Eaton Case - Group 5

1. Recall how Eaton divested their lighting business due to law margins and growth prospects; the CEO remarked "[This divestment] is another example of how we are actively managing our portfolio to create value for our shareholders." Analysts at Jefferies report that for Eaton's Hydraulics business, their operating margins are significantly below Eaton's Electrical and Aerospace businesses over a cycle. So these are some of the key financial factors encouraging Eaton's sale of their Hydraulics business, among more strategic factors of rationalizing its large portfolio of businesses, divesting in non-core businesses, and investing in digital transformation via intelligent power management (e.g. data-collecting sensors). Therefore from a financial and strategic perspective, it does make sense to sell the Hydraulics business. This decision is in-line with the CEO's emphasis on stakeholder value-creation as shown through the divestiture of Eaton's lighting business, given the low operating margins of the Hydraulics business. And from a strategic perspective, the Hydraulics business adds variability to Eaton's overall portfolio, which they're trying to refocus toward intelligent power management.

2. A 2% annual revenue growth rate is relatively conservative. So it will be helpful to review the historical growth rate of Eaton's Hydraulics business, comparing it to the industry average. In addition, the 9.5% EBIT value assumes Eaton maintains efficiency and cost structure relative to sales; but we need more historical data from the margins of its Hydraulics business in order to be confident with this assumption. Cost pressures may affect this assumption as well, given the Hydraulics business' operating margins are significantly below other portfolio segments. Finally, a constant 3.5% CapEx / Sales rate suggests Eaton doesn't plan any other major capital investments or expansions, however they plan a major strategic initiative toward intelligent power management and digital transformation; so this assumption should be considered in light of Eaton's projected investments in these domains. In conclusion, the assumptions of Eaton's valuation should be closely reviewed and updated per historic performance of its Hydraulics business, industry norms, and future investments; these factors should be clearly outlined in the valuation so that it is clear how each of the assumptions are derived. Until we have a deeper analysis, we recommend Eaton hold off on making a decision to sell their company.

3. Referring to figures 5.5 and 5.6 in the appendix, the **perpetual growth rate of the business (g) is the most important variable impacting the valuation**. This is found after analyzing the sensitivity of all input variables in the DCF model (revenue growth, corporate EBIT, hydraulic EBIT, and perpetual growth rate) on the resulting NPV of the

discounted cash flows, compared to Danfoss's offer of $3.3B. The baseline discount rate for current parameters in the model suggest that an 8.08% discount rate would reach the $3.B valuation. A sensitivity analysis found by adjusting r (discount rate) to meet the goal (i.e. goal seek) an NPV of $3.3B, after 1 % change in a variable input (revenue growth, corporate operating margin, hydraulic operating margin, and perpetual growth). This analysis found that changing the perpetual growth rate results in the largest magnitude change, or indicates largest sensitivity to change to reach that valuation, requiring a discount rate of nearly 8.9% compared to 8% as the baseline. The other three inputs, revenue growth, corporate EBIT, and hydraulic EBIT, all have sensitivities within 10% of the 8.01% baseline discount rate, meaning that adjusting these inputs will have a smaller magnitude impact on being able to reach that valuation.

4. Weighted average cost of capital, or WACC, is a metric used to estimate the required rate of return for the company and its investors after taking into account the company's mix of debt and equity, the riskiness of the company's debt and equity, and the tax shield it can expect to achieve. This is no different in Eaton's case - the WACC of the company as a whole is the company's debt/equity mix and expected cost of debt and equity that goes along with it (and the tax shield attributable to its 12.5% tax rate). The estimated WACC for Eaton as a whole is **6.11% (data provided in appendix).**

5. Looking at the mix of segment revenues and their geographies, we determined that Helios and Enerpac Tool Group are the most directly comparable companies to the segment that will be divested. Hydraulics comprise 80% and 93% of these companies' revenues respectively. Additionally, approximately 60% of their revenues are international. (Figure 5.1)

   To determine an appropriate cost of capital, first we calculated the asset betas of the comparable companies by assuming a 20% tax rate and delivering the provided equity betas (Figure 5.1). Next we used the provided capital markets data and the Capital Asset Pricing Model (CAPM) to determine the cost of debt (Figure 5.2). We assumed the risk free rate was equal to the three month T-Bill yield and took the average of the analyst estimated market risk premium (MRP). Next we calculated the cost of equity, by re-levering the beta, using the weighted average leverage ratio (Figure 5.1) and tax rate of the acquiring firm (Figure 5.2). To this end we estimate that an appropriate discount rate is 7.83%. Compared to our previous internal estimate or Eaton's WACC, this comparables WACC is materially higher and will impact the attractiveness of the deal.

6. Through our sensitivity analysis we determined the perpetual growth rate of the business to be the most important variable impacting the valuation, requiring nearly a 1% higher discount rate in our realistic test case. This is quite a difficult assumption to factor into a valuation model, as it means investors need to expect a 1% higher rate of return on the Hydraulics business than originally expected, within the context of the realistic test case.

