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The EQT Divestiture: Sum of the Parts?

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Summary: Overall Findings

Background

In 2017 EQT made a series of acquisitions to become the largest natural gas producer in the United States (see figure 1); most notable of the acquisitions was the Rice Energy Inc. Merger. In addition to the Upper Devonian and Utica drilling rights held in Pennsylvania, EQT acquired approximately 270,000 net acres in the merger. (EQT 2017 Annual Report – Form 10-K). Before the Rice transaction was complete the company had already announced it was planning to establish a committee to address the "sum of the parts" discount.

In 2018, EQT's strategy was focused entirely around producing environmentally friendly, reliable, and low cost natural gas by prioritizing cost reductions, improving operational efficiency, and strengthening the company's balance sheet. (EQT 2018 Annual Report – Form 10-K). On February 21st, 2018 EQT announced its plan to divest the midstream business citing many benefits such as focused strategy, transparent financial reporting, efficient allocation of capital, and the "sum of the parts" discount. As a result, Equitrans Midstream (ETRN) is now an independent publicly traded company. The energy sector's value chain is very complex; upstream, midstream, and downstream assets/companies differ greatly and require different expertise and capital investment. When large corporations are able to own and operate across the value chain, they are able to benefit from centralized processes and economies of scale, however this can cloud the financial waters of the company given the different capital structures and risks of each business. With cash flow analysis, we are able to post-mortem analyze EQT's decision to spin-off their midstream business, and see whether it was a good decision for stakeholders in the company.

Sum of the Parts Strategy

A "sum of the parts" exercise involves determining the value of individual business units as if it were operating as a standalone entity. EQT believed that the sum of the parts would be greater than the whole because the market mispriced the cost of capital of EQT's pipeline and gathering assets. The board of directors unanimously approved the decision to divest the pipeline and gathering assets, as a lower cost of capital would provide a windfall to EQT shareholders.

Was the market undervaluing the parts? A lower cost of capital would be terrific for any company. However, is it logical to assume that the market struggled to value two assets solely because they were bundled together? In order to evaluate the soundness of EQT management's decision, we model the cash flows of EQT's and ETRN's physical assets in order to find the true present value. We compare the theoretical value of these assets against their market price at the time the divestiture was approved. The 2017 enterprise value of EQT was \$26.1B. Our DCF models show the assets held in ETRN and EQT after the divestiture are worth \$23.3B. Based on our models, the logic that the cost of capital was mispriced does not hold, and the sum of the parts story does not justify the divestiture.

DCF Models for EQT, ETRN, and Comparable Analysis for EQM

Our EQT and ETRN Discounted Cash Flow models generated net present values for key cash generating assets. As of 2018, EQT had 21.8 Tcfe of aggregate proven reserves. (EQT 2019 10-K). Assuming a 9.2% WACC, a 20% tax rate and a 45% DDA rate based on reported EQT figures, we modeled ramped up production of reserves in years 1-5 along current trends, followed by decline to depletion. Gas prices were forecasted in accordance with Henry Hub Futures settlement prices for 13 existing years, then held steady in perpetuity. Taken together, we used these cash flows for EQT's 2018 Enterprise Value of $10.3B.

As the midstream asset-holder, we modeled ETRN using an analogous model for its gathering lines, pipelines (transmission), and water assets. Gathering lines and pipeline assets were converted to cash flows via 41% average gross margins on annual aggregate throughput ($ Bcf/Year). Cash flows from water assets were estimated using annual service fees. Throughput was estimated to grow at 6% in perpetuity throughout the period. In valuing ETRN, we did not decline production to match the EQT model, and we modeled up to 25 years of discounted cash flows. Under these generous assumptions, ETRN's 2018 Enterprise Value was $13.0B.

EQM's fair value of was calculated using an EV/EBITDA multiple approach with the resulting fair price of $47.54 per share, a $9.5B market capitalization, and a $13.6B enterprise value. The EV/EBITDA multiple 13.5 is the average value of the EV/EBITDA multiples for 5 comparable companies with similar operations and structure. The implied fair price per share of $47.54 is in line with EQM's current market price of $46.15 per share.

