

Identifying Weak Points in Valuing an Enterprise in Chapter 11

Keys to Evaluating Whether an Enterprise Valuation
is Bullet Proof

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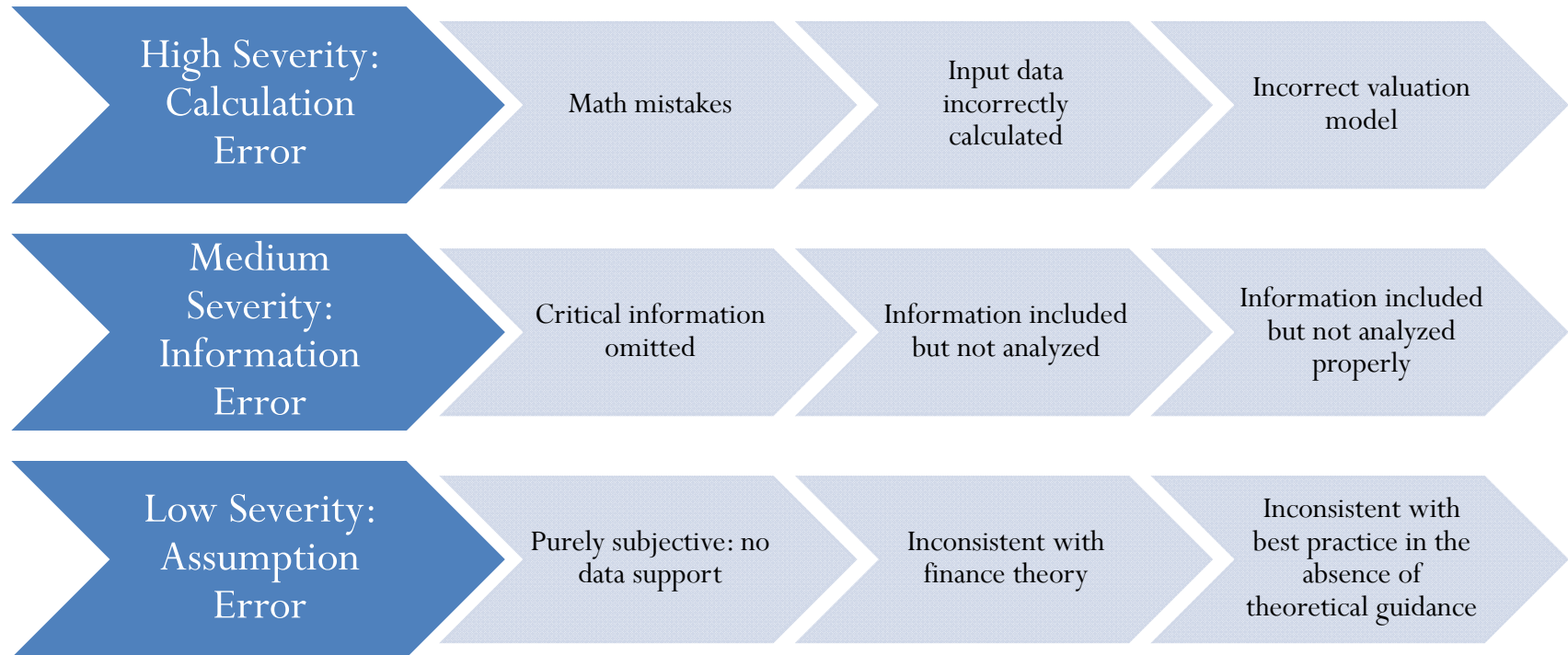
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Outline of Today's Presentation

1. Detecting errors in expert valuation reports: what to look for and assessing implications for the valuation conclusion.
2. Bankruptcy case study- Is the conclusion of value incorrect and if so why?
3. The focus of the presentation today will be on the discounted cash flow model since it was the predominant value metric used.

The Error Severity Matrix





Type 1 Error: High Severity- Calculation Error

- Calculation error includes:
 - basic data input into spreadsheet incorrectly
 - mathematical mistakes
 - valuation concepts incorrectly calculated - e.g. free cash flow, working capital, net fixed capital
 - valuation metrics and/or models are incorrect
 - cost of capital incorrectly constructed
- Solution:
 - recreate all spreadsheets from scratch. If numbers match no problem. If they do not then CREDIBILITY ISSUE



Type 2 Error: Medium Severity- Information Error

- Information error includes but not limited to:
 - financial statements not current
 - capital structure not current
 - tax deferred asset not current
 - joint ventures not accounted for properly: e.g. book value vs. fair market value
 - investment in subs not accounted for properly: book value vs. fair market value
 - pension and other long-term liabilities not accounted for in the valuation.



Type 3 Error: Low Severity- Assumption Error

- Assumption error includes but not limited to:
 - Multiples of public comparables are the same for the private firm target.
 - Private firm transaction multiples can be directly applied to private firm target.
 - Investment burden on cash flows is assumed to be too high or too low depending on the conclusion desired.

Case Study





The Issue and Resolution

- The AB enterprise was formed through a merger of Firm A and Firm B (collectively the Debtors) in December, 2007. As a result of that merger, the Debtors took on \$20.8 billion of secured debt. Accordingly, in the bankruptcy proceedings that commenced approximately one year later, in January, 2009, the claims of unsecured creditors were behind \$20.8 billion of secured debt and, as a result, were unlikely to receive much, if any, distribution without a successful challenge to the claims and liens of the secured lenders.
- After an extended period of discovery and an extensive investigation by the Official Creditors' Committee, the Creditors' Committee sought and was granted permission from the Bankruptcy Court to file a complaint on behalf of the Debtors' estates challenging the financing of the merger as a fraudulent conveyance and seeking to avoid the merger financing and recover payments made to the secured lenders.
- The Creditors' Committee engaged an expert to determine the fair market value of the enterprise and whether it was in excess of the secured level of debt as of the closing of acquisition. The Bankruptcy Court agreed with the expert that the fair market value of the enterprise exceeded the secured debt level.

The Transaction

- The acquisition was funded with \$20.8 billion of debt and further capitalized by the sponsor putting up required equity (equity of Firm B) which was a wholly owned subsidiary of the sponsor. Firm B was valued \$4.0 billion by a well known investment banking firm. Roughly, debt represented 80% of the capital structure of the new AB enterprise after the acquisition.
- Issue 1: The transaction was effectively a leveraged buyout. The expert did not consider this important point and valued the enterprise assuming that a hypothetical transaction would be financed at 25% debt and 75% equity. ***Result: enterprise value is too high.***

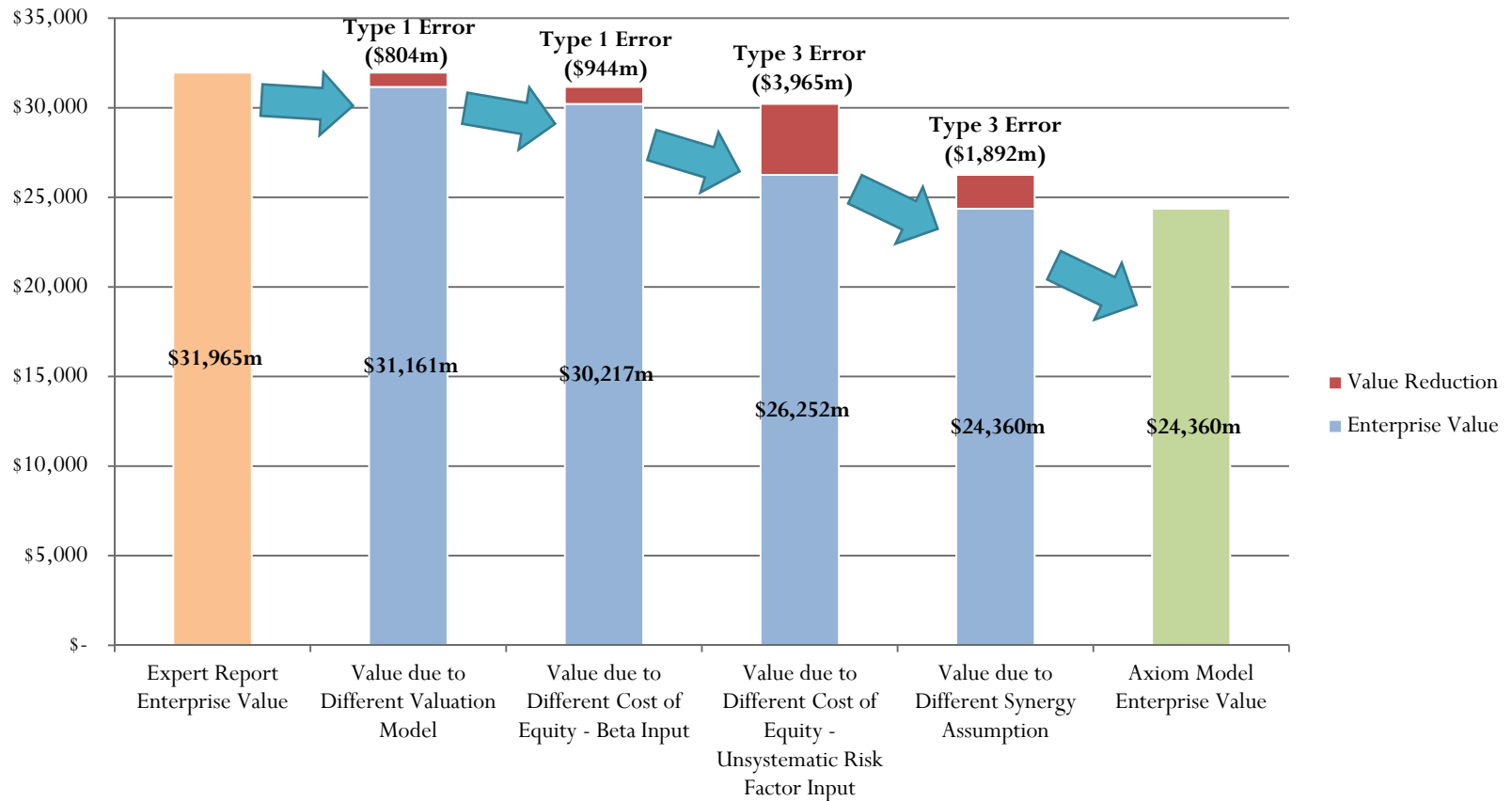


The Determinants of Enterprise Value

- Three factors that drive value
 - After tax net operating profits
 - Synergies - where do they come from?
 - How are they valued? Should synergies be considered in full?
 - Capital requirements - how much is enough?
 - Cost of capital - was it calculated correctly?
- Valuation Methods
 - Discounted Cash Flow (DCF)
 - Public Guideline - Should multiples be adjusted?
 - Transactions - What do they tell us?

Enterprise Value Decomposition

Enterprise Value Decomposition



Notes on Slide 11

The enterprise value decomposition shows the sources of reduction in value. Let us first consider the model difference. Keep in mind that the unsecured credit holders believed that the enterprise value was large enough to essentially pay all debt holders. The expert applied the standard DCF model with a fixed capital structure- 75% equity, 25% debt. But the deal was a leveraged buyout and it is this capital structure that should have been used because this is the way a market participant would have financed the deal. Therefore, the appropriate valuation model is the adjusted present value DCF which treats the enterprise value as the sum of two components- enterprise value of an all equity financed firm plus the value of interest tax shield. In this model, the debt is paid back until the point is reached when the value of equity is equal to 75% of the firms enterprise value- the optimal capital structure assumed by the expert. The implication of this change is that the enterprise value is reduced by \$.8 billion.

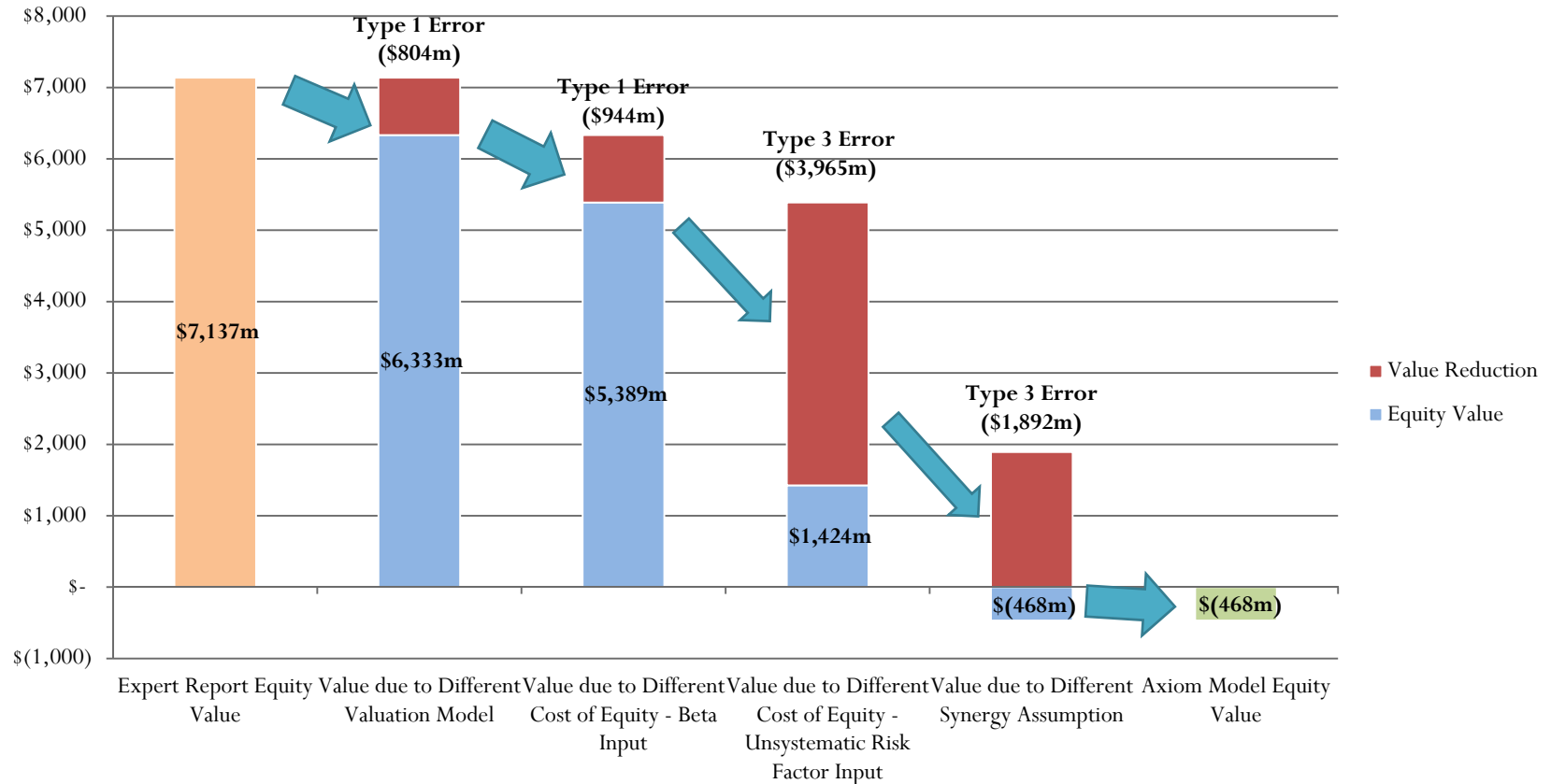
The second determinant of value is the cost of capital. (Refer to Appendix A) Here there are two errors. The first error is the beta was measured incorrectly. Without going into the details, the estimated beta was too low, biasing the enterprise value upward. When the beta adjustment is made the enterprise value declines by \$.944 billion. The second component is related to the unsystematic (nonsystematic) risk factor which is often referred to as firm specific risk. This risk parameter is non zero for all firms but in the case of public firms it is assumed that this risk is not priced since investors in public markets are fully diversified and thus this risk is diversified away. However, it has been shown that owners of private firms are not diversified and therefore the cost of capital should reflect an increment to reflect this risk. Risks associated with illiquidity and/or lack of marketability are not included in the firm specific risk and therefore these factors need to be considered separately. (On these points see Feldman, "Firm Specific Risks and the Private Firm's Equity Cost of Capital", Axiom Valuation Working Paper, February 2018).

The expert set the nonsystematic risk premium at 1% which is far too low for a private firm. When one adjusts this factor to 3%, the enterprise value declines by almost \$4.0 billion. The final component relates to the valuation of the synergy cash flow. Appendix B shows the identified synergy cash flows along with the degree these synergies are in management's control. The synergy cash flow is often viewed as no more risky than any other operating cash flow. It generally is not and many acquisitions, whether leveraged buyouts or not, often fail because the level of difficulty and extent of time needed to make the changes that needed to be made to activate these synergistic cash flows were underestimated. Both factors result in the value actually achieved to be far lower than originally expected which of course makes the debt burden more oppressive than first anticipated. The basis of a leveraged buyout is that debt is a transitory financing mechanism and that the synergies would provide enough incremental cash flow to pay down the debt. This depends on the extent to which new management can implement these synergies and capture the expected cash flows in a timely manner. This is a function of the degree of control management has on synergistic execution. In the case here, we have assumed that the synergies are not captured. The reduction in value is \$1.9 billion. The total enterprise value is now \$24 billion or a about an \$8 billion reduction in value.

Equity Value Decomposition

Equity Value Decomposition

$$\text{Equity Value} = \text{Enterprise Value} - \text{Debt Liabilities } (\$23,130\text{m}) - \text{Other Non-Debt Liabilities } (\$1,698\text{m})$$



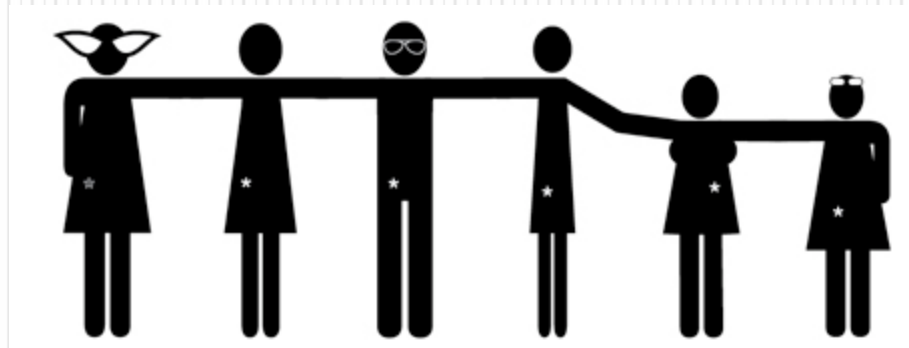
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The above chart reflects the various enterprise values less debt and non-debt liabilities. As can be seen, after all of the adjustments, the equity value is negative which means that the firm may have been under water at the valuation date. It is true that some of the synergy cash flows could be achieved and if we considered this possibility the value of equity would be positive. However, it would have been far less positive than the value initially established.

Summary and Conclusion

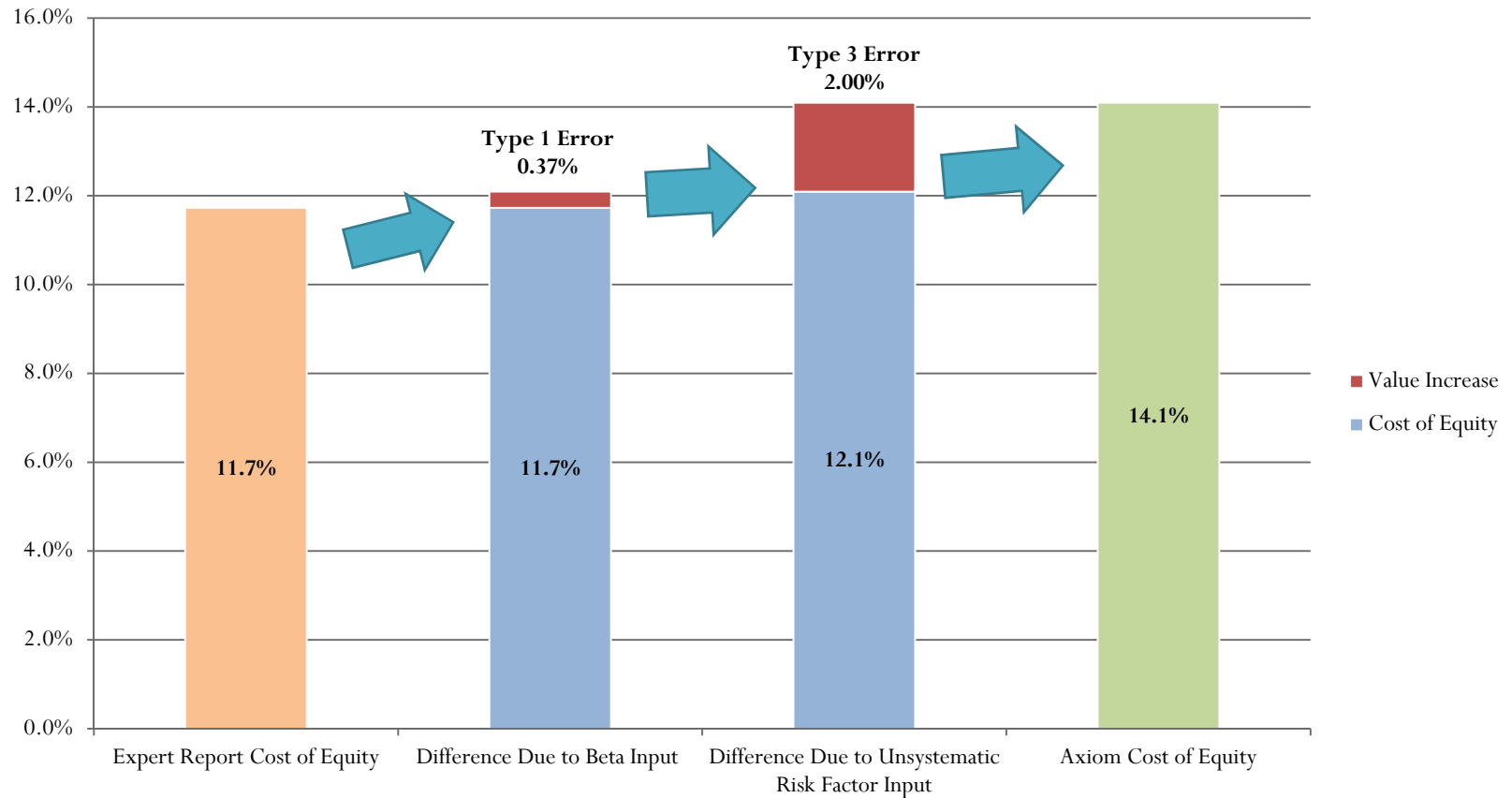
- Aside from Type 1 errors, there is a series of assumptions built in to all valuations. Some are explicit and transparent and others are not.
- In this case, it was straightforward to show that the analysis had an upward bias and that when corrected for, the equity value range was far lower than the initial conclusion of value.
- Three other issues not addressed here that are critical are:
 - Improper calculation of control value
 - No adjustment to transaction and public firm comparable multiples to reflect differential growth, cost of capital
 - No adjustment for lack of marketability

Appendices



Appendix A: Cost of Equity Decomposition

Cost of Equity Decomposition



Appendix B: Synergy Evaluation

Synergy: Value & Degree of Management's Control

