BEHIND THE NUMBERS
EARNINGS QUALITY & DIVIDEND SUSTAINABILITY RESEARCH

BTN Research

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Treehouse Foods (THS) EQ Review

Current EQ Rating*	Previous EQ Rating
3-	na

6- "Exceptionally Strong"
5- "Strong"
4- "Acceptable"
3- "Minor Concern"
2- "Weak"
1- "Strong Concerns"

Note that a "+" sign indicates the earnings quality improved in the most recent quarter while a "–" sign indicates deterioration

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

We initiate earnings quality coverage with a rating of 3- (Minor Concern).

Treehouse has undergone a multi-year restructuring that is largely complete at this time. The stock looks cheaper than in the past at 20x forecast EPS and about 10x EBITDA plus it is getting top-line demand from COVID. It does use adjusted EPS figures but it appears it actually is adjusting for one-time items such as litigation, restructuring, and impairments. They are not adding back amortization or stock option expense as we have seen elsewhere. Forecasts call for EPS of $2.40-$2.65 even with a COVID bounce against 2019's adjusted $2.39.

The problems we see are the company simply isn't very profitable and its ROI is less than 7% after the restructuring. ROI is actually helped by cutting R&D and appears marketing is down too. Also, hefty impairments, divestitures, restructuring charges cut the equity figure and that is boosting ROI. Organic sales growth is negative excluding the restructuring efforts and was down another 6% for January and February until Covid's bump. The debt is nearly 4x adjusted EBITDA. We believe Free Cash Flow will focus on reducing debt in the near future.

It also appears dependent on producing cash flow from working capital. When the company was shrinking during the restructuring that is easier to do – it may be a headwind going forward. More importantly, its recent actions with receivables has produced a sizeable amount of cash already, doubled DSOs, and may not be sustainable.

- **The restructuring was expected to boost margins by 200bp with a combination of culling/divesting lower margin SKUs and units, boosting prices, and rationalizing the operating base of factories and warehousing allowing for higher utilization rates**.

- **So far, raising prices has caused customers to buy much less volume. The roughly $100 million in pricing led to almost $400 million in volume decay. That unwound some of the efficiency gains. Even after culling lower margin products, the adjusted gross margin is down about 200bp.**

- **The goal was to cut $55 million in G&A and we see it's down about $50 million per year at this point or 40bp. Some of that is due to divestments and $9 million is due to R&D expense cuts which added 12-cents to EPS of $2.39. The $50 million in savings is not offsetting the $200 million lost in gross profit.**

- **Selling and Distribution is down $90 million and 110bp in recent years. We estimate that 14% of that improvement came from lowering incentive compensation in that area. We also see evidence that marketing dropped at least $10 million annually, which is adding 13-cents to EPS of $2.39.** Lower volume overall helped with the $90 million drop in dollar terms too. THS has reduced shipping costs by using more scheduled services instead of spot markets – that would be a positive from the restructuring.

- Selling and Distribution cuts may also be the result of freight rates in the market falling in 2019 and 2020 vs. rising in 2017 and 2018. That played a role in the 110bp improvement in this area and we don't believe THS has much control over that item and it likely remains a wildcard for margins.

- Using THS's adjusted EBIT – we calculate ROI at 6.8% for 2019. That was helped by lower freight rates which are worth 0.1% of ROI for every 10bp it improved selling costs as a percentage of sales and roughly $20 million from lower R&D and marketing is adding 0.5% to ROI. All the write-offs have left the equity balance down by $400 million – for every $100 million lost, ROI improved by 0.2%. Forecasts are for EBIT to be essentially flat.

- Cash flow has been helped by pulling cash from working capital and forecasts require more of the same to reach the goal of $300 million in free cash flow. From 2017-2019 – THS pulled $350 million out of working capital.

- Inventory declines make sense. THS was culling SKUs and divesting units and customers bought less too – all that should release cash from inventory and THS pulled about $140 million out in this area. DSI's have also dropped and it may be tougher to keep pulling cash from inventory.

- Receivables are the bigger concern as a case can be made these may start to consume cash flow. THS can sell up to $300 million in receivables which removes them from the balance sheet – this started in 4Q17. It still collects the receivables and that builds up in payables which adds more cash flow – until it pays the bank. After 4Q, it had $243 million of sold receivables and $158 million in collected receivables unremitted to the bank. In 1Q, this was still $230 million and $107 million.

- DSOs are a red flag in our view. Total receivables were 22 days a few years ago, now they are 44 days. So even letting customers pay more slowly – they still balked at price increases from THS and cut order volumes. THS has pulled another 9-12 DSOs of cash out of receivables by paying the banks more slowly and carrying a higher payable that doesn't look like financed debt – it looks like working capital. It would only take the banks requiring a few days faster payment after THS collects on the sold receivables to cause a cash flow headwind.