Analysis

	2017	2018 DCF Models	Difference
EQT	$ 26,111.10	$ 10,339.80	
ETRN	$ -	$ 13,003.05	
Total	$ 26,111.10	$ 23,342.86	**-$2,768.24**

As mentioned, our models suggest that the 2017 market value of the assets of $26.1B was slightly higher than their calculated net present value of $23.3B. Table 1 (above) shows the DCF value of the assets ($ Millions) compared to their market price at the time of the divestiture. EQM existed as a MLP prior to the divestiture, and because its valuation did not significantly change, it was excluded from the sum of the parts analysis. The DCF model net present value for EQT was $10.3 B, nearly identical to the market enterprise value of EQT at year end 2018. Therefore, for EQT to be worth $26.1B in 2017, holding market fluctuations constant, the midstream assets must have been priced at $15.8B. However, our model valued the ETRN midstream assets well below this, at $13.0B. Holding other variables in our DCF model constant, the market weighted average cost of capital required for a $15.8B enterprise value is 5%. Since EQT is the largest natural gas producer in the United States, a lower than market cost of capital for its midstream assets seems reasonable. However, according to our models, this lower than market cost of capital was enjoyed by EQT before the divestiture, which does not support the sum of the parts narrative.

The Bottom Line: While there may have been many sound reasons for EQT to divest its midstream assets, our findings show that the sum of the parts narrative is not one of them.

Additional Model Information

Assumptions for EQT Model

CAPEX

We estimate EQT's CAPEX to be $9.4B in total between 2019 and 2024. 10.3 tcfe out of 21.8 tcfe proved reserves are undeveloped reserves, which is estimated with reasonable certainty to be recovered from new wells on undrilled proved acreage or from existing well where a relatively major expenditures is required for a completion. Therefore, we use total CAPEX for our calculation, which includes Land CAPEX and other CAPEX, as reported in the EQT's First Quarter 2019 Earnings Update, on April 25, 2019.

Weighted Average Cost of Capital (WACC)

EQT's weighted average cost of capital (WACC) was estimated using the 20 year treasury yield for the risk free rate (2.78%), the debt Beta based on EQT's Baa3 credit rating from Moody's (0.1051), a market risk premium estimate (6%), and an average of the unlevered equity Betas of 5 comparable companies (1.185). The average unlevered Beta was then re-levered for EQT to arrive at EQT's estimated equity Beta value (1.73). We used comparable companies to estimate EQT's equity Beta because it has not been operating independent of midstream assets long enough to calculate a reliable Beta from historical returns. We chose Murphy Oil Corporation (MUR), Apache Corporation (APA), Chesapeake Energy Corporation (CHK), Devon Energy Corporation (DVN), and Southwestern Energy Company (SWN) as comparable companies engaged primarily in oil and gas exploration and production. We used the CAPM model to calculate EQT's cost of equity (13.17%) and cost of debt (3.41%). Then we used EQT's cost of equity (13.17%), cost of debt (3.41%), leverage ratio (50%), and estimated tax rate of 21% to arrive at EQT's estimated WACC value of 9.21%.

Production Growth

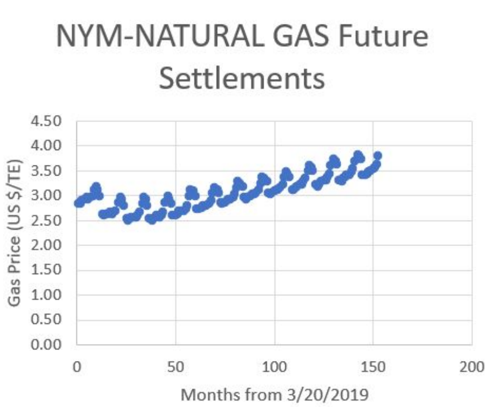
Adjusted production growth was estimated using additional reserve data from EQT's 2019 10-K (pg. 109). In addition to production, reserves change due to revisions and new information, extensions, purchases of new reserves, and sales. After such adjustments, average growth rate over 2016-2018 was found to be 5.6%. This rate was used for the first 5 years, followed by a 9.47% rate production decline, achieving a depletion of reserves by the end of our model period in Year 2039. This model does not consider future increases to reserves, and replicates the approach used in Telmer's XTO-NAV model.

