BEHIND THE NUMBERS
EARNINGS QUALITY & DIVIDEND SUSTAINABILITY RESEARCH

BTN Research

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Dow Inc. (DOW) 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 are initiating earnings quality coverage of DOW with a 3+ (Minor Concern) rating.

DOW has had a very busy few years of late going through one of the biggest actual restructurings we have seen with a mega-merger of equals, internal merger of parts of divisions from each company, divestiture and closing of several units, and then the spin-off into three separate companies – this being one of the three. The resulting business has resolved several litigation and environmental matters. 2020 will continue to have another year of completing the restructuring and finalizing other deals with JVs.

DOW now has EBITDA of between $7.0-$9.0 billion, supporting $14.5 billion in net debt plus an underfunded pension of $7.7 billion. So, without the pension, 1.6-2.0x net debt/EBITDA or 2.5-3.0x with the pension. DOW also has cash of $3.6 billion and credit available to push that to $12.0 billion. Even before COVID, several issues pointed to EBITDA and cash flow coming at the lower part of the range. As those areas are resolved, we expect results will improve.

Our largest quality of earnings concerns center on one non-consolidated affiliate Sadara and adding back expenses to build accruals as one-time items that should help boost future EPS:

- **Adjusted EPS in 2019 was $3.53 compared to GAAP results of -$2.35, so several areas are still clouding the picture at DOW. From a positive standpoint – the integration charges are getting smaller and are expected to end in 2020. Less cash spending in this area may create a positive swing of $1 billion free cash flow for 2020.**

- **The Sadara joint venture produced a $1.8 billion write-off last year and with continued losses, DOW is carrying it with a negative value. The biggest risk is the JV was losing money and experiencing margin pressure before COVID. Losses may well continue. Also, DOW has continued to infuse Sadara with new loans and expects to invest another $500 million in 2020.**

- **The biggest risk to DOW is Sadara is heavily leveraged and DOW has guaranteed $3.9 billion of the debt. The plan in 2020 was to refinance Sadara, which would remove the guarantees – but that may happen more slowly now with COVID** and current results could make it more difficult. We would not be surprised if a final resolution requires DOW to invest more capital.

- **DOW's earnings are also impacted.** It earns a fee for marketing Sadara products through its sales channels. Sadara is about 8%-9% of DOW's total Cost of Sales. **The problem we see is DOW converted $380 million of accounts receivable and notes receivable from Sadara into equity in both 2018 and 2019 – so they didn't get fully paid on these sales. Then in 2019, they wrote off 100% of the equity in the $1.8 billion charge, which was added back as a one-time item. The $380 million of receivables represents as much as 40-cents in adjusted EPS for DOW in both 2018 and 2019.**

- **DOW did not disclose the break-down between accounts receivable vs. notes receivable that converted to equity. The accounts receivable portion write-off would have inflated EPS and the actual figure is likely less than 40-cents per year.** Regardless of the level – we think this further highlights the larger risk that DOW is guaranteeing the debt of a company that is having a hard time covering day to day bills.

- **Total cash received via dividends from several various non-consolidated ventures was $1 billion in 2019. That is expected to fall by nearly $800 million in 2020 and offset much of $1 billion gain from lower integration charges.**

- **The coatings and performance monomers unit just had its second $1+ billion write-down in 2019. The reasons given were the same as 2017** – customers have consolidated, customers are using more in-house production, margins are being compressed due to commoditization, and the unit is missing forecasts. **This is still 20% of sales and segment income and the write-Downs are saying this business may be a headwind more often than a tailwind for results.**

- **Accrued liabilities and other non-current obligations are up by $2.1 billion from 2018 to 1Q20. This creates earnings quality issues because DOW is adding back several items that are normally recurring items that built these reserves as one-time items in adjusted EPS. Basically, adding back the big charge, means there is no current expense and the high accrual can be used without impacting future EPS. Every $100 million of accruals that is used by not recognized as an expense is worth 11-cents in EPS.**

- **DOW takes environmental charges every year of $150-$200 million. In 2019, it took a $588 million charge and added back $399 million as a one-time item**. It also has indemnification agreements with DuPont from the separation to cover obligations and other liabilities that may arise including remediation issues. **There are about $800 million in various accruals related to this indemnification and DOW added back $144 million with a negative $113 million tax impact in 2019 relating these accruals.**

- **Litigation risks appear under control.** The largest is asbestos where DOW has $1.65 billion reserved against an estimate for current and future claims of $1.15 billion. Also, the silicone breast implant issues have now been capped as of July 2019 based on the DOW Silicones Chapter 11. DOW has accrued $165 million against $165 million in estimated claims.