- **Impairments have been frequent and large at THS in recent years. It still has $2.1 billion in goodwill and another $537 million in other intangibles against a book value of $1.8 billion. As we've said ROI is low and it has marked down assets that due to failure to reach forecasted results. It also notes that failure to hold pricing, requirements for more marketing support, and lack of growth can all lead to impairments.**

The Restructuring Plan Is Not Producing Higher Gross Margins, Margins are down about 200bp

The constant restructuring at THS has three goals: reduce low growth and low margin SKUs allowing price hikes, integrate all the acquisitions made over the years, and reduce overhead costs. The net result is expected to be modest organic sales growth and rising margins to drive EPS growth to about 10%. Much of this started in 2017 and is expected to be complete this year.

Looking at gross margin, there is little evidence for that success in areas of the plan. Adding back all the restructuring and other one-time items show gross margin is still declining:

Gross Margin	1Q20	1Q19	2019	2018	2017a	2017b	2016b
Gross Profit	$194.9	$196.2	$796.8	$892.2	$978.1	$1,184.0	$1,125.4
Restructuring Chgs	$0.7	$3.0	$4.4	$13.3	$35.5	$46.3	$7.9
Product Recall	$0.0	$0.0	$0.0	$0.0	$1.0	-$3.0	$5.7
Depreciation Adj.	$0.0	$1.4	$2.2	$12.1	$16.4	$23.3	$9.0
Acq. Integration	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$8.4
Chg. in Regulation	-$0.1	$0.0	$11.4	$0.0	$0.0	$0.0	$0.0
Pension Withdrawal	$0.0	$0.0	$4.3	$0.0	$0.0	$0.0	$0.0
Adj. Gross Profit	$195.5	$200.6	$819.1	$917.6	$1,031.0	$1,250.6	$1,156.4
Sales	$1,084.9	$1,066.8	$4,288.9	$4,587.8	$4,852.6	$6,307.1	$6,175.1
Adj. Gross Margin	18.0%	18.8%	19.1%	20.0%	21.2%	19.8%	18.7%

- *2017a reflects the 2019 10-K's figures. It reflects several divestitures.*
- *2017b and 2016b reflects the 2017 10-K's figures. It shows the status before the divestitures and the starting point for gross margin.*
- *Depreciation adjustment represents accelerated depreciation of assets that will be disposed of.*

- The company estimates that 1Q20 had $0.9 million in COVID impacts to cost of goods sold. That would make adjusted gross margin 18.1%.

In our view, gross margin is falling not increasing. The company is clearly following its plan of divesting lower margin units and SKUs – it points this out each year too. It is also taking pricing, but customers are buying less as a result of the price hikes:

Sales Growth	1Q20	1Q19	2019	2018	2017b
Volume/Mix	$32.3	-$151.3	-$256.5	-$119.0	$34.1
Pricing	-$5.5	$2.3	$27.5	$71.2	-$4.5
Product Recall	$0.0	$0.0	$0.0	-$2.3	$5.4
Organic Growth	$26.8	-$149.0	-$229.0	-$50.1	$35.0
Divestitures	-$4.7	-$3.3	-$4.5	-$65.9	$81.8
SKU rationalization	-$3.4	-$25.3	-$60.2	-$449.2	$0.0
FX impact	-$0.6	-$2.5	-$5.2	$0.4	$5.2
Total growth	$18.1	-$180.1	-$298.9	-$564.8	$122.0
Organic Growth	2.6%	-10.0%	-5.0%	-1.0%	0.7%
Total Sales Growth	1.7%	-12.2%	-6.5%	-5.5%	2.1%

- *1Q20 sales growth is due to COVID – they were running -6% on organic growth in January and February*
- *THS continually points out that customers are buying less due to price hikes such as this statement in 2019 – "Volume/mix was unfavorable 5.6% year-over-year across all segments with the largest decreases in the Meal Solutions and Baked Goods segments primarily due to distribution lost as a result of pricing actions taken in 2018."*
- *This plan seems to be ending as the size of the SKU rationalization is dropping.*
- *The higher prices are not offsetting the volume losses at any point so far.*
- *The higher prices seem do not seem to be covering even the commodity inflation – the company points to higher commodity costs in 2019, 2018, and 2017.*
- *It also points to weaker gross margin because the lower volumes are deleveraging their fixed costs.*

Our conclusion is gross margin is lower by about 200bp after this restructuring. The idea that big-box retailers will accept higher prices has been disproven by many companies over the years and 24% of THS sales are to Walmart. That gross margin

decline has happened despite culling lower margin SKUs. They have divested/eliminated about $580 million or about 10% of sales – that should have boosted margins. Customers balked at price hikes costing THS about $400 million more in sales and cost-cutting/restructuring in cost of sales has not offset that.

