Chemicals giant Dow, Inc.'s core business has been impacted by a global manufacturing downturn, but the producer's cyclicality and structural cost advantage should help its stock re-rate when conditions ultimately normalize.

As one of the world's largest chemical producers, Dow, Inc. converts raw material feedstock—mainly fossil fuel-based ingredients—into finished petrochemical products that have countless commercial applications. Dow's major competitive edge stems from its geographic footprint, which provides it access to cheap and abundant feedstock in the form of ethane, a gaseous hydrocarbon. This positions it at the low end of the global cost curve. Shares have primarily sold off due to macro-related demand weakness, impacting both volumes and pricing. This presents a compelling opportunity to buy a leading franchise at what we believe is the bottom of the cycle.

THE CHEMISTRY OF CRACKING

The materials science of "cracking," or converting fossil fuel feedstock into refined petrochemicals for sale, is paramount to understanding Dow's discernible cost advantage. The two most common feedstocks for petrochemical production are naphtha—a heavy liquid that's a byproduct of crude oil refining—and ethane, a byproduct of oil and natural gas drilling. Dow utilizes steam crackers, which are essentially reactors, to break down these large hydrocarbon molecules into lighter compounds, like ethylene. Ethylene serves as the building block for a variety of resins and other petrochemical products, including polyethylene (PE)—Dow's core product. What Dow pays for its feedstock versus what it can sell PE for in the global market is the key determinant of the company's profit.

THE US SHALE REVOLUTION'S UNINTENDED BENEFIT

Most of Dow's operating assets are situated on the US Gulf Coast, which, prior to the 2010s, was nothing more than a sentence in the 10-K. That all changed when breakthroughs in fracking technology triggered an energy boom in the US. Ethane—a byproduct of natural gas and oil extraction—became abundant, then oversupplied, and, most importantly, cheap. Dow subsequently shifted its feedstock slate from naphtha to ethane, while European and Asian competitors continued to crack primarily naphtha. Suddenly, Dow's manufacturing footprint, with its proximity to

		Earnings Per Share			Price/Earnings		
	Price	FY23E	FY24E	Normal*	FY23E	FY24E	Normal*
Dow, Inc.	$53.26	$3.00	$4.51	$7.24	17.8x	11.8x	7.4x

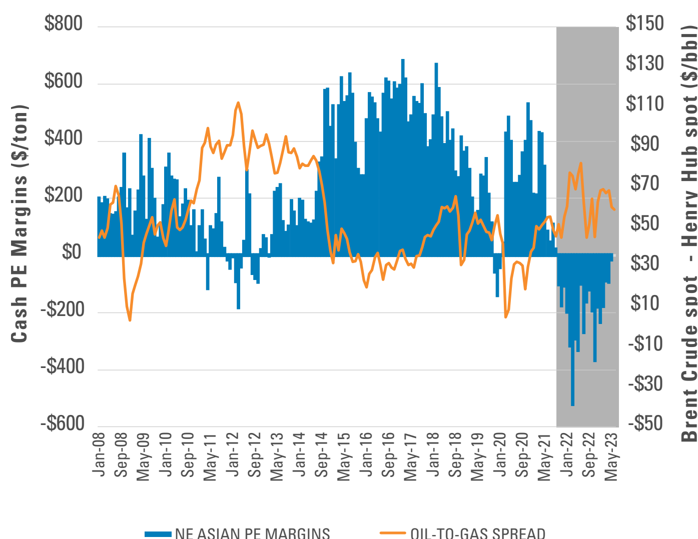
*Fiscal year-end June 30. *Pzena estimate of normalized earnings. Source: FactSet, Pzena analysis. Data as of June 30, 2023*

inexpensive and plentiful feedstock, became globally cost-advantaged, sitting slightly above Middle East assets on a relatively steep global cost curve.