- **Cost savings from the restructuring are evident in seeing SG&A decline in dollar terms and a percentage of sales.**

- **DOW is still a cyclical company that sees sales and gross profit impacted by the price of raw materials. Also, maintenance on plants is a part of chemical companies and there was heavy maintenance in 2019 and that is expected again in part of 2020.**

- **We saw little reason for concern in working capital ratios and R&D cuts are also understandable given the combining of offices and departments. R&D is something to monitor going forward.**

- **The Pensions are underfunded by $7.7 billion. DOW made heavy contributions to the plans in 2017 and 2018 of $1.7 billion. In 2019 and 2020 – it made $261 million and expects $250 million. We could certainly see the funding need to increase going forward. Also, the changes in interest rates set up for a headwind of earnings that the company is calling $125 million for 2020 or about 13-cents.**

Adjusted Non-GAAP EPS

After going through a merger, reorganization of divisions, the spin-off of units, splitting away from the conglomerate, and still having discontinued operations to dispose of after that – we are not alarmed that DOW has some sizeable one-time adjustments to GAAP earnings. Here is what the company reported for 2018, 2019, and 1Q20:

Non-GAAP Income	1Q20	1Q19	2019	2018
EPS	**$0.32**	**$0.24**	**-$2.35**	**$3.99**
*Integration/Separation Costs	$0.07	$0.44	$1.11	$1.27
DOW Silicones Restructuring	$0.00	$0.00	$0.00	$0.02
*Restructuring/Impairment/Asset Chgs	$0.11	$0.20	$4.26	$0.22
Loss on Divestitures	$0.00	$0.00	$0.06	-$0.02
Loss on early extinguishment of debt	$0.09	$0.00	$0.11	$0.06
Income-tax reform	$0.00	$0.10	-$0.14	-$0.17
Litigation & Settlements	$0.00	$0.00	-$0.24	$0.00
*Environmental Chgs	$0.00	$0.00	$0.42	$0.00
*Indemnifications	$0.00	$0.00	$0.34	$0.00
Warranty accrual on exited units	$0.00	$0.00	-$0.04	$0.00
Total adjustments	$0.27	$0.74	$5.88	$1.38
Non-GAAP EPS	**$0.59**	**$0.98**	**$3.53**	**$5.37**

- Negative figures are gains/income as in the income tax line
- The starred line items are discussed in more detail below

On the positive side, these adjustments have been getting smaller and we seldom consider repaying debt early to be a negative even though it results in immediate amortization of debt issuance costs. We are also not going to be too critical of minor losses on divestitures.

The Integration and Separation spending is expected to end in 2020 and only cost about $250 million in cash this year vs. $1.0 billion last year. That should help cash flow. Also, **capital spending has been running about $2.0 billion the last two years and included spending related to closing and remediating plants. As some of that is completed, capital spending should decline to $1.5-$1.7 billion so these aspects of the restructuring should help free cash flow by nearly $1.0 billion.**

Looking more closely at a few of these other items:

Sadara Is Not Over Yet

Restructuring/Impairment/asset charges of $3.2 billion includes $1.755 billion to write the value of DOW's 35% stake in Sadara to $0. Sadara is a joint venture between DOW and the Saudi Arabian Oil Company. This was set up in 2011 and DOW sells Sadara products outside the Middle East for a fee. **Sadara has been 8%-9% of DOW's cost of sales during 2019 and 2018 – which is $3.0-$3.5 billion. From our review, it appears that DOW would be generating a profit from reselling those products. However, was that really the case?**

Sadara began operations in 2017. **During 2017, DOW loaned it $735 million and converted that into $718 million of equity. In 2018, it converted $382 million of notes and accounts receivable into equity. In 2019, it loaned another $473 million and converted $380 million of notes and accounts receivable into equity.** At the end of 2019, the investment value of Sadara was marked to zero with the $1.755 billion write-Down. However, in 1Q20, it loaned another $114 million and the carrying value is now below zero at -$92 million. DOW expects to loan up to $500 million in 2020 to Sadara.

On the 1Q20 conference call, DOW noted that Sadara is now in a position to be considered a fully operational venture. This status will enable DOW to be released from $3.9 billion of loan guarantees on Sadara (35% of $10.8 billion in project financing outstanding) during 2020 when agreements are finalized. Sadara will then seek to refinance its debt to provide better flexibility.

On Earnings Quality, we have several concerns about Sadara:

- DOW notes that Sadara has yet to earn a profit and the losses in 1Q20 due to margin compression has it carrying a negative value on the investment representing its 35% share of losses.

- Income from operations reflects $3.0-$3.5 billion in Cost of Sales from Sadara products that DOW is earning a marketing fee by selling it through its customer channels. With the marketing fee, this should be a profitable business for DOW's base operations.

- However, for the last three years, DOW has converted receivables from Sadara into equity and it just wrote off ALL the equity in a one-time charge.