General & Administrative Expenses have Declined about 40bp with Restructuring

The goal of the restructuring is to boost EBITDA margins by 200bp. That means THS needs to find about 400bp in other costs to offset the gross margin loss. They have closed plants, rationalized warehouse space to deal with lower volumes, and computerized more of their total operations. The goal was to save about $55 million annually in overhead costs.

Gen & Adm Exp	1Q20	1Q19	2019	2018	2017a	2017b	2016b
G&A Expenses	$63.6	$62.3	$253.2	$264.4	$283.7	$300.4	$340.6
Restructuring	$0.5	$0.9	$1.7	$4.3	$0.0	$0.0	$0.0
Litigation	$0.0	$0.0	$25.0	$0.0	$0.0	$0.0	$0.0
Chg. in regulations	$0.1	$0.0	$0.5	$0.0	$0.0	$0.0	$0.0
Chg. in Exec Pay	$0.0	$0.0	$2.9	$13.0	$0.0	$0.0	$0.0
Acquisition/Divest	$0.0	$0.0	$0.3	-$0.1	$13.6	$14.1	$51.5
Prod. Recalls	$0.0	$0.0	$0.3	$0.0	$0.0	$0.0	$0.0
Accel Debt Costs	$0.1	$0.0	$0.0	$0.2	$1.7	$1.7	$0.0
Depreciation Adj.	$0.0	$0.8	$1.6	$4.1	$0.3	$0.3	$0.0
Stock Comp. Adj.	$0.0	$0.0	$1.0	$10.3	$0.1	$0.1	$0.6
Adjusted G&A	$62.9	$60.6	$219.9	$232.6	$268.0	$284.2	$288.5
Adjusted G&A % Sales	5.8%	5.7%	5.1%	5.1%	5.5%	4.5%	4.7%

We see this as a successful area for cost-cutting for THS. They have added about 40bp to margin and close to $50 million in savings. It also appears that much of this change has now run its course and may not add much more going forward. **We should point out that R&D has also been cut by $9 million from 2017 to 2019 and is part of the savings. That has added 12-cents to EPS.**

Other operating costs are where THS put the bulk of its restructuring charges and other costs related to acquisitions and divestitures. It has always been largely a $0 without those items and thus does not help or hurt adjusted margins:

Other Oper. Exp	1Q20	1Q19	2019	2018	2017a	2017b	2016b
Total other Oper. Exp.	$18.5	$28.1	$99.6	$135.7	$125.2	$128.7	$14.7
Restructuring	$18.5	$28.2	$99.3	$149.1	$38.1	$41.4	$13.1
Acquisition/Divest	$0.0	$0.0	$0.3	-$13.4	$87.3	$87.3	$0.0
Adj. other Op. Exp.	$0.0	-$0.1	$0.0	$0.0	-$0.2	$0.0	$1.6

Selling and Distribution Expenses Fell in 2019 – How Much Expense Can THS Control?

Selling and Distribution costs had very little in the way of adjustments over recent years. There was a $2.8 million charge to 2019's figure related to a change in regulatory requirements. This expense item includes shipping and handling, commissions paid, and advertising. The company does not break out these components completely, but we can see some trends.

	1Q20	1Q19	2019	2018	2017a	2017b	2016b
Selling & Distribution	$65.1	$70.2	$256.9	$328.5	$345.5	$402.3	$404.8
S&D % Sales	6.0%	6.6%	6.0%	7.2%	7.1%	6.4%	6.6%

- *2020 benefited from lower freight rates overall and reduced usage of spot market*
- *2019 benefited from lower freight rates via higher market capacity, reduced usage of spot market freight, and lower incentive compensation.*
- *2018 saw higher freight rates, offset by lower volume and lower incentive compensation.*
- *2017 saw higher freight rates and lower incentive compensation.*

In our view, there appears to be some cost savings that have been realized here and this expense is down $91.4 million and 110bp. But did THS produce the full 110bp? We would argue that it has little control over actual freight rates. Freight rates also move with fuel costs which are lower now too. Being able to schedule more shipping in advance and rely less on spot market rates is a benefit the company produced with its restructuring. Also, paying lower incentive compensation should have a role, but appears to have run its course at this time.

It gave up about 8%-10% of its volume, assuming the same cost structure of 7.1%, that should have put 2019 Selling expenses at $304.5 million to adjust for the lost volume. The actual drop was to $254.1 million indicating total cost savings were $50.4 million.

THS does break out shipping and handling costs on an annual basis. These have declined from $184.8 million to $148.3 million from 2017 to 2019 – a drop of $36.5 million. That may isolate the changes in shipping rates and the total Selling and Distribution expense fell by $91.4 million. Another help to falling shipping and handling should be the reduced volume overall too. But, about 40% of the savings came in this area.

