COMM 421

MILESTONE 4

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Model Selection:

Out of the four models, Dividend Discount, Free Cash Flow to Firm, Free Cash Flow to Equity, and Residual Income, we chose to ultimately use the residual income model to evaluate the market price of SeaWorld's stock. Out of the four possible models, the Dividend Discount is a poor choice because the past data showed that SeaWorld seldom pays out Dividends, and thus a reasonable Dividend Discount model would value the company as nearly worthless regardless of the health of the company. Thus, the Dividend Discount model is incompatible with the characteristics of the company.

The Free Cash Flow to Equity model provides an alternative way to value cash flows to common shareholders for a company which does not pay dividends. However, we ultimately decided to not use the FCFE model because we feel that overall, it does not capture the complete picture of the firm. By specifically valuing the company based on the Free Cash flow that is available to common shareholders, the FCFE is essentially quantifying a company's value based on the cash that could potentially be paid out as dividends. As discussed, this valuation excludes company activities which could be profitable but reduces cash flows available to its common shareholders, with one key element being profitable investment activities. Also, since SeaWorld rarely pays out dividends, it makes less sense to value the company based off of the potential dividends that could be paid out, since it's likely that the dividends won't be realized in the near future. Furthermore, the FCFE model in practice can be relatively unstable, and thus we are less confident about the accuracy in its predictive abilities.

Both a Free Cash Flow to Firm and Residual Income model could be reasonable choices in valuing SeaWorld. However, we ultimately chose to use the Residual Income model because we value the additional information it captures. As presented in the slides and textbook, the Residual Income model, takes into account the value that is created by a firm's activities, including its investing activities, which is not captured by restricting the valuation to free cash flows. Although SeaWorld is a relatively mature company, we still value the greater perspective captured by the Residual income model. We are also relatively confident in the accuracy of the few parameters which is entered into the Residual Income model.

Furthermore, it is also worth noting that the FCFF model measures the overall free cash flow available to the company. Thus, if we're trying to look at the company holistically and want to take into account activities which won't increase cash flows but will grow the company and make it more valuable, the FCFF is still poor choice because underlying logic of Free Cash Flow models ultimately values companies based on the potential cash flows the stock can generate for investors as a return for investing.

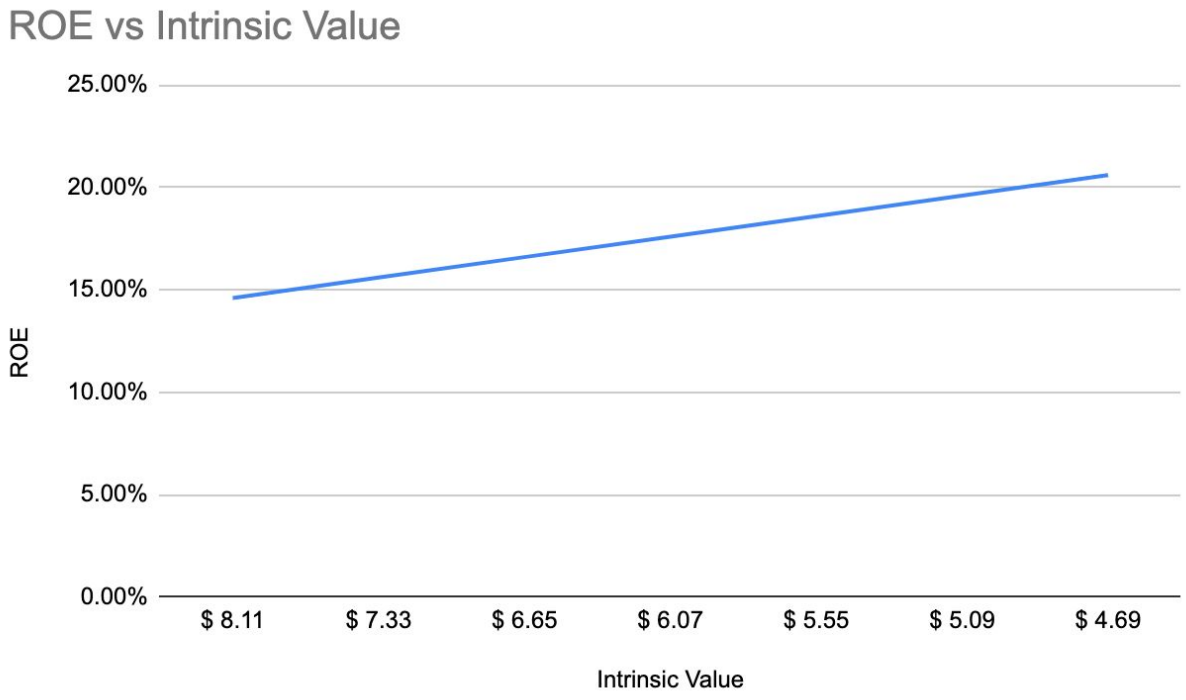
Model Assumptions:

1) We are assuming a clean surplus relation that is the ending book value of equity equals to the beginning book value plus the earnings minus dividends apart from the ownership transaction.
2) Continuing residual income is the residual income after the forecast horizon. Our assumptions concerning continuing residual income is that the residual income continues indefinitely at a positive level.

Confidence Level:

Based on our Sensitivity Analysis, the price of the stock changes roughly $0.50 for a 1% (100 basis points) change in our ROE. This allows us to conclude that we have reasonable confidence in our model, as the change in output is sufficiently small given the change in our input.

ROE	Intrinsic Value
14.59%	$ 8.11
15.59%	$ 7.33
16.59%	$ 6.65
17.59%	$ 6.07
18.59%	$ 5.55
19.59%	$ 5.09
20.59%	$ 4.69



Note: The multistage Residual Income Growth model does not include the growth rate. Thus, we only varied the discount rate used in our sensitivity analysis.

Conclusion:

According to our relative valuation, the price range of SeaWorld's stock should be around $19.60 - $42.02. According to our residual income model's sensitivity analysis, the price range of the stock should be around $4.69 - $8.11.

Overall, our conclusion is to sell the stock because we believe that it is currently overpriced. The stock price was $31.71 during December 31, 2019, i.e. 2019 YE, while the range of value from our residual income model sensitivity analysis puts the stock price at around $4.69 - $8.11. Thus the stock is overpriced and should be sold if owned and not bought otherwise.

We chose to use the price range generated by our residual income model over the price range generated by our relative valuation for our final conclusion because the Residual income model, and indeed all discounted cash flow models, using direct accounting data from the company to drive its analysis rather than using mean and median values of competitors. We ultimately believe that using direct accounting will produce more accurate results because the companies have enough characteristics to distinguish them from their competitors so that clumping them together may not be appropriate. As an example, a considerable portion of SeaWorld's attractions contain live animals, which would incur additional expenses in terms of feeding and care for SeaWorld that wouldn't be present for amusement parks without those attractions.

It is worth noting that during the lowest point in 2020 when COVID-19's effects were first felt in March, the stock price of Seaworld dropped to a price of $7.46. This is within the higher end of our range of price estimates from the residual income model, and much lower than both the $31.71 2019 YE price and the current $26.61 price. A preliminary theory to the stock price rising could be that with some US states choosing to reopen from shutdown relatively quickly, confidence rose in business resuming. Overall, with the extraneous circumstances that have been imposed by COVID, more detailed research should be done regarding factors impact and expected recovery in order to refine our model and increase our confidence in our predictions.