- **Non-GAAP EPS clearly benefitted from the sales of Sadara products. Those profits are in the Non-GAAP EPS.** However, DOW has been converting receivables from Sadara into equity and then writing them off. **It is then adding back the write-off as a one-time event and boosting Non-GAAP EPS. The $380 and $382 million of receivable write-offs from this deal is worth 40-cents in EPS for 2019 and 2018 compared to non-GAAP EPS of $3.53 and $5.37 respectively – so this is a significant piece of earnings.**

- **The accounts receivable portion would have gone through the income statement and impacted EPS. DOW does not break down the components of receivables so the 40-cents is a worst-case impact of ignoring the write-off in the adjusted figures.**

- It does not appear that Sadara issues are gone. DOW says it is not profitable, its margins have been squeezed, it is having a tough time even covering payables – let alone financed debt, and DOW still expects to put over $300 million more into the JV this year. The margin issues do not appear over.

- Sadara is lumped in with several other nonconsolidated affiliates in Kuwait and Thailand. Those other affiliates appear to be generating solid income and dividends for DOW.

	2019	2018	2017
Equity Income of Non-Cons. Affiliates	$21	$561	$347
Dividends from Non-Cons. Affiliates	$1,020	$663	$654
Net Loans/Investment to Non-Cons. Aff.	-$549	$37	-$680

- In 2019, the Kuwait deal paid a $440 million dividend. The write-offs of Sadara are seen in income. But in most years, it appears cash flow from the affiliates exceeds income. However, we know that Sadara is consuming most of the negative cash flow going to additional loans and investments – It was $473 million in 2019 and $735 million in 2017.

- **We also know DOW is still guaranteeing $3.9 billion of Sadara debt and expects to invest about $500 million total in 2020.** It doesn't seem far-fetched that finalizing a refinancing of Sadara could lead to DOW injecting more equity or buying some junior debt from the deal. Either way, COVID may delay these plans. The $3.9 billion guarantee represents another potential 0.5x EBITDA along with DOW's already 2.0x for its net debt and 1.1x for its pension.

- **Sadara is not profitable but does have positive EBITDA according to DOW.** Its total debt load is $10.8 billion. The debt/EBITDA ratio may well be much higher than DOW's and the goal of refinancing to provide more flexibility sounds like it is designed more to extend maturities. It is not clear that the debt load would decline.

That is why we say again that DOW's goal of eliminating its $3.9 billion debt guarantee may be more costly.

- **Guidance for dividends before COVID for 2020 was only $250 million, which will lower cash flow from operations. Looking at free cash flow – this drop from $1.0 billion will largely offset the lower restructuring spending and capital spending described in the previous section.**

Is This the Last Charge for Coatings and Performance Monomers?

There was a goodwill charge for the Coatings and Performance Monomers unit of $1.039 billion in the impairment item too. It may not be the last time. In 2019, DOW reported that the unit was missing its forecasts and dealing with margin pressure because customers are using their internal sources of supply too. In 2017, DOW took a $1.491 billion write-Down of this same unit because customers were consolidating, giving the customers more power, and the market had less growth potential due to more commoditization. What is interesting is this unit after 2017, only had $1.071 billion in goodwill. After putting some of DuPont's assets into this unit, goodwill was boosted to $3.689 billion. Then in 2019, DOW wrote off another $1.309 billion for the same reasons that were in place in 2017. Look at the recent performance of this unit:

Coatings	price	volume	EBIT	reasons
1Q20	-7%	-3%	-40%	margin compression
2019	-6%	-1%	-26%	margin compression offset cost synergies
2018	10%	-2%	53%	cost synergies and price increases

This unit now has $2.587 billion in goodwill still, total assets are about $14 billion, and EBITDA in 2019 after cost synergies was $1.8 billion. There may be more impairments coming in this area. This is still about 20% of DOW's sales and operating income. The write-offs indicated that continued margin pressure here may remain a headwind.

Did DOW Build Accruals Coming out of 2019 to Help Future EPS?

One of the charges that is added back to non-GAAP EPS is $399 million in environmental charges. DOW describes it this way:

> *"the Company recorded a pretax charge related to environmental remediation matters at a number of current and historical locations. The charge primarily resulted from: **the culmination of long-standing negotiations and discussions with regulators and agencies**, including technical studies supporting higher cost estimates for final or staged remediation plans; **the Company's evaluation of the cost required to manage remediation activities at sites affected by DOW's separation from DOWDuPont** and **related agreements with Corteva and DuPont**; and, the **Company's review of its closure strategies and obligations to monitor ongoing operations and maintenance activities**"*

What caught our eye is DOW normally has a material charge every year for such matters and it even notes that these are long-standing issues. The environmental accrual and charges have been:

Environmental Chgs	2019	2018	2017
Accrual	$1,155	$810	$865
Charge to Income	$588	$176	$163

Thus, in 2019 it considered $399 million to be a one-time event and reported a net $189 million against EPS. However, it may be the case that future earnings will be higher due to less need for this accrual to rise further. **Thus, the $399 million didn't hurt 2019 earnings and will help 2020 and maybe 2021 earnings. Every $100 million that doesn't appear in the future is 11-cents in EPS.**

If we look at total accruals, they have been increasing – up $2.1 billion since the end of 2018.