It also breaks out freight and commissions as a combination. These fell from $231.7 million to $182.1 – a decline of $49.6 million. Perhaps the reduced commissions are about $13.1 million comparing the $49.6 million to the $36.5 million drop in shipping and handling. Those probably declined partially due to lower volume as well. But this is another 14% of the savings.

The remaining savings may have come by cutting marketing. THS has a marketing allowance to cover co-operative advertising in stores, promotions and other sales/marketing expenses. This allowance has been declining:

	2019	2018	2017
Marketing Allowance	$32.9	$45.7	$56.9

This doesn't necessarily translate dollar for dollar into reduced marketing expense – but it has declined by $24 million in the last two years. Also, the company reports direct selling costs with general & administrative costs allocated to the various segments. We know THS has successfully cut G&A costs as noted above. This combined selling and G&A cost item has dropped by $27 million from $102.7 million to $75.7 million from 2017 to 2019. It is very possible that marketing costs were cut by $10-$20 million over this time frame or about 20% of the cost savings in this area. This could also be fueling adjusting EPS by about 10-13 cents per share in 2018 and 2019.

Our Conclusion on the Restructuring

The goal was to eliminate enough costs to boost margins by 200bp. In that area, we think THS has failed.

Gross Margin is down 200bp before COVID and declining further with it

- THS has learned that raising prices cost it a significant amount of volume. Pricing added about $100 million to sales, but they lost $375 million in volume.
- The falling volumes deleveraged fixed costs even though THS closed and consolidated plants and warehouse space and added SAP software.
- THS has proven that it remains very difficult for a private label company to boost prices on retailers.
- This decay in margin happened despite culling lower margin SKUs and business lines that cut sales another $580 million. Simply taking out lower-margin goods should have been a tailwind for gross margin.

General & Administrative costs improved by 40bp

- Costs declined by $48 million.
- $9 million of the decline or 13bp of the change came from cutting R&D

Selling & Distribution Costs improved by 110bp.

- It appears that about 40% of this may have come from having freight rates decline. We do not think THS has much control over that and it will remain a wildcard factor.
- It did move to a greater amount of scheduled shipping rather than spot-market buying. That is a positive change the restructuring achieved but it is not quantified.
- Another 14% of the savings came from reducing incentive pay on commissions. That may be a lasting change too.
- THS may have cut marketing to generate another 20% of the savings – that may be tough to maintain.
- We believe the restructuring produced about 60-66bp of cost savings in this area. If marketing needs to rise again, it will be closer to 60bp. And freight costs may continue to fluctuate.

As a whole, we believe THS lost about 100bp of margin after the restructuring efforts. Much of that is the result of being unable to boost price without losing nearly 4x as much volume. This is a company that now has an ROI on its adjusted EBIT of under 7%.

	2019	2018	2017
Adj. EBIT	$267.7	$243.7	$310.9
LT Debt	$2,107.0	$2,298.6	$2,545.8
Equity	$1,830.9	$2,160.0	$2,253.3
Total Capital	$3,937.9	$4,458.6	$4,799.1
ROI	6.8%	5.5%	6.5%

Keep in mind that in 2019, the company was helped by falling freight costs – every 10bp of help there adds 0.1% to ROI and that may have been a 30-40bp factor. Also, the equity base was hit by asset impairment charges, losses from discontinued operations, and restructuring charges. Every $100 million lost from the equity base added 0.2% to ROI. We think between this and the lower freight costs – ROI could easily be below 2017's 6.5%.

Cash Flow Has Been Fueled by Drawing Down Working Capital

Treehouse is guiding to Free Cash Flow of $250-$300 million for 2020. Some of this will be the result of lower capital spending of only $135 million vs. prior years of $150-$177 million during the restructuring and there should be lower cash restructuring charges too. The problem we see is the free cash flow has been heavily aided by declining working capital. That trend may be tough to maintain:

Cash Flow	1Q20	1Q19	2019	2018	2017
Cash from Ops Pre W/C	$123.2	$62.8	$235.2	$226.3	$389.0
Capital Spending	$31.1	$35.3	$146.8	$177.4	$161.6
FCF before W/C	$92.1	$27.5	$88.4	$48.9	$227.4
Cash Flow from W/C	-$54.7	-$128.2	$28.7	$245.8	$76.7
FCF after W/C	$37.4	-$100.7	$117.1	$294.7	$304.1

Some of that is understandable. THS was culling SKUs, divesting operations, and clients were buying less product. All of that should lower receivables and inventory and produce cash. However, now the restructuring program is largely complete and

the RTE cereal unit is part of discontinued operations at this point awaiting sale. The sale to Post fell through already and THS is still looking to dispose of the cereal business. Also, some of the past periods saw payables also rise and produce cash at the same time inventories were falling and also producing cash:

Working Capital	1Q20	1Q19	2019	2018	2017
Receivables	-$24.0	-$16.4	$80.6	-$29.1	$103.3
Inventory	$1.1	-$46.6	$65.5	$50.6	$23.7
Prepaid Exp.	-$60.4	-$14.9	$7.1	$32.5	-$18.9
Payables	$39.7	$11.9	-$80.9	$106.1	-$9.6
Accrued Exp.	-$11.1	-$62.2	-$43.6	$85.7	-$21.8
Cash from Work. Cap.	-$54.7	-$128.2	$28.7	$245.8	$76.7

Guidance is easy in theory $2.40-$2.65 in EPS * 56.3 million shares = $135-$150 million in income. That assumes 30-50bp of margin gain, which may have some issues being reached. Every 10bp of miss on margin is $3 million of income. Depreciation of $210-$220 million + stock option expense of about $22 million – capital spending of $135 million. Free cash flow should be $232-257 million. That seems to require more cash from working capital in 2020 still.

The biggest issue against unlocking cash is THS already sells receivables. It has agreements to sell a max of $300 million of receivables. The sold receivables are removed from the balance sheet and show up as higher cash flow. It also pays the financial institutions in arrears when it collects the receivables and this shows up as higher payables and adds to cash flow also. Here is the discussion from the 1Q20 10-Q report:

> *"As of March 31, 2020 and December 31, 2019, the Company had collected but not yet remitted to the financial institutions $106.7 million and $158.3 million, respectively. These amounts were included in Accounts payable in the Condensed Consolidated Balance Sheets."*

THS has already realized a sizeable amount of cash from this program:

	1Q20	4Q19	3Q19	2Q19	1Q19	4Q19	3Q18	2Q18
Receivables Sold	$229.8	$243.0	$196.2	$184.5	$148.7	$177.0	$200.0	$198.9
Payables on A/R Sold	$106.7	$158.3	$136.6	$70.5	$97.5	$119.3	n/a	n/a

This program began in 4Q17. If you look at receivable DSOs from the balance sheet – they look like they are in improving:

	1Q20	4Q19	3Q19	2Q19
On Balance Sheet A/R	$292.8	$270.6	$305.2	$301.3
Receivable DSOs	24.6	21.7	26.3	22.0

	1Q19	4Q18	3Q18	2Q18
On Balance Sheet A/R	$367.3	$351.3	$285.6	$258.3
Receivable DSOs	31.4	26.7	18.7	16.2

	1Q18	4Q17	3Q17	2Q17
On Balance Sheet A/R	$345.2	$329.8	$432.1	$352.7
Receivable DSOs	21.3	17.7	25.4	21.1

In reality, THS has been giving longer terms to customers as adding in the balances of sold receivables has receivables at 44 days now compared to 22 days before the program. We think this is a red flag for sales growth again. Customers get longer terms and still cut orders from THS based on price hikes as we discussed above.

	1Q20	4Q19	3Q19	2Q19
Total Receivables	$522.6	$513.6	$501.4	$485.8
Receivable DSOs	44.0	41.1	43.3	35.4

	1Q19	4Q18	3Q18	2Q18
Total Receivables	$516.0	$528.3	$485.6	$457.2
Receivable DSOs	44.1	40.4	31.8	28.7

	1Q18	4Q17	3Q17	2Q17
Total Receivables	$528.3	$404.4	$432.1	$352.7
Receivable DSOs	32.6	21.7	25.4	21.1

In summary, THS has already turned the incremental 20-22 DSOs into cash, it has then slow paid the banks on collections of receivables and pulled another 9-12 DSOs

of cash out of receivables based on a balance owed in payables of $100-$150 million. If THS cannot pull more cash out of receivables going forward, it may be difficult to reach forecasts of $300 million in free cash flow.

Inventory levels as DSIs have also declined noticeably. This may not produce cash going forward either.

	1Q20	4Q19	3Q19	2Q19
DSIs	55.1	54.3	73.6	73.1
	1Q19	**4Q18**	**3Q18**	**2Q18**
DSIs	89.5	59.6	78.2	70.6
	1Q18	**4Q17**	**3Q17**	**2Q17**
DSIs	68.7	58.2	80.5	72.8

Cash Flow is Still Supporting a Large Debt Balance

Total debt (excluding the payable for the receivable program) is $2.2 billion or $1.9 billion net of cash. EBITDA is $475 million so net debt is 4.0x and 3.8x if adding back stock option expense. THS has a covenant to keep the total debt under 4.5x. It raised that figure from 4.0x last August.

We think that much of the free cash flow generated will be applied to debt reduction going forward. THS has not scrimped on capital spending and did spend more heavily on new software during the restructuring:

	2019	2018	2017
Depreciation	136.5	145.0	147.4
Capital Spending	122.7	155.0	135.5
Software	$24.1	$22.4	$26.1

Its forecast for $135 million in spending for 2020 looks more than reasonable. And as noted above, simply having lower restructuring costs should help cash flow. Flat earnings and depreciation produce $350 million in cash flow. Even assuming no

working capital benefit, there should still be enough free cash flow to start paying down debt.

