflationary environment. We will be watching to see if the increase continues or worsens.

Explanation of EQ Rating Scale

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

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

Key Points to Understand About the EQ Score

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

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

Disclosure

BTN Research is a research publication structured to provide analytical research to the financial community. Behind the Numbers, LLC is not rendering investment advice based on investment portfolios and is not registered as an investment adviser in any jurisdiction. Information included in this report is derived from many sources believed to be reliable (including SEC filings and other public records), but no representation is made that it is accurate or complete, or that errors, if discovered, will be corrected.

The authors of this report have not audited the financial statements of the companies discussed and do not represent that they are serving as independent public accountants with respect to them. They have not audited the statements and therefore do not express an opinion on them. Other CPAs, unaffiliated with Mr. Middleswart, may or may not have audited the financial statements. The authors also have not conducted a thorough "review" of the financial statements as defined by standards established by the AICPA.

This report is not intended, and shall not constitute, and nothing contained herein shall be construed as, an offer to sell or a solicitation of an offer to buy any securities referred to in this report, or a "BUY" or "SELL" recommendation. Rather, this research is intended to identify issues that investors should be aware of for them to assess their own opinion of positive or negative potential.

Behind the Numbers, LLC, its employees, its affiliated entities, and the accounts managed by them may have a position in, and from time-to-time purchase or sell any of the securities mentioned in this report. Initial positions will not be taken by any of the aforementioned parties until after the report is distributed to clients, unless otherwise disclosed. It is possible that a position could be held by Behind the Numbers, LLC, its employees, its affiliated entities, and the accounts managed by them for stocks that are mentioned in an update, or a BTN Thursday Thoughts.