DECOMPOSING DOW'S PROFIT

Dow has three operating segments, but the key profit driver is its Packaging & Specialty Plastics business, where the core PE operations reside. The global PE price is set by Northeast Asian naphtha-based marginal producers. Because naphtha is a product of oil refining, its price typically tracks Brent crude. Dow's input costs are mostly determined by ethane prices, which tend to track the Henry Hub natural gas price. Taken together, Dow's PE profitability is a function of its feedstock cost advantage, which the oil-to-gas spread is a proxy for, plus the margin earned by NE Asian producers. While the former remains at healthy levels, NE Asian PE margins have been in the red for well over a year on demand softness. This has negatively impacted Dow's own PE margins (Exhibit 1).

Exhibit 1: Diverging Profit Drivers

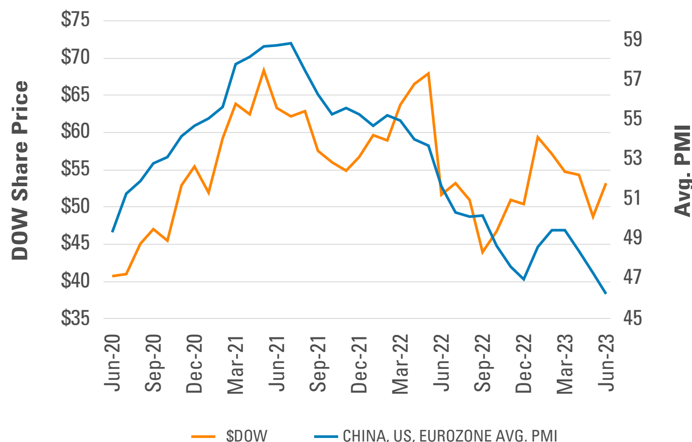


Source: Barclays, IHS, FactSet, Pzena analysis

CYCLICALITY MOVES THE NEEDLE

A reasonable question to ask is: If Dow's cost advantage is so great, why is the stock trading at a single-digit EV[1]/EBITDA[2] multiple? Simply put, Dow is a pro-cyclical producer, so weaker global manufacturing activity and consumption patterns, exacerbated by recessionary fears, have softened demand for chemicals (Exhibit 2). Global capacity additions on top of this weak demand growth have impacted both pricing and volumes. This is underscored by the currently negative integrated margins for Asian producers, which contrast starkly with a historical average of $217/ton[3].

Exhibit 2: Manufacturing PMI vs. Dow's Share Price



Source: FactSet, China NBS, Markit Economics, Pzena analysis

Short-term chemical demand is subject to bouts of volatility. However, since 1990, ethylene consumption has grown at 1.2x the rate of real global GDP[4]. This trend is expected to persist, given the convenience, affordability, and economic benefit of PE-based products. As such, when the market's appraisal of Dow implies little to no earnings improvement near a cyclical trough (as it does today), we believe buyers will be rewarded for stepping in. Furthermore, the pace of capacity additions should slow in 2024 such that demand growth once again exceeds supply growth, creating a more positive setup for a sustained recovery in PE margins.

A FORTRESS BALANCE SHEET IS CRUCIAL

For a cyclical commodity business to thrive, it needs to have a good cost curve position and a strong balance sheet to weather economic downturns. We've already detailed Dow's unique cost advantage, but its financial fortitude is also worth noting. Modern-day Dow is the product of a 2017 merger and subsequent realignment of legacy Dow and DuPont. Since its 2019 spinoff, Dow has reduced its debt pile by $5.4 billion, and its net leverage ratio[5] declined from 2.3x to 1.5x, with no major maturities until 2027. The underfunded status of its pension also improved by nearly $7 billion as of the end of 2022, while Dow's share count is 6% lower. Despite significant improvement on the balance sheet and over $10 billion returned to shareholders[6], Dow's share price remains effectively level with its 2019 spinoff price.