There Is Still a Sizeable Intangible Asset Level

THS was built with a series of acquisitions. It still considers future acquisitions to be an area it examines for growth or adding more products. Goodwill is $2.1 billion against equity of $1.8 billion. It is tested for impairment based on income growth, EBITDA multiples, and discounted cash flows.

We think there are several risks here. The first is THS has an ROI of under 7% as pointed out above. Its income results have been aided by reduced R&D, reduced marketing, and the fact it enjoyed lower shipping rates. Some or all of that may not be sustainable in the long-term. As far as valuation goes, the company's stock price has dropped from $103 to $49 in recent years. That makes its 10.3x adjusted EBITDA multiple look low – given that it traded at higher levels while making more acquisitions.

The other potential for write-offs comes from THS not being able to take pricing, not being able to hold volume, and that it may have to spend more on marketing. All of that means results may disappoint compared to what the company is forecasting. Already, there have been many impairments recorded by THS based on those factors:

> *"During the third quarter of 2019, the Company identified triggering events for the Dry Dinners and Cookies asset groups, within its Meal Solutions and Baked Goods segments, respectively,* ***related to historical operating losses, revised forecasts showing continued operating losses, and management's decision to reduce capital expenditures*** *in these asset groups going forward. Upon identification of these triggering events, the Company performed a recoverability test and concluded the assets within these asset groups were not recoverable. As a result, the Company recognized $42.8 million of property, plant, and equipment impairment losses and $45.2 million of finite-lived intangible asset impairment losses."*
>
> *"In 2019, on a* ***discontinued operations basis, we incurred a total of $141.0 million of non-cash impairment*** *charges, comprised of $66.5 million related to*

*long-lived asset impairment in the Snacks segment and **the expected disposal loss on the RTE Cereal transaction** of $74.5 million."*

"*Upon completion of the annual goodwill impairment analysis as of December 31, 2017, the Company **recorded impairment losses of $276.4 million** related to the Snacks reporting unit. **This reporting unit did not achieve the forecasted results for the year ended December 31, 2017**. The Company finalized its budgeting process in the fourth quarter which resulted in **reduced future revenue and profitability expectations. The primary factor impacting the future revenue and profitability expectations for the Snacks reporting unit was competitive pressures.**"*

*"Upon completion of the annual **goodwill impairment analysis as of December 31, 2016, the Company recorded impairment losses of $333.4 million and $11.5 million related to the Snacks and Condiments reporting units, respectively. These reporting units did not achieve their forecasted results** for the year ended December 31, 2016 and after finalizing the budgeting process in the fourth quarter of 2016, resulted in reduced future revenue and profitability expectations due to competitive pressures."*

Other intangibles are $537 million and on a positive note, THS amortizes all but $21 million of trademarks. The bulk of these ($408 million) are customer relationship oriented being amortized over 5-20 years. These are tested for impairments as well and will need to hit internal forecasts as well.

Avery Dennison (AVY) EQ Review

Current EQ Rating*	Previous EQ Rating
4-	na

Rating scale
6- "Exceptionally Strong"
5- "Strong"
4- "Acceptable"
3- "Minor Concern"
2- "Weak"
1- "Strong Concerns"

Note that a "+" sign indicates the earnings quality improved in the most recent quarter while a "–" sign indicates deterioration

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

We initiate earnings quality coverage with a rating of 4- (Acceptable).

While we do have some concerns with the length of estimated useful lives the company uses to amortized capitalize software and the likely expiration of the benefit from lower R&D spending, we do not have significant concerns with AVY's earnings quality. Specifically, we note:

- AVY capitalizes the cost to develop internal-use software and amortizes it over a period "generally from 5-10 years." The company's disclosure of gross capitalized costs, accumulated amortization, and amortization expense seem to indicate that the effective average life is much closer to 10 years than 5. Our experience indicates that 3-5 years is a more typical time frame over which to amortize such assets. If the amortization period was cut in half, it would raise annual amortization expense by approximately 20 cps, or roughly 3% of adjusted 2019 EPS.

- Before the 3/20 10-Q, AVY disclosed quarterly research and development expense. In the 12/19 and 9/19 quarters, the decline in R&D as a percentage of sales added 2 cps and 3 cps to EPS growth, respectively. This disclosure was not available in the 3/20 10-Q. Given the company's push towards RFID and other digital technologies, we would expect the trend in R&D spending to be increasing above its current rate of only 1.2% which could be a mild headwind to growth in future quarters.

