StepStone
inside private markets

Drivers of Investment Returns:
Value Creation Analysis Improved

"When someone says something, don't ask if it's true; ask what it might be true of."

– Daniel Kahneman

Behavioral economist Daniel Kahneman taught us that making sense of what people say can be more valuable than tearing them down—asking whether something is true, it turns out, can reveal more about the person asking than the person being vetted. With nearly every general partner ("GP") claiming to be an expert in what we call Operational Value Add ("OVA"), we similarly believe these claims are worth exploring.

As a research-focused firm, we strive to ask the right questions when evaluating investment opportunities. Unfortunately, the calculus for evaluating managers hasn't changed as quickly as the market.

When private equity emerged in the 1970s and 1980s, financial engineering alone could produce high returns. With fewer managers using similar approaches, comparing them was simpler. But as the asset class has matured and become more crowded, fund managers have had to rely on other strategies and techniques to generate attractive returns for investors and carried interest for themselves—complicating the process by which limited partners ("LPs") evaluate and compare them. To deliver high returns through the economic cycle, today's GPs need to generate OVA within their portfolio companies.

Value creation analysis ("VCA") was developed to help LPs select the managers with which to entrust their capital. But in an asset class that is more sophisticated and exacting, the standard VCA can leave many questions unanswered. Measuring a manager's historical performance is still important, but understanding how that manager tends to create value is critical.

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Though not a cure-all, StepStone's Drivers of Investment Returns™ ("DIR") addresses many of the standard VCA's biggest shortcomings and provides greater detail regarding whether and how GPs make their portfolio companies more valuable. Far from an analytical endpoint, it has, however, proved to be a useful tool for measuring OVA and helping us determine whether a GP's approach is more sustainable than timing the market.

The purpose of this paper is to familiarize you with an analytical tool that you will see in our investment memos and subsequent research reports. Though DIR answers many important questions, it leads to many more. We intend to explore them in greater depth in future papers.

Traditional VCA: Shortcomings & Proposed Improvements

The traditional VCA focuses on the following three components to calculate how much a portfolio company's value changed during the GP's ownership:

1. EBITDA Growth
2. Multiple Expansion
3. Deleveraging

While this approach is often directionally consistent with how a GP tends to create value, it is too simplistic and omits key components that more accurately describe the manager's approach, and the relative risk that it took.

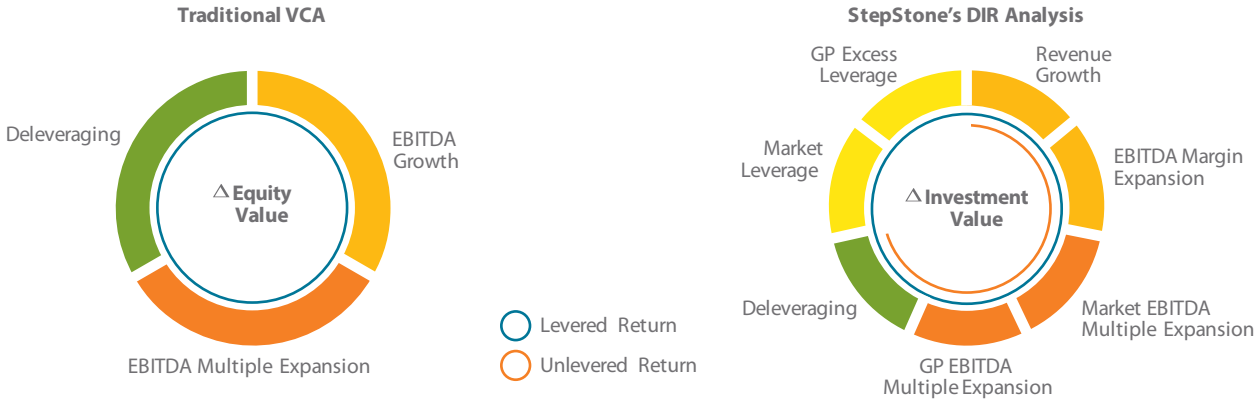
With all value creation methodologies, there is a trade-off between precision and potential sample size. A complete VCA would require extensive portfolio company financials, not only when the GP enters and exits, but at each follow-on investment and realization date as well. These data, however, aren't typically available to LPs.