TROUGH EARNINGS PROVIDE A MEANINGFUL CUSHION

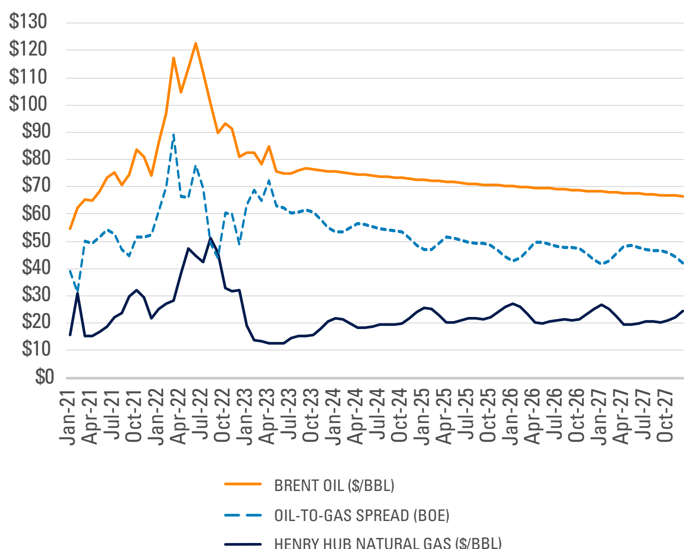
We believe Dow's solid financial footing leaves the company well-equipped to navigate a global recession, should one materialize. The downside case for earnings is arguably even more reassuring. Dow's historical EBITDA range was $6–12 billion, meaning that even during especially challenging times, Dow should still be firmly in the black and generate a mid-to-high single-digit free cash flow yield. In 2020, for example, when the oil-to-gas spread averaged under $30[7], the company generated $5.6 billion in EBITDA. Every cycle is different, but given the current macro uncertainty, management has preemptively taken $1 billion of cost actions to provide additional cushion against the bottom end of the earnings range.

Dow's valuation is undoubtedly compelling even on trough EBITDA levels, with shares trading near an

1. Enterprise value
2. Earnings before interest, taxes, depreciation, and amortization
3. IHS, Barclays
4. IMF, Bloomberg, Pzena analysis
5. Net debt/TTM EBITDA
6. Accrued dividends + share buybacks from 1Q20 through 1Q23
7. Daily average spread between Henry Hub and Brent crude spot prices throughout CY20

8.5x multiple[1] versus over 14.8x[2] for the S&P and 11x[3] for the Russell 1000 Value index. That said, we expect appreciable earnings growth from normal cyclicality, irrespective of any major restructuring actions or above-trend end-market demand/pricing. Assuming an average oil-to-gas spread of $45, which is below the $50 average that futures are implying (Exhibit 3), and a normalizing demand environment such that Asian integrated margins mean revert out of negative territory, we arrive at a midcycle EBITDA estimate of $9.5 billion; Dow's current EV is less than 5x that estimate.

Exhibit 3: Futures Implied Oil-Gas Spread



Source: CME Group

CONCLUSION

By 2025, Dow's earnings range, which is $6-12 billion today, could potentially grow by $2 billion at the midpoint through a combination of capital investments ($0.9–1.1 billion contribution) and operating investments ($0.8–1.0 billion). In addition, Dow is slated to complete its Alberta, Canada project—the world's first net-zero carbon ethylene cracker—by 2030. This could add another approx. $1 billion to EBITDA while decarbonizing about 20% of its ethylene capacity. When considering the potential upside to a $9–15 billion earnings range, the stock is generationally cheap, but even just assuming a reversion to the mean, Dow is trading at just 7.4x our estimate of normal earnings.

1. EV/trough EBITDA of $6 billion
2. FactSet EV/EBITDA—LTM
3. FactSet EV/EBITDA—LTM

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DOW, Inc. was held in our Focused Value, Global Focused Value, Global Value, Large Cap Focused Value, Large Cap Value, Mid Cap Focused Value, and other strategies during the second quarter of 2023.

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