- Inventory days of sales as of the end of the 3/20 quarter jumped by 4 days over the year-ago period. While this would ordinarily raise alarms, almost the entire increase was due to a rise in raw materials days which fits the company's narrative of a higher than normal backlog from COVID-induced demand for food, pharma, and hygiene product labels which will be worked off during Q2. Therefore, we will look for inventory growth to normalize in the back half of the year.

- Lower stock-based compensation added a little over a penny per share to EPS growth in the 3/20 quarter.

- The company recorded provision for doubtful account expense over $20 million in the 3/20 quarter which amounted to an almost 20 cps headwind for EPS growth. This boosted the reserve for bad debts as a percentage of gross receivables to 3.6% from 1.8%.

- Over 75% of AVY's sales are generated overseas with the bulk of its exposure coming from the Euro and the Yuan. The company is therefore unusually exposed to the impact of currency translation with the FX impact boosting or dragging reported sales growth between 1-3% over the last four years. While disclosure does not allow for a detailed analysis of currency impact by geography, we do not see evidence that the company is benefitting from adjusting out the FX impact of currency erosion from operations in countries with hyperinflationary environments while leaving in the gains from inflation-induced price increases as we have criticized with MDLZ and SEE.

Amortization of Capitalized Software- Useful Lives Appears Unrealistically Long

AVY capitalizes costs associated with developing software as follows:

> *"We capitalize software costs incurred during the application development stage of software development, including costs incurred for design, coding, installation to hardware, testing, and upgrades and enhancements that provide the software or hardware with additional functionalities and capabilities. Software costs, including internal and external training costs and*

maintenance costs, incurred during the preliminary project stage and the post-implementation and/or operation stage are expensed. In addition, we capitalize implementation costs incurred under a hosting arrangement that is a service contract. Capitalized software, which is included in "Other assets" in the Consolidated Balance Sheets, ***is amortized on a straight-line basis over the estimated useful life of the software, which is generally between five and ten years."***

The company discloses the gross cost, accumulated amortization, and amortization expense on an annual basis. That data is shown below for the last three years along with an estimated amount of capitalized costs calculated as a plug number:

	2019	2018	2017
Gross Cost	$487.2	$452.4	$428.9
Accumulated Amortization	$334.4	$316.9	$301.8
Net Cost	$152.8	$135.5	$127.1
Beginning Net Balance	$135.5	$127.1	$117.6
Amortization	-$20.8	-$20.2	-$29.3
Amount Capitalized (PLUG)	$38.1	$28.6	$38.8
Ending Net Balance	$152.8	$135.5	$127.1

We realize that our estimate of periodic capitalized costs will not be exact due to FX impacts and retirement/write-off of existing assets, but we believe it serves as a good estimate. The fact that the amount capitalized regularly exceeds amortization expense calls into question the useful life estimate. We noted above that AVY amortizes capitalized software assets over 5-10 years. In our experience, 10 years is on the longer side of estimated life ranges we typically see. Digging into the numbers a little deeper, if we take the average gross cost of capitalized software between 2019 and 2018 of $470 million and divide it by the 2019 amortization expense of $20.8 million we get an implied amortization period of over 20 years. This is clearly not the case and indicates that the gross balance must include a large amount of gross costs associated with software that has been fully amortized but is still in service. However, even if we compare amortization expense to the average ***net*** balance of approximately $144 million, we get an implied amortization period of almost 7 years. This is unrealistically low as clearly not all of the net balance is fully amortized. The actual effective amortization period is somewhere in the middle of 7-22 years and very likely at the top end of the 5 to 10- year range given by the company. A more typical range for software amortization based on our experience would be 3 to 5 years. If the

average effective amortization period was cut from 10 to 5 years, it would double amortization expense and reduce annual EPS by about 20 cps or approximately 3%.

R&D Declining and No Longer Disclosed

AVY previously disclosed research and development expense (R&D) in its 10-Qs but this figure was omitted from the 3/20 Q. Historically, the data was as follows:

	3/28/2020	12/28/2019	9/28/2019	6/29/2019
Sales	$1,723.0	$1,772.9	$1,761.4	$1,795.7
R&D	na	$21.4	$21.7	$24.8
R&D % of Sales	na	1.21%	1.23%	1.38%

	3/30/2019	12/29/2018	9/29/2018	6/30/2018
Sales	$1,740.1	$1,768.7	$1,759.7	$1,854.2
R&D	$24.7	$23.7	$24.5	$25.2
R&D % of Sales	1.42%	1.34%	1.39%	1.36%

We can see that R&D as a percentage of sales was dropping year-over-year through the 12/19 quarter before the R&D disclosure disappeared. The decline as a percentage of sales added 2 cps and 3 cps to EPS growth in the 12/19 and 9/19 quarters, respectively. While R&D spending may have been cut in the wake of the COVID impact, we doubt very seriously it was cut so much that the amount was no longer material. Therefore, we are uncertain as to why the disclosure disappeared. Regardless, as the company moves more towards the direction of RFID and digital integration of its label products, we would expect R&D spending to rise as a percentage of sales in the future and the recent tailwinds to turn against the company.