Accruals	1Q20	2019	2018
Accrued Liabilities	$2,811	$2,762	$2,931
Other Non-Current	$6,937	$6,547	$4,709

- These do not include another $1 billion in non-current asbestos liabilities

Included in these accruals are the environmental charges discussed above. There are also legal accruals and indemnities to cover claims related to the separation of DOW from DuPont and Corteva. Within that area, DOW has $319 million in the accrued liabilities, another $105 million in non-current liabilities, and it deferred $400 million in cash received from the separation and recorded a $400 million liability in other non-current obligations for it too. Within the non-GAAP earnings in 2019 – DOW added back $144 million of the indemnifications in the accruals. **Booking accruals early looks conservative and it did punish GAAP earnings to build them. However, when they are added back to report non-GAAP earnings – it is as though the costs never occurred. Going forward, DOW is unlikely to have an indemnity charge and GAAP and non-GAAP earnings will both benefit from that. Again, every $100 million of accrued costs added back as one-time is worth about 11-cents in EPS when used in the future.**

Litigation Risks Appear Under Control

There are two material litigation issues above some of the environmental accruals DOW has to deal with: asbestos and silicone breast implants.

Asbestos claims go back to Union Carbide before DOW bought it. DOW commissioned a review of the probable claims and cost to litigate through 2049. In 2016, it boosted the estimate by $1.113 billion. That estimate has not been increased since then. The estimate for future and pending claims is $1.148 billion. DOW has reserves of $1.165 billion at this time. $117 million is in accrued liabilities and $1.048 billion in non-current obligations.

Based on these forecasts, DOW is slightly over-reserved at this point which may keep any near-term charges to modest amounts. Also, DOW had over $12 billion in cash and liquidity. Pre-COVID EBITDA is about $7 billion. Current net debt is $13 billion or less than 2x EBITDA. Compared to the asbestos issues as they stand, DOW looks to be in good shape. Longer-term, we will not rule out that current forecasts could need to be raised again.

DOW Silicones Chapter 11 cases are more resolved. All the claims that can be filed were received in June 2019. The estimated amount to be paid at this point is $165 million. $45 million is in accrued liabilities and $120 million in other non-current liabilities. There is also a $100 million indemnification from Corning with $37 million in other current assets and $63 million in non-current receivables. At this point, this litigation area appears to be capped and fully reserved.

Cost Savings Are Apparent from Restructuring

So much has happened with DOW in recent years of mergers, spinoffs, adding parts of DuPont and then spinning itself off, along with considerable restructuring – it is difficult to put too much emphasis on any one year's results. The 2019 10-K gives some proforma results on sales for the 2017-19 timeframe and the company has areas where it calls out one-time items that impacted results.

We wanted to give a 10,000-foot look at some of the basic ratios and some explanations to see if there may be some issues either positive or negative. However, with only a few quarters as an independent company and still completing the restructuring this year – it will be difficult to discern large trends:

	1Q20	1Q19	2019	2018	2017
Sales	$9,778	$11,016	$42,998	$49,852	$44,772
Price chg.	-9%		-11%	4%	9%
Vol chg.	-2%		-2%	6%	6%
Cost of Sales	$8,230	$9,142	$36,183	$41,074	$36,350
Gross Margin	15.8%	16.7%	15.8%	17.2%	17.0%
SG&A	$334	$448	$1,590	$1,782	$1,795
SG&A %	3.4%	4.1%	3.7%	3.6%	4.0%

- Both Sales and Cost of Sales – the pricing in dollars is largely a function of changing raw materials prices. When oil, natural gas, natural gas liquids rise or fall – it moves those figures in dollar terms.

- The volume decline in 2019 is due to maintenance on facilities, and this also was a factor for hydrocarbons in Europe for 1Q20. That is a common issue for chemical companies. It happens regularly with some years heavier than others. This does three things:

    - It reduces sales volumes as product isn't being produced
    - There are still costs associated with labor, energy, maintenance so Cost of Sales does not decline as much as sales

- It reduces co-product volumes too as they aren't created when the plant is closed. Those co-products contribute to volumes and gross profit with little incremental cost, and thus can depress margins more than when other volumes are Down

- Maintenance is still expected to be heavy in 2Q and 3Q for 2020. That should continue to hurt margins and sales in those periods before COVID issues.

- Just simple math, if heavier periods of maintenance causes a 100bp loss to gross margin – it costs EPS about 45-55 cents. If it costs the company 2% of sales from the loss of volumes and co-products – that is 90-100 cents in EPS also. That's how EPS drops by $2.00 on non-GAAP results from 2018 to 2019 and the company is still reporting that it has achieved cost savings.

- DOW claims it has achieved cost savings by closing/consolidating facilities and this is more apparent in the SG&A figure which is falling in dollar terms and as a percentage of sales.