To effect a more thorough and meaningful VCA without burdensome and unattainable data requirements, StepStone created DIR, which solves many of the shortcomings of the traditional model while still allowing for statistically significant sample sizes. At a minimum, DIR requires entry and exit revenue and EBITDA from the last twelve months ("LTM"), net debt, total enterprise value ("TEV"), any dividends paid and gross total value multiple ("TVM") performance. An outline comparing the composition of the traditional VCA to DIR is shown in **Figure 1**.

Leverage

In a traditional VCA, each component is calculated to reflect its impact on levered returns. But because leverage on its own is typically the largest value driver in buyouts, and its use can vary significantly across managers, StepStone treats it separately, calculating the other VCA components on an unlevered basis. Doing so provides a more detailed picture of

FIGURE 1 | TRADITIONAL VCA VS. STEPSTONE'S DIR ANALYSIS



Source: StepStone, March 2017.

a company's capital structure and allows us to compare the amount of leverage a GP used against the market average.

To determine whether one GP tends to indebt portfolio companies more than another, the DIR draws from StepStone Private Markets Intelligence™ ("SPI")—our proprietary database—to compare a company's net debt-to-TEV ratio to the sector average. **Figure 2** shows the relative leverage usage rates by GICS sector. Comparing a GP's historical leverage use to the average for the sector in which it specializes is more meaningful than comparing it to a broader benchmark. GP Excess Leverage is the difference between the sector average and the actual leverage used by the GP.

A relatively high use of leverage may indicate that a GP:

» Employs a volatile investment strategy, with a higher chance of write-offs and write-downs throughout its portfolio;

» May rely less on OVA to generate value in portfolio companies;

» Invests in stable, cash-flowing companies;

» May be less successful in higher interest rate environments; and/or

» May be more susceptible to economic downturns.

EBITDA Growth

EBITDA Growth measures how a company's operating cash flow changed during the GP's ownership. EBITDA is typically used throughout the industry as a proxy for operating cash flow because it removes any cash adjustments due to capital structure and the impact of accounting decisions.

DIR maintains EBITDA Growth but distinguishes between Revenue Growth and EBITDA Margin Expansion. While this approach requires LTM revenue data, it provides deeper insight into how GPs improve portfolio company operations.

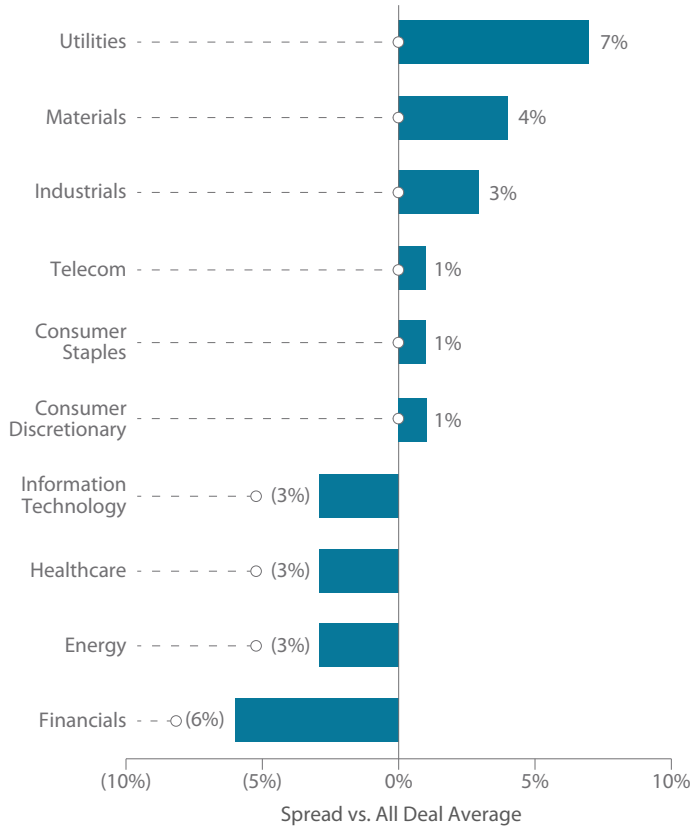
Creating value by increasing revenues may indicate that a GP:

» Deploys capital in rapidly growing segments of the market;

» Makes capital improvements to expand the volume and scope of goods or services or both that portfolio companies provide; and/or

» Capitalizes on its network to help companies expand into new markets.

FIGURE 2 | NET DEBT/TEV: GICS SECTOR AVERAGES RELATIVE TO ALL DEALS (INDEXED TO 54%)



Source: SPI, February 2017.
Note: All deal average of 54% based on 3,307 buyouts completed between 1984 and 2016.