We also note that the deferred revenue disclosure was absent from the 3/20 10-Q. However, this amount is less material, ranging from just $12 million to $16 million and has held steady on a days of sales basis. Still, in our minds, less disclosure is always a bad thing.

Inventory Climb Not a Concern

Total inventory days of sales (DSI) at the end of the 3/20 quarter jumped by 4 days versus the year-ago quarter. The following table shows the increase broken down by inventory component:

	3/28/2020	12/28/2019	9/28/2019	6/29/2019
Raw Materials DSI	20.6	16.4	16.4	16.3
Work in Process DSI	14.9	14.2	14.4	14.0
Finished Goods DSI	17.6	16.3	16.1	16.1
DSI	53.2	46.8	46.9	46.5

	3/30/2019	12/29/2018	9/29/2018	6/30/2018
Raw Materials DSI	17.3	16.6	17.8	16.4
Work in Process DSI	14.5	13.8	14.2	13.2
Finished Goods DSI	17.3	15.3	15.7	14.8
DSI	49.1	45.7	47.8	44.5

Management noted in the conference call that it experienced lower collections and higher inventory levels as many customers were shut down during the last month of the quarter due to COVID. Also, the company's food, hygiene and pharma customers experienced strong demand which led to an increase in backlog that is expected to be worked off during the 6/19 quarter. Finally, the company acquired Smartrac's transponder division for $253 million in late February which likely impacted the DSI calculation.

As the table above shows, the increase in DSI's was driven by raw materials which matches the narrative of a company building to meet an unexpected rise in backlog. Thus, while a sudden 4-day jump in DSI would ordinarily be a point of concern, we are not alarmed given the source of the increase and expect to see the raw materials buildup flow out of inventory by the end of the 6/19 quarter.

Big Build in Receivables Allowances Pressured Growth

AVY built up its allowance for bad debts during the quarter. The allowance as a percentage of gross receivables jumped to 3.6% versus 1.8% in the year-ago quarter

and 2.2% in the 12/19 quarter. The company began disclosing the progression in the allowance account in the 3/20 10-Q so we know that the company recorded provision expensed $20.3 million in the quarter while only writing off $500,000 of receivables. We do not know what provision expense was in the 3/19 quarter, but the company noted in the 3/20 10-Q that the provision amount "primarily reflects impacts on customers as a result of COVID-19." The $20.3 million charge amounts to approximately 19 cps and accounted for almost all of the increase in the allowance percentage. AVY has amounts due from a mix of smaller customers, many overseas, so the company may not have seen the end of higher provision expense. However, another headwind of the magnitude seen in Q1 seems unlikely.

Currency Exposure

Over 75% of AVY's sales in 2019 were generated from its international operations with 23% in Western Europe, 20% in China, 15% in other Asia with the rest in Eastern Europe and Latin America. This leaves the company's results very exposed to fluctuations in foreign currencies versus the dollar, particularly the Euro and the Chinese Yuan. The company does not currently engage in extensive FX hedging (the amount of cumulative losses reclassified to income from AOCI was only $1.1 million in the 3/20 quarter.) Regardless, the company's reported sales and profits are significantly impacted by currency movements, as shown in the following table showing FX-adjusted sales growth for the last three fiscal years:

	2019	2018	2017	2016
Reported Sales Change	-1.0%	8.0%	9.0%	2.0%
FX Translation	3.0%	-1.0%	-1.0%	3.0%
Sales Growth Ex-Currency	2.0%	7.0%	8.0%	5.0%

Our concern in the area of FX translation is greater when a company such as MDLZ or SEE that have sizeable operations in high-inflation countries experience artificial benefits from adjusting out the FX impact but leaving in the benefit of inflation-induced price increases. Roughly 15% of the company's sales are in Latin America but it has treated Argentina as a highly inflationary operation and utilized the dollar as the functional currency to measure its results since 2018. While the company does not break out the sources of sales growth in Latin America, we do not believe that sales to high-inflation environments like Argentina and Venezuela are material

enough to significantly distort ex-currency growth figures. We can see that while FX translation can add or subtract 1-3% from reported sales growth which is a real risk, but one most investors should already be aware of.

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 recently reported results have benefitted materially from aggressive accounting. Follow up work should be performed to determine the nature and extent of the problem. There is a possibility that upcoming results could disappoint as the impact of unsustainable benefits disappears.
1- "Strong Concerns"	Indicates that the company’s recent results are significantly overstated and that we view a disappointment in upcoming quarters is highly likely.

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

Key Points to Understand About the EQ Score

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

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

Disclosure

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