Estimate Near-Years Production Growth			
(data from pg. 109 of EQTs 2019 10-K)			
	2018	2017	2016
Lagged Reserves	21446.345	13508.437	9976.600
Revisions	-1124.900	-2766.900	-472.200
Extensions	4739.200	2225.100	2384.600
Purchases		9389.600	2395.800
Sales	-1748.600	-2.000	0.000
Production	-1494.663	-907.892	-776.363
Year-End Reserves	21817.382	21446.345	13508.437
Adj. Prod. Growth Rate	0.069	0.042	0.057
Avg.	0.056		

Source: EQT 2019 10-K, p. 109. Model adapted from Telmer's XTO example.

Gas Price

EQT hedges prices to protect against commodity differentials between its customer base in the Appalachian Basin, which has lower prices than the NYMEX. As of its 2019 10-K, EQT had sales agreements for 33MMDth - $3.37 (2019), 13 MMDth- $3.68 (2020), 18MMDth - $3.17 (2021), 18MMDth - $3.17 (2022) (EQT 2019 10K pg. 9).



Price Estimate using 2019 Futures	
Year	Gas Price
2019	$2.93
2020	$2.77
2021	$2.66
2022	$2.67
2023	$2.76
2024	$2.87
2025	$2.97
2026	$3.08
2027	$3.18
2028	$3.28
2029	$3.38
2030	$3.48
2031	$3.58

Source: Henry Hub Futures

While actual hedging might occur over many settlement periods with varying volumes, we simplify by assuming full-hedging with the Henry Hub Futures (NYMEX) settlement prices on March 20, 2019. Seasonal swings are accounted for by averaging prices over years. In a more detailed model, adjustments would be needed depending on hedged and market prices. For instance, Averaged over 2016-2018, Btu uplift over the NYMEX price was $0.23/MMBtu and average differentials for cash settled swaps were ($0.53)/Mcf [2019 10-K, p. 45]. For simplicity's sake, we do not incorporate existing derivative positions and forecast such differentials. After the final future settlement year (2031), prices were held steady through the rest of the model (2039).

Assumptions for ETRN Model

WACC and Gross Margin

A study by the montana department of revenue concluded that the average industry cost of capital for pipeline and gathering assets is 6.6%. We use this cost of capital in our DCF model of ETRN's cash flows. We do not have information that shows it is reasonable to assume that EQT's pipeline and gathering assets deserve a better cost of capital than the industry average.
To model the cash flows of ETRN, we hold the gross margin constant at 41%, which is the average gross margin of the 2016, 2017 and 2018 10-K reports.

Assets & Throughput

Based on ETRN and EQM's Year-End 2018 Results, EQM's long-term outlook of annual distribution growth target is 6%. The stability of the growth rate depends on affiliated facilities, which are related to EQT. For example, if EQT's drilling activities decrease, then ETRN's business would be highly affected. Inability of controlling EQT's operating activities is one of ETRN's business risks. There is another risk is that ETRN need to obtain approvals and permits from regulatory agencies. Due to the capital expenditure requirements, EQT will maintain at least 5% annual growth rate. EQT's may reduce its drilling activities at the first 2 years due to the decreased gas prices estimation. But for the long-term forecast, it is reasonable to keep the annual grow rate of 6%.

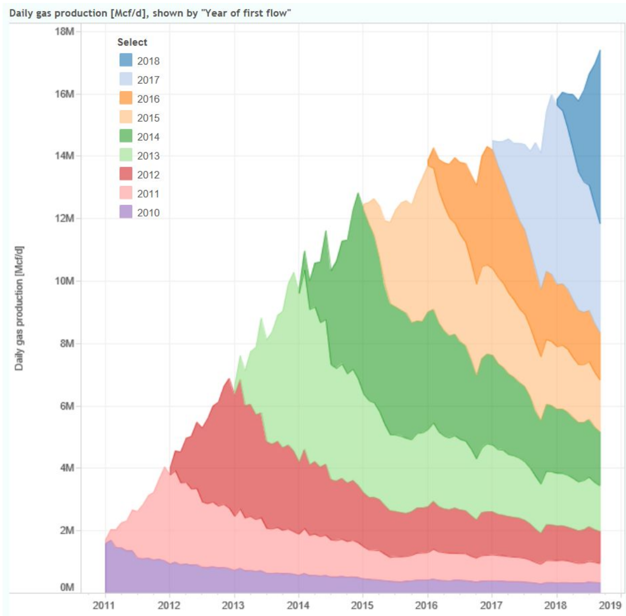


Figure 2: Marcellus Pennsylvania 2018 update shown by "Year of First Flow."

As additional justification for consistency with EQT drilling, Pennsylvania Marcellus Shale production has increased steadily from 2011 through 2018 as shown in figure two "year of first flow." When wells are first drilled, they produce more per day than they ever will in their lifetime. That is, if a well is a "gusher" this will happen immediately upon drilling, and the production will taper off over the life of the well. The useful life of a well varies depending on the individual well and the market price of gas, but some traditional wells have produced for 30, 40, or even 50 years or more. Annual growth rate from 2011 through 2014 was over 40% in the marcellus shale formation. The annual growth rate of production from 2014 through 2018 declined to 12%. Based on this decline, and due to technological headwinds, including the failure of fracking 2.0, we fixed throughput growth rate at 6% for ETRNs pipeline and gathering assets.

Energy Industry Trends Impact on EQT

Geopolitical impact

International politics has played a significant role in energy market from its inception and will continue to do so in the more polarised world leading to conflicts. Though the energy market is a free market, the Organization of Petroleum Exporting Countries (OPEC) has exhibited market power over its history and has remarkable success. Though, the organization produces mostly oil, the oil price will have an impact on gas prices. The reason for its success has two important dimensions. Firstly, the oil quality in the region, requires a less expensive technology to drill and process. Thus, the breakeven price is considerably lower than the shale oil/gas. Secondly, its strategic position in the global market. Present production cut is in response to surplus supply and strategic relationship between the US government and members of OPEC. However, it is highly unlikely, that the present scenario of production cuts persists, if there is a change in political landscape.

Other influences

Oil and gas are traded as a commodity on daily basis and is influenced by the supply and demand. Both supply and demand are affected by different factors. While the demand is affected by consumer choices and weather conditions, supply is affected by new sources discovered around the world, affecting the price of the commodity.

Technological impact

Extraction of shale oil or gas requires a complex process called hydraulic fracturing or fracking, due to its inherent nature. Thus the cost of drilling and extraction is expensive compared to traditional crude oil/gas in other regions. As per an estimate from Reuters, the breakeven for shale drilling and extraction cost is $50 per barrel and gas price is closely related to the oil price. Global oil price below, $50 will result in stoppage of drilling of new wells, though the operation of existing wells may continue, providing positive cash flows.

In addition, the chemical used for cracking is said to distort the underground water quality and has received flakes from environmental community. Regulators are forced to restrict the process and oil and gas companies are required to consider the extra cost for lobbying in addition to the drilling and extraction cost. (Rosenberg)

Also, a wall street journal reports, that EQT drilled the longest wells using latest fracking technology (Fracking 2.0) and has lost a lot of money, leading to a round of layoffs in the early 2019. The journal also reports that the layoffs is observed in the US region and technology is to blame.

Despite, the failure of Fracking 2.0, the industry has invested in Fracking 3.0 based on cloud technology and under development. However, the technology development is based on Permian oil fields and its applicability to EQT’s operating basin: Appalachian, is yet to be proved.

Figures

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The following illustration depicts EQT's consolidated acreage position along with its gathering and transmission systems:

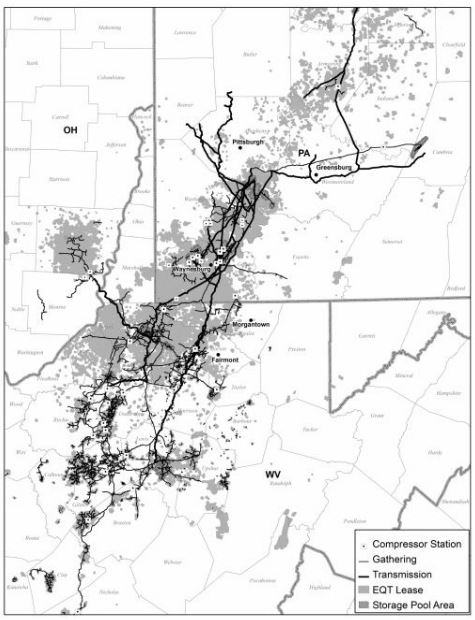

Figure 1: ETRN's (Formerly EQT's) Gathering, Transmission, Water Assets throughout the Appalachian Basin.

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