FRAMEWORK Investing

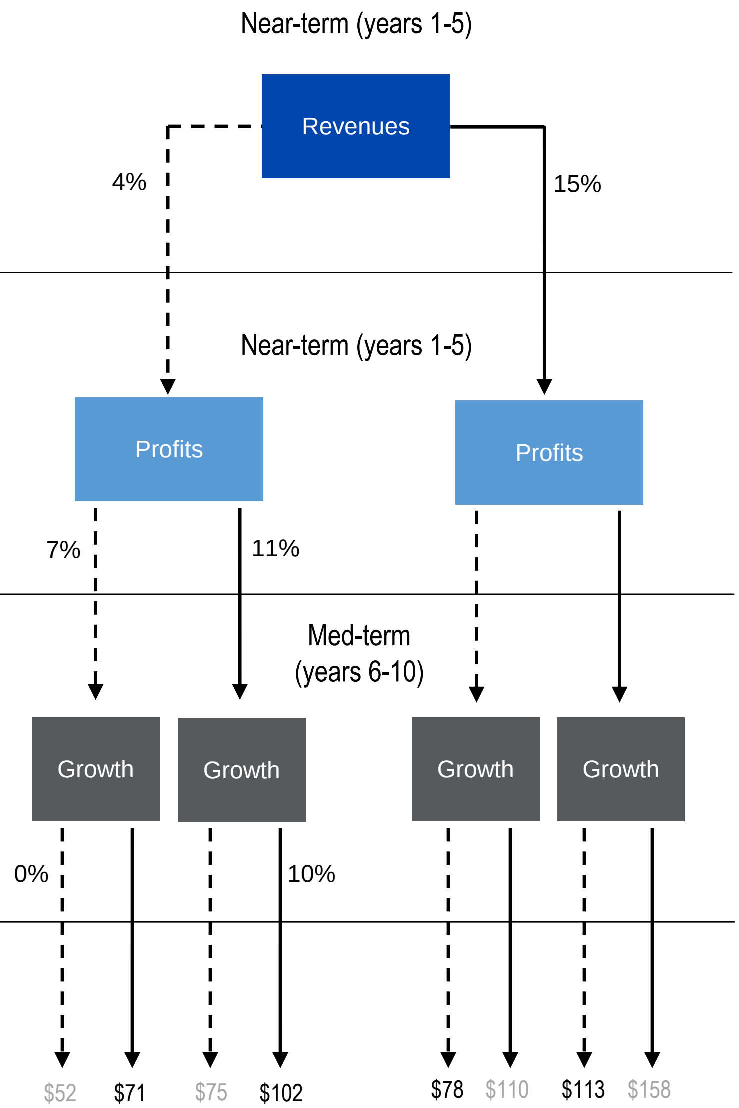
Valuation Waterfall

Revenue Growth
Core business is US Construction & US Energy. US Construction grew briskly in the first nine months of 2017, as did Energy, driven by equipment for shale gas extraction. Latin American and Asian demand is also bouncing back, and the firm has guided for a robust revenue growth during full-year 2017. The averages shown here include a worst-case growth of 14% in 2017 and a best-case of 17%.

Profitability
Caterpillar management's ability to manage profitability (measured on an OCP basis) is truly impressive. Even through some terrible downturns, average OCP margin hugs 8%. Considering that CAT's business depends on commodity demand and government policy – two very fickle drivers, we are impressed at the constancy at which it generates profits and manages its business.

Medium-Term Cash Flow Growth
Attempting to forecast commodity prices and infrastructure demand five years in the future is folly. We look at two scenarios from a statistical perspective. Caterpillar profits have historically reached a plateau and bounced around that plateau for some time. If near-term growth is fast, medium-term is likely to be slow and vice versa. Our mean-reversion assumption is wrong if we're at end of supercycle.

Fair Value Range
Our fair value range extends from $71 to $113 / share and excludes scenarios where short-term revenue growth is followed by medium-term FCFO growth in the same direction. We believe the present stock price reflects medium-term growth that is inconsistent with historical experience and with reasonable expectations for future growth. This scenario is marked by the $158 / share valuation which we reject as economically impossible.



Methodology

Framework Investing analyses focus on three main valuation drivers: revenue growth, profitability, and medium-term cash flow growth. We estimate a best- and worst-case scenario for each of these drivers resulting in a total of $2^3 = 8$ fair value scenarios based on discounted cash flow methodology. Profitability is measured by Owners' Cash Profit (OCP) margin. We use a discount rate of 10% for large capitalization stocks. A wide spread of lowest and highest fair values indicates a firm whose value is uncertain. Risk depends on the stock price's relationship to the valuation range.

Best-case scenarios are represented with a solid line; worst-case scenarios, with a dotted one.

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