Creating value by expanding EBITDA margins may indicate that a GP:

» Cuts costs and improves efficiency;

» Deploys more effective pricing or marketing strategies;

» Divests underused assets or products or both; and/or

» Generates cost synergies with acquisitions.

Multiple Expansion

Buyout transactions are usually priced based on TEV/EBITDA multiples. In general, businesses with high growth and stable, predictable earnings warrant higher multiples. Thus, GPs that

improve the growth, stability and predictability of portfolio company earnings often create value by expanding multiples. Additionally, multiple expansion can occur passively due to prevailing market factors. While multiple expansion from market sources is as beneficial to LPs as multiple expansion from a GP's activities, differentiating between the two is an important step in identifying which managers are true outperformers.

Like a traditional VCA, DIR calculates the value created from multiple expansion during the GP's ownership. However, DIR divides this value into market and GP sub-components. To derive Market Multiple Expansion, each portfolio company is compared to the appropriate public index based on its geography and industry classifications. Any difference between the company's multiple expansion and the benchmark is attributed to the GP.

For example, if a portfolio company's valuation multiple appreciates less than the public market index, it will generate a negative GP EBITDA Multiple Expansion. Conversely, a portfolio company that appreciates more than the public market index will generate a positive GP EBITDA Multiple Expansion. That GP EBITDA Multiple Expansion, on average, is greater than Market Multiple Expansion suggests that private equity can capture more upside when public markets perform well and less downside when they do not.

Creating value through GP Multiple Expansion may indicate that a manager:

- Significantly increases the growth rate of its portfolio companies;
- Addresses complexities that prevent natural buyers from investing in the company;
- Consistently buys companies at below-market multiples and sells them at market prices;
- Transitions businesses to more stable and recurring revenue models; and/or
- Executes a buy-and-build strategy that realizes multiple arbitrage by acquiring several smaller businesses at low multiples and integrating them into a larger platform company with a higher valuation multiple.

Private equity can capture more upside when public markets perform well, and less downside when they do not.

Deleveraging

Deleveraging represents the change in a portfolio company's net debt during the GP's ownership. It typically occurs when a company has enough free cash flow ("FCF") to pay down outstanding debt. In addition to repaying creditors, FCF may also be reinvested into the business to fuel future growth or to pay dividends to shareholders. While the former is difficult to track directly, the latter can be, with some effort.

To measure FCF as precisely as practical, DIR also includes dividends issued to shareholders; omitting them can produce curious results in certain situations (e.g., dividend recapitalizations). For example, under a traditional VCA, "dividend recaps" result in an increase in debt, which would suggest that the portfolio company lost value. StepStone's DIR offsets the increase in debt with dividend payments, resulting in zero net change in value, and a more accurate measure of the company's investment performance.

Though Deleveraging tends to be less influential than the other components, it can still represent a meaningful portion of value creation for a GP that:

- Invests in businesses with high FCF;
- Uses excess FCF to issue dividends to investors, rather than reinvesting in its businesses; and/or
- Prefers to de-risk its portfolio companies post-acquisition by paying down debt.

Normalization for Investment Returns

Though both the traditional VCA and StepStone's DIR calculate the change in equity value of the portfolio company, only DIR has the framework to take the analysis a step farther to measure investment returns. While the two measures tend to be directionally consistent with one another, DIR more precisely measures how a GP generated returns for its investors.

To accomplish this, StepStone's DIR analysis normalizes, or scales, each component so that the value creation for the portfolio company matches the gain on the investment. This accomplishes two goals. First, it ensures that the VCA ties directly with the investment returns generated by the fund manager. This adjustment is necessary because company equity value and investment returns can deviate for several reasons such as equity dilution, other income, or transaction costs. Second, individual portfolio companies are weighted by invested capital. Under the traditional methodology, companies are weighted based on company equity value, which does not necessarily reflect the amount a GP invested.

For example, under the traditional methodology, a relatively large company (on an equity value basis) would carry a large weight, even if the GP invested relatively little. Conversely, the DIR methodology would assign a relatively lower weight. By normalizing each of the value creation components, StepStone's DIR reframes the analysis from "how did the companies change under the GP's ownership" to "how were investment returns generated for LPs?" While this distinction can seem insignificant, the results can be profoundly different.