In addition, when factoring into account similar businesses, we find Eaton's WACC to be nearly 2% higher than its estimated WACC, and 0.33% higher than the discount rate included in the original valuation (Exhibit 5). This means that Eaton's Hydraulics business is risker than described from an operational and financial perspective, and that investors need to expect a higher rate of return than originally anticipated. Assuming investors do their due diligence in the valuation analysis, coming to a similar conclusion, it is advisable Eaton re-assess their valuation with updated factors such as the discount rate, as well as compare the long-term value of the updated valuation and sale to the ROI of focused investment into their hydraulics business via intelligent power management.

Figures

5.1 - Comparables

Comparables				
Company	Weight	Equity Beta	Leverage	Asset Beta
Eaton Corp (ETN)	5.00%	1.09	18%	0.93
Parker Hannifin (PH)	15.00%	1.42	17%	1.23
Helios Technologies (HLIO)	40.00%	1.72	18%	1.47
Enerpac Tool Group (EPAC)	40.00%	1.51	16%	1.31
Caterpillar (CAT)	0.00%	1.52	28%	1.16
Weighted Asset Beta of Comps	**100.00%**		**17%**	**1.30**

Figure 5.2 - Cost of Capital

Eaton Corp				
Comparables & Cost of Capital Analysis				
Line Item	Value	Source		
Cost of Capital	**7.83%**	**Calculated**		
Cost of Equity	9.13%	Calculated: Cost of Equity		
Cost of Debt	1.93%	Calculated: Cost of Debt		
Tax Rate	24%	X-4: Danfoss Offer		
Leverage Ratio	17%	Calculated: Comparables Table		

Cost of Debt	**1.93%**	**CAPM**		
Debt Beta	0.08	X-6: Average of A & BBB Credit Rated Debt		
Risk Free Rate	1.55%	X-6: 3 Month Risk Free Rate		
Risk Premium	5.1%	X-7: Average MRP Estimate		
Cost of Equity	**9.13%**	**CAPM**		
Risk Free Rate	1.55%	X-6: 3 Month Risk Free Rate		
Risk Premium	5.1%	X-7: Average MRP Estimate		
Asset Beta	1.30	Calculated in Comparables Chart Below		
Levered Beta	1.50	Calculated		

Comparables				
Company	Weight	Equity Beta	Leverage	Asset Beta
Eaton Corp (ETN)	5.00%	1.09	18%	0.93
Parker Hannifin (PH)	15.00%	1.42	17%	1.23
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Caterpillar (CAT)	0.00%	1.52	28%	1.16
Weighted Asset Beta of Comps	**100.00%**		**17%**	**1.30**

Assumptions

3 month maturity for Risk Free Rate				
assume 20% tax rate for all comparables				

5.3 Eaton WACC Estimate (problem 4)

Eaton Corp		
WACC Estimation		
Line Item	Value	Source
WACC	**6.11%**	**Calculated**
Cost of Equity	7.09%	Calculated: Cost of Equity
Cost of Debt	1.93%	Calculated: Cost of Debt
Tax Rate	15%	X-1: Effective Tax Rate
Market Leverage Ratio	18%	X-8A: Market Value Leverage Ratio
Cost of Debt	**1.93%**	**CAPM**
Debt Beta	0.08	X-6: Average of A & BBB Credit Rated Debt
Risk Free Rate	1.55%	X-6: 3 Month Risk Free Rate
Risk Premium	5.1%	X-7: Average MRP Estimate
Cost of Equity	**7.09%**	**CAPM**
Risk Free Rate	1.55%	X-6: 3 Month Risk Free Rate
Risk Premium	5.1%	X-7: Average MRP Estimate
Equity Beta	1.09	X-8a: Equity Beta for Eaton

Figure 5.5 (DCF - Problem 3)

Variable Inputs to DCF Sensitivity:

	NPV - Baseline	NPV 1 % Point Increase in Revenue G (3%)	NPV after 1% Point Increase in Changing Corporate EBIT	NPV after 1% Increase Changing Hydraulic EBIT	NPV after 1% Increase in Total Perpetual Growth Rate (g)
R	**NPV**	**NPV**	**NPV**	**NPV**	**NPV**
5.0%	$6,048	$6,271	$6,717	$5,976	$8,821
5.5%	$5,184	$5,373	$5,757	$5,122	$7,058
6.0%	$4,536	$4,699	$5,037	$4,482	$5,844
6.5%	$4,032	$4,032	$4,478	$3,984	$5,044
7.0%	$3,629	$3,756	$4,030	$3,586	$4,415
7.5%	$3,299	$3,414	$3,664	$3,260	$3,925
8.0%	$3,024	$3,128	$3,358	$2,988	$3,534
8.5%	$2,792	$2,866	$3,100	$2,758	$3,213
9.0%	$2,592	$2,592	$2,879	$2,561	$2,946
9.5%	$2,419	$2,419	$2,687	$2,390	$2,720
10.0%	$2,268	$2,342	$2,519	$2,241	$2,526

	Baseline	Revenue g	Corp EBIT	Hyd. Ebit	Perp Growth Rate (g)
Discount Rate Needed to Meet Danfoss Offer	8.08%	7.68%	8.10%	7.43%	8.89%
Sensitivity to Baseline	0%	-4.95%	5.47%	-8.27%	19.65%

Figure 5.6 - DCF variable sensitivity (NPV versus discount rate, r)

Sensitivity Analysis: DCF Model

