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Calibration -

An Introduction

Valuation Newsletter
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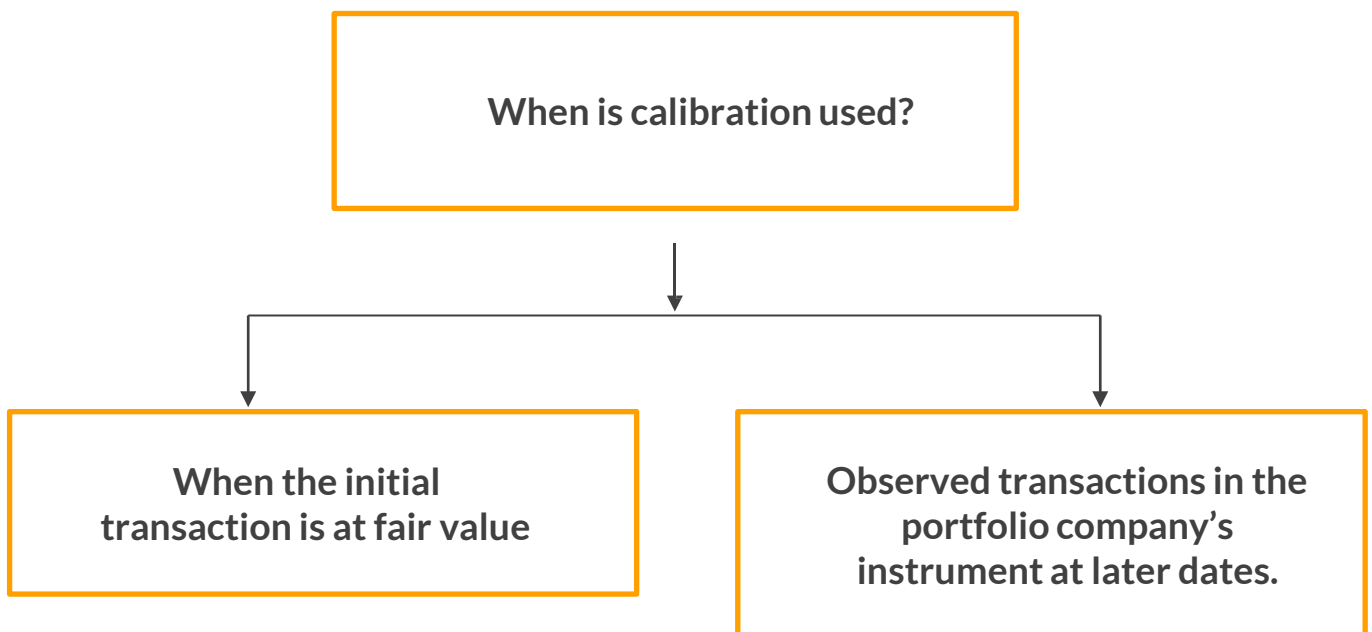
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Day in and day out we read about an early-stage company receiving fundings from investors at various stages. Every early-stage company goes through multiple rounds of fundings with such fundings often happening months apart. Every time a company raises funds, various valuation requirements arise from financial reporting as well as tax and regulatory compliance angles. At such a juncture, the value at which the latest fund raise has taken place serves as an important reference point for the valuation of the portfolio company.

This newsletter lays down the foundation of calibration, discussing how equity value calibration is performed with illustrative examples.



Calibration is the process of using observed transactions in the portfolio company's own instruments, especially the transaction in which the fund entered a position, to ensure that the valuation techniques that will be employed to value the portfolio company investment on subsequent measurement dates begin with the same assumptions that are consistent with the original observed transaction or a more recent observed transaction in the instruments issued by the portfolio company.



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2. Steps in calibration

Steps in calibration can be outlined as follows:

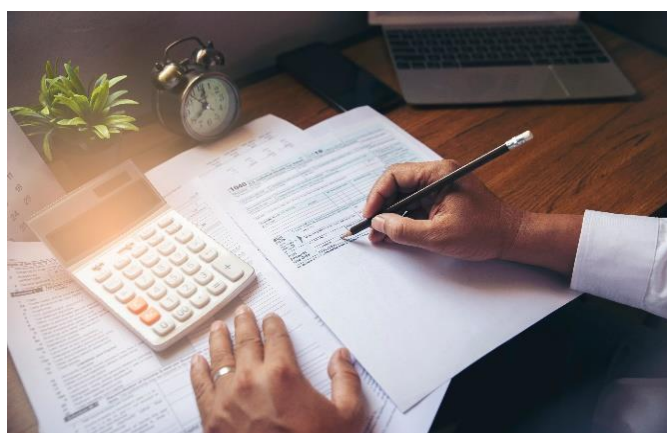
- Determine whether the transaction being calibrated is at fair value. The process of determining whether the transaction is at fair value or not is based on characteristics of the transaction and the unit of account. A transaction might not represent fair value if any of the following exist:
 - o Transaction is between related parties unless evidence exists to support that the transaction was entered into at market terms.
 - o Transaction has taken place under duress, or the seller has been forced to accept the price in the transaction.
 - o Unit of account represented by the transaction differs from the unit of account currently being valued.
 - o Transaction takes place in a market different from the principal market
- Calculate the key inputs determining the value for the transaction in question. The inputs determined will be based on the valuation approach being considered. For example, in case of the income approach, an implied IRR at the time of the transaction will be a key determinant. In case of the market approach, multiples based on financial metrics shall be considered as key inputs.
- The transaction date inputs are then compared with market level inputs to assess the difference or the delta between the two. For example, if the implied transaction multiple is 20 times EBITDA and the peer group average multiple is 10 times EBITDA, it can be inferred that the investor values the company twice as much as the market would value the company.
- Recompute the market inputs as on **the subsequent measurement date ("valuation date")**. For example, if the transaction took effect in December 2021, and the valuation date is March 31, 2022, one shall compute the discount rate (in case of income approach) and the market multiples (in case of market approach) as of March 31, 2022.
- Assess whether the delta between the transaction multiple and market multiple still holds. Continuing with the example, on the transaction date it was determined that the investor was willing to pay twice as much as the market for the company. It will be assessed as of the subsequent valuation date whether an investor would still pay 2 times of the market multiple or will the gap be narrower.
- Such assessment is supported by an understanding of the company's actual performance vs. the performance budgeted at the time of the investment. Additionally, analysing whether the company has met the milestones set at the time of the investment is also an important aspect of calibration.

3. Application of calibration when valuing a company using the market approach – An illustration

Company A is acquired for an enterprise value of USD 600 million comprising of USD 300 million in debt. The trailing and forward EBITDA of the company are USD 60 mn and USD 90 mn respectively. The resultant implied multiples are 10x trailing EV/EBITDA and 6.67x forward EV/EBITDA. The guideline public companies' EV/EBITDA multiples are as follows:

Trailing EV/EBITDA: 8x

Forward EV/EBITDA: 5x



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The difference between subject company and peer group multiples reflects investor's expectations of better performance by Company A than the peers. On subsequent measurement dates, one would assess whether the delta between the subject company and the peer group still holds. Such assessment is