DIR in Practice

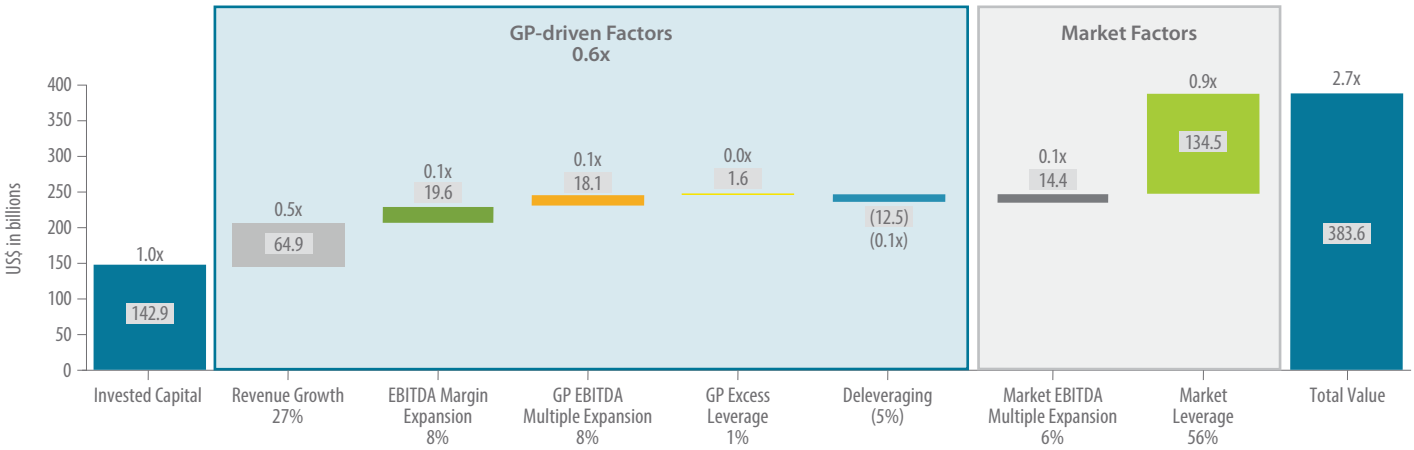
When performing due diligence on a manager, StepStone requests the investment performance (e.g., invested capital, gross TVM) and operating metric data (e.g., LTM revenue, LTM EBITDA, enterprise value, net debt) that are required for a DIR analysis. Once we have this information, our proprietary track record model standardizes it and validates its accuracy. Next, the data are uploaded to SPI, where they are compared to data on the fund manager's peers.

SPI includes investment performance data on over 46,000 private market investments. Across these investments, SPI has operating metric data on approximately 7,600 investments, of which 2,800 have the information required to perform a DIR analysis. While the DIR analysis can be used across many private equity strategies, it is most useful for buyouts.

Model Buyout Firm

To construct a DIR on a model buyout firm, we consolidated the investment performance and operating metric data for 1,533 realized buyout deals across 279 funds and 105 GPs, as shown in **Figure 3**.

FIGURE 3 | DIR ANALYSIS: MODEL BUYOUT FIRM



Source: SPI, March 2017.

As expected, leverage was the primary driver of value creation, representing 57% across market and GP Excess Leverage components. Since this analysis amalgamates data across a range of GPs, you would expect the actual use of leverage to be in line with the market average. When evaluating an individual manager, however, excess leverage may be more of a factor.

Operationally, fund managers improved both revenue and EBITDA margin, with 27% of value creation coming from Revenue Growth and 8% from EBITDA Margin Expansion. This belies the belief that private equity firms only generate returns through cost-cutting and layoffs.

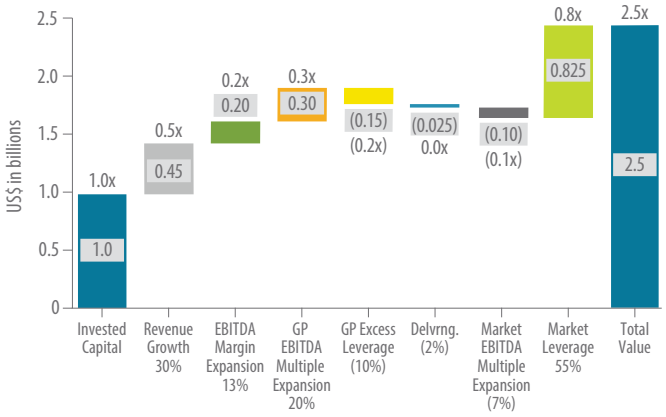
EBITDA multiple expansion represented 14% of value creation, with 8% and 6% coming from GP and market sources, respectively. Over the last few decades, there have been multiple cycles of steady multiple expansion followed by a sudden drop, resulting in multiples expanding in more years than not. As a result, one would expect there to be a positive Market EBITDA Multiple Expansion across the model buyout firm. In addition, actual EBITDA Multiple Expansion outpaced that of public markets, resulting in an additional GP EBITDA Multiple Expansion of 8%.