- A chemical company is likely to still have some cyclical earnings to it.

We do not see issues with working capital:

	1Q20	4Q19	3Q19	2Q19
DSOs	45	45	46	47
DSIs	69	65	65	67
DPOs	63	65	63	63

	1Q19	4Q18	3Q18	2Q18
DSOs	47	41	46	44
DSIs	68	58	62	60
DPOs	66	58	62	64

- On Receivables, DOW stopped selling receivables in 2018 and the DSOs ticked up a day or two in some quarters y/y. We don't see an issue.

- On Inventories, these can be impacted because some inventory is carried at 58% FIFO, 32% LIFO, and 10% average cost. The LIFO and average cost may not move as much at the end of a quarter while falling or rising raw materials prices may have a larger impact on Cost of Sales. As raw materials fell in price of late, the DSIs rose.

- On Payables, much like Inventories – they are a trailing cost basis of inventory being divided being compared to Cost of Sales that may move more on raw material price changes. The changes in 4Q y/y are explained by this.

R&D is Down – We Are Not going to Raise a Red Flag

The amount being spent has declined, but it may not be a material item:

	1Q20	1Q19	2019	2018	2017
R&D Spending	$179	$190	$765	$800	$803

DOW has reasonable explanations in our opinion for this modest decline. It has a cost reduction program in place and it enjoyed lower performance-based compensation of late. There have been facilities merged and synergies achieved too. Even with that – the spending level is only Down about 4%-5%. We didn't want to view this as a percentage of sales too closely as this longer-term spending. Also, the sales are heavily influenced by changing raw material prices.

This is a minor area to watch if the decline in dollar terms continues.

Pension Expense May Rise in 2020

DOW's pension is underfunded by $7.7 billion or about 1.0x EBITDA. The company's contribution levels may need to rise higher than recent levels of $261 million in 2019 and an estimated $250 million in 2020. Contributions were running $1.7 billion in 2018 and 2017. In rough terms, Cash from Operations is over $6 billion and capital spending about $2 billion. The completion of the restructuring in 2020 should reduce cash outflow in that area too. DOW's liquidity appears adequate to deal with a rise of pension funding needs.

From a more immediate issue, the interest rate assumption has moved up to 3.50% from 3.17% in calculating pension cost. That will add about $200 million to expense. Pension assets grew about $2.4 billion last year and would boost the rate of return by about $150 million. Given the drop and not quite recovery of the market in 2020 – this may be $120-$140 million. The next result may be pension expense rising $60-$80 million in 2020. That is about a 6-8 cent headwind for EPS. **DOW expects a $125 million headwind from pensions in 2020 or 13-cents per share so it expects some additional one-time items here.**

Hologic (HOLX) EQ Review

Current EQ Rating*	Previous EQ Rating
4-	na

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

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

We have no major concerns with HOLX's current earnings quality although its acquisition history has a large red mark in the form of its Cynosure deal. We also take a dim view of the company adding back its sizeable amortization of intangibles expense to its non-GAAP earnings and see a minor red flag with its declining depreciation expense. While these items are worthy of note, we do not view them as near-term problems that foreshadow a major disappointment. Specifically, we note:

- In 2017, HOLX acquired Cynosure for $1.66 billion, booking the bulk of the acquisition price as goodwill and intangibles. Write-offs started very quickly as one product under development failed to receive approval and the FDA issued a negative letter on one of the company's key products. This led to an eventual write of $685.7 million of goodwill and $685.4 million in intangible assets associated with Cynosure which was recently sold for just over $200 million.

- Even after the Cynosure write-offs, the company still has almost $4 billion of goodwill and intangibles (almost 70% of total assets) on its balance sheet, much of which is related to its $6 billion + acquisition of Cytyc made in 2007. The company adds the amortization of the intangible assets back to its non-GAAP earnings figures. Before the Cynosure write-off, amortization was over 60% of non-GAAP earnings and after the Cynosure write-off it is still almost 50%. While it is typical for med tech companies to make such non-GAAP adjustments, we still view this as a significant distortion of true economic earnings as it ignores the true cost of these acquisitions.

- The company noted in the 3/20 10-Q that it performed a review of intangible assets in response to changes in the market induced by COVID. It determined that there was an "significant" cushion between fair value and carrying value to indicate there was not an impairment, but it warned that further deterioration could result in another review.

- Depreciation expense has been on the decline for the last few quarters despite increases in capex and a slightly rising PP&E balance. The fastest rising components of PP&E are Equipment and Equipment Under Customer Usage Agreements. The latter includes equipment which is owned by the company but placed at customer locations under agreements which provide for minimum purchases of disposables. These are the two largest categories of PP&E and have the lowest depreciable lives, so we would expect rising balances there to drive depreciation expense up. The concern is that the company could be increasing the period over which it is depreciating equipment at customer locations leading to an artificial suppression of expenses recognized over time under these contracts. At this point, the decline in depreciation expense is adding less than a penny to EPS. However, this should be monitored going forward and at the very least we would expect to begin to see an increase in depreciation expense as a result of rising capex.

