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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.**

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.

Disclosure

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