Deleveraging, which is the change in net debt offset by dividends paid to shareholders, generated a negative value, meaning that net debt increased across portfolio companies during the ownership period. This increase was likely used to fund further growth initiatives, such as capital investment or acquisitions. Further, since EBITDA had increased significantly, the average net debt / EBITDA multiple across the 1,533 buyout deals decreased from 4.2x to 3.3x.

Case Study: A Tale of Two Investors

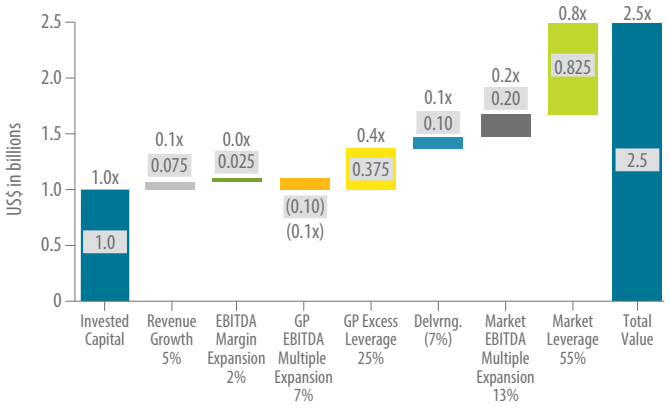
When performing due diligence on buyout managers, StepStone uses DIR to deconstruct how the fund manager generated returns, and to evaluate its strengths and weaknesses. **Figures 4** and **5** represent two contrasting DIR analyses for fund managers with equivalent returns but very different sources of value creation.

FIGURE 4 | MODEL BUYOUT FIRM A



For illustrative purposes only.

FIGURE 5 | MODEL BUYOUT FIRM B



For illustrative purposes only.

While Fund Manager B generated modest value creation from operational improvements (7% from EBITDA growth), Fund Manager A generated approximately 43% from EBITDA growth, most of which came from Revenue Growth. Strong value creation from both Revenue Growth and EBITDA Margin Expansion suggests that Fund Manager A has a history of success in generating OVA within its portfolio companies.

While Fund Manager A used less leverage than buyout market averages, Fund Manager B derived a significant majority of its returns from financial engineering, with 55% from Market Leverage and an additional 25% from GP Excess Leverage.

Fund Manager B's portfolio companies experienced Multiple Expansion during the ownership period; however, it was less than the appreciation of public markets, leading to a negative GP EBITDA Multiple Expansion. Conversely, despite Fund Manager A's portfolio companies being held during a period of public market multiple contraction, its portfolio companies generated multiple expansion, leading to a meaningful expansion in the GP EBITDA Multiple component.

Conclusion

Dr. Kahneman taught us that data are only as useful as the questions they seek to answer. Often, however, the questions we formulate are fettered by heuristics and biases. An industry as inherently risky as private equity requires answering the right questions with incisive data.

A standard VCA provides investors with a framework for evaluating a GP's OVA capabilities. But its simplicity is indicative of a previous age, during which there were far fewer managers using fewer strategies to create value. In more exacting times, LPs need to have a deeper, more detailed understanding of how managers create value for investors to determine whether a particular GP's strategy fits the market environment. Our DIR makes answering that question easier.

- By determining whether a portfolio company grew because of the GP or prevailing market factors, LPs can determine whether that GP simply rode the wave.
- Comparing the amount of leverage two GPs tend to use might help an LP figure out which shares its appetite for risk.
- By learning that a GP grew a company's EBITDA, an LP might determine that the manager specializes in generating OVA within its portfolio companies, either by expanding operations or generating efficiencies.

It is StepStone's view that the best private markets managers reduce downside potential and increase upside potential in their companies through active management of the P&L and balance sheet. DIR intends to highlight the evidence of the GP's skill in doing so.

StepStone is a global private markets firm overseeing over US$105 billion of private capital allocations, including approximately US$29 billion of assets under management.

The Firm creates customized portfolios for the world's most sophisticated investors using a highly disciplined, research-focused approach that prudently integrates primaries, secondaries and co-investments.

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