- The company maintains a nonqualified Deferred Compensation Plan which allows certain executives the ability to defer portions of their compensation until retirement. These amounts are invested on behalf of the employee. The funds are marked to market every period with the impact reflected in operating expenses. The company also purchases group life insurance to partially fund the payments made to employees under these plans. Changes in the cash surrender value of these policies are recorded in other expense. Mark to market impacts were cited as a key benefit to R&D and G&A expenses in the 3/20 quarter but were not quantified. Changes in cash surrender to life insurance policies were a $9 million loss recorded in other income versus a $4.5 million gain in the year-ago period. Unfortunately, there is not enough information to determine the net impact of these factors.

Cynosure Write Off

HOLX has made regular, small acquisitions over the last three years but free cash flow after the buyback has more than covered the cost of these deals. However, the company's past acquisition history is far from pristine. In March of 2017, HOLX acquired Cynosure, a developer of treatment systems aimed at plastic surgeons and dermatologists for minimally invasive cosmetic procedures including removal of hair, treatment of varicose veins, and tattoo removal. The purchase price was $1.66 billion with $685.7 million of that originally designated as goodwill and another $994 million designated as intangible assets which included $107 million of in-process R&D related to three projects which were expected to be completed in 2018 and 2019. The company gave the following support for the booking of these intangible assets related to the Cynosure deal:

> *"The distribution agreement intangible asset relates to Cynosure's exclusive distribution rights for the MonaLisa Touch device in certain geographic regions. The customer relationships intangible asset pertains to Cynosure's relationships with its end customers and related service arrangements and distributors throughout the world. Trade names relate to the Cynosure corporate name and primary product names, and the Company used the Relief-from-Royalty Method to estimate the fair value of this asset."*

Likewise, goodwill was backed up with the following:

> *"The factors contributing to the recognition of goodwill were based on several strategic and synergistic benefits that were expected to be realized from the Cynosure acquisition. These benefits included the expectation that the Company's entry into the aesthetics market would significantly broaden the Company's offering in women's health. The combined company was expected to benefit from a broader global presence, synergistic utilization of Hologic's direct sales force, primarily its GYN Surgical sales force, with certain Cynosure products, and the Company's entry into an adjacent cash-pay segment."*

Unfortunately, cracks in the value of the transaction began to appear very quickly. Two quarters after the close of the acquisition, the company wrote off $46 million of the in-process R&D after one of the three projects failed to obtain regulatory approval.

However, the real collapse did not start until the 3/18 quarter when the company noted it has identified indicators of impairment in the value of the goodwill which led to a $685.7 million write-down of goodwill. Shortly after that, the company began to explore divesting the Cynosure assets which led to a write-off of $685.4 million in the value of the intangible assets made in the 3/19 quarter. Finally, in November of 2019, the company reached an agreement to sell the Cynosure assets for just over $200 million. So, in less than three years after the acquisition, the company wrote off almost all of the purchase price of the Cynosure deal. On a percentage basis, this exceeds Conagra's (CAG's) destruction of value from its 2013 Ralcorp deal in a similar time frame.

While the Cynosure chapter appears to be behind the company now, it highlights the unsure nature of intangible assets on any company's balance sheet. HOLX still has goodwill of $2.59 billion (38% of assets) and $1.33 billion (19.5% of assets) on its books from acquisitions made many years ago. However, the company recently conducted an impairment test of its goodwill and intangibles due to the COVID impact and found that there was a "significant" cushion between the fair value and carrying value of these assets, although it did not quantify the cushion. Below is the note from the 3/20 10-Q:

> *"In the second quarter of fiscal 2020, the Company reviewed its long-lived assets for indicators of impairment as a result of lowering its expectations for revenue and operating income in the short term from the impact of COVID-19 on its business as discussed in Note 1.* ***The Company updated its long-term forecasts and performed an undiscounted cash flow analysis which indicated that the estimated future cash flows are sufficient to recover the carrying values of its asset groups. In addition, the Company had significant cushion from its most recent goodwill impairment test in each of its reporting units and believes, based on its procedures, current facts and expectations, that as of the date of this report it is it not more likely than not that the fair value of each of its reporting units is below their respective carrying values.*** *Given the current uncertainty of the duration and scope of the COVID-19 pandemic, the related economic impact, and the potential longer term impact on the Company's business, financial condition and results of operations, in the future the* ***Company may be required to perform an interim impairment test, in addition to its annual test, and record an impairment charge."***

Add Back of Intangibles Amortization Almost Half of Non-GAAP Earnings

On the subject of intangibles amortization, HOLX adds back the expense when calculating its non-GAAP earnings figures. The following table shows net income and amortization of intangible assets for the last eight quarters:

Table 1

	03/28/2020	12/28/2019	09/28/2019	06/29/2019
Adjusted Net Income	$150.9	$164.1	$175.0	$171.6
Amortization of Intangible Assets	$73.0	$72.7	$90.5	$90.5

	03/30/2019	12/29/2018	09/29/2018	06/30/2018
Adjusted Net Income	$155.9	$156.7	$158.6	$159.1
Amortization of Intangible Assets	$94.5	$95.1	$95.3	$94.7

We can see that before the write off the Cynosure intangibles in the 12/19 quarter, amortization expense was running about 60% of non-GAAP income, implying that earnings would have been less than half the non-GAAP figure if the cost of acquiring these intangibles was taken into consideration. Also, the write-off resulted in an approximate $18 million decline in amortization expense which is providing an artificial tailwind to growth in GAAP earnings. Also, note that the bulk of the remaining intangible assets on HOLX's balance sheet relate to its $6.2 billion 2007 acquisition of Cytyc. Amortization expense related to those assets has been gradually declining as they become fully amortized which can be seen in the approximate $5 million YOY decline in the 9/19 and 6/19 quarters.

HOLX is certainly not alone among its med-tech peers in ignoring the cost of acquisitions in its adjusted results. However, we do note that even after the write off of the Cynosure intangibles, amortization expense is almost half of non-GAAP earnings which is on the high end of the company's peers.

Depreciation Is Declining and Lagging Capex

Depreciation expense has been declining as capital spending has been on the rise for the last several quarters. The following table shows the difference between the two on a trailing 12 basis for the last eight quarters:

Table 2

	3/28/2020	12/28/2019	9/28/2019	6/29/2019
T12 Depreciation	$88.0	$90.4	$92.5	$93.5
T12 Capex	$120.3	$118.0	$109.1	$109.8
difference	-$32.3	-$27.6	-$16.6	-$16.3

	3/30/2019	12/29/2018	9/29/2018	6/30/2018
T12 Depreciation	$96.4	$98.3	$101.6	$103.9
T12 Capex	$108.7	$106.4	$105.6	$107.1
difference	-$12.3	-$8.1	-$4.0	-$3.2

This clearly shows the rising trend in capital spending with a particular jump in the last two quarters while depreciation has been on the decline. Now, let's look at depreciation and capex on a quarterly basis compared to the components of the PPE account:

	3/28/2020	12/28/2019	9/28/2019	6/29/2019
Depreciation	$20.7	$21.6	$22.8	$22.9
3 Month Capex	$31.6	$31.5	$31.4	$25.8
Equipment	$407.6	$385.2	$379.2	$393.5
Equipment Under Usage Agreements	$452.8	$448.2	$435.5	$429.8
Buildings and Improvements	$162.9	$170.2	$196.7	$195.5
Leasehold Improvements	$42.8	$43.6	$61.7	$61.0
Land	$40.6	$40.4	$46.3	$46.3
Furniture and Fixtures	$15.6	$15.1	$17.5	$17.7
Gross PPE	$1,122.3	$1,102.7	$1,136.9	$1,143.8
Less-Accumulated Depreciation	-$677.0	-$651.0	-$666.0	-$674.0
Net PPE	$445.3	$451.7	$470.9	$469.8

	3/30/2019	12/29/2018	9/29/2018	6/30/2018
Depreciation	$23.1	$23.7	$23.8	$25.8
3 Month Capex	$29.3	$22.6	$32.1	$24.7
Equipment	$386.8	$387.3	$380.3	$378.1
Equipment Under Usage Agreements	$422.9	$408.5	$399.6	$390.1
Buildings and Improvements	$189.4	$188.7	$188.3	$173.5
Leasehold Improvements	$64.3	$63.1	$63.0	$62.3
Land	$46.3	$46.3	$46.3	$46.4
Furniture and Fixtures	$17.5	$17.3	$16.8	$20.7
Gross PPE	$1,127.2	$1,111.2	$1,094.3	$1,071.1
Less-Accumulated Depreciation	-$657.5	-$638.6	-$616.1	-$609.6
Net PPE	$469.7	$472.6	$478.2	$461.5

It is also helpful to consider that the company depreciates assets on a straight-line basis using the following schedule of useful lives:

Table 4

Equipment	3-10 years
Equipment Under Usage Agreements	3-8 years
Buildings and Improvements	20-35 years
Leasehold Improvements	Shorter of Lease Term or Useful Life
Land	na
Furniture and Fixtures	5-7 years

The first thing to note in Table 3 is that gross PPE has been essentially flat and has not been significantly impacted by write-offs, acquisitions, or divestitures other than the slight decline in buildings and improvements in the 12/19 quarter. Given the 20-35 year useful life range for this category, the decline in those assets would have had a minimal impact on depreciation expense. Also, note that accumulated depreciation has also risen steadily indicating there have not been significant retirements of fully depreciated assets.

Another point to take away is that the fastest-growing components of PPE, "Equipment" and "Equipment Under Customer Usage Agreements" also have the lowest range of estimated useful lives at 3-10 years and 3-8 years, respectively. Therefore, additions to those components should be reducing the average estimated life of the portfolio resulting in an increase in depreciation expense. The Equipment Under Customer Usage Agreements is of particular interest. Consider the company's description of this account from its 10-Q:

> *"Equipment under customer usage agreements primarily consists of diagnostic instrumentation and imaging equipment located at customer sites but owned by the Company. Generally, the customer has the right to use the equipment for a period of time provided they meet certain agreed to conditions. The Company recovers the cost of providing the equipment from the sale of disposables. The depreciation costs associated with equipment under customer usage agreements are charged to cost of product revenues over the estimated useful life of the equipment. The costs to maintain the equipment in the field are charged to cost of product revenue as incurred."*

Elsewhere in its disclosures, the company indicates that this equipment is primarily related to tests and assays in the Diagnostics segment and handpieces in the GYN Surgical segment. We observe that the range of 3-8 years seems reasonable given some quick research we did into the useful lives of various pieces of medical equipment. However, the size of the range seems somewhat wide and the concern would be that the company has extended the range of useful lives on some of this equipment which has contributed to the observed decline in depreciation expense. At this point we consider this to be a minor concern given that the absolute decline in depreciation expense amounts to less than a penny per share. Still, as the company continues to spend more on capex we would expect the decline in depreciation expense to reverse in upcoming periods which will erase a minor tailwind to recent results.

Deferred Compensation Plan Impact

HOLX maintains a nonqualified Deferred Compensation Plan which allows certain executives the ability to defer portions of their compensation until retirement. These amounts are invested on behalf of the employee. These funds are marked to market every period with the impact reflected in operating expenses. The company also purchases group life insurance to partially fund the payments made to employees under these plans. Changes in the cash surrender value of these policies are recorded in other expense. Below is the company's disclosure regarding the treatment of these plans for reference:

> *"Effective March 15, 2006, the Company adopted its Nonqualified Deferred Compensation Plan ("DCP") to provide non-qualified retirement benefits to a select group of executive officers, senior management and highly compensated employees of the Company. Eligible employees may elect to contribute up to 75% of their annual base salary and 100% of their annual bonus to the DCP and such employee contributions are 100% vested. In addition, the Company may elect to make annual discretionary contributions on behalf of participants in the DCP. Each Company contribution is subject to a three-year vesting schedule, such that each contribution vests one third annually. Employee contributions are recorded within accrued expenses.*
>
> ***Upon enrollment into the DCP, employees make investment elections for both their voluntary contributions and discretionary contributions, if any, made by the Company. Earnings and losses on contributions based on these investment elections are recorded as a component of compensation expense in the period earned.*** *Annually, the Compensation Committee of the Board of Directors has approved a discretionary cash contribution to the DCP for each year. Discretionary contributions by the Company to the DCP are held in a Rabbi Trust.* ***The Company records compensation expense for the DCP discretionary contributions ratably over the three-year vesting period of each annual contribution, unless the participant meets the plan retirement provision of reaching a certain age and years of service criteria in which case the expense is accelerated to match the required service period to receive such benefit.*** *Under the DCP, the Company recorded compensation expense related to Company contributions of $2.7 million, $2.9 million and $3.4 million in fiscal 2019, 2018 and 2017, respectively. The full amount of the discretionary*

contribution, net of forfeitures, along with employee deferrals is recorded within accrued expenses and totaled $51.9 million and $49.8 million at September 28, 2019 and September 29, 2018, respectively.

The Company has purchased Company-owned group life insurance contracts, in which both voluntary and discretionary Company DCP contributions are invested, to partially fund payment of the Company's obligation to the DCP participants. The total amount invested at September 28, 2019 and September 29, 2018 was $44.6 million and $44.2 million, respectively. The values of these life insurance contracts are recorded in other long-term assets. ***Changes in the cash surrender value of life insurance contracts, which were not significant in fiscal 2019, 2018 and 2017, are recorded within other income, net.***"

The company does not quantify the mark to market impact of investments made under these plans, but it did mention the beneficial impact as a key reason for the drop in R&D and G&A expenses in the 3/20 quarter. However, the benefit of the stock market drop on these operating expense categories was at least partially offset by a $9 million loss on the cash surrender value of life insurance contracts recorded in other income in the 3/20 quarter compared to a $4.5 million gain recorded in the year-ago quarter. The mark to market impact on operating expenses in quarters with big market moves is clearly material or it would not be so prominently featured in the management's discussion and analysis section of the 10-Qs. We believe it would be helpful for the company to disclose the exact impact of mark to market gains and losses to help investors quantify the impact.

Explanation of EQ Rating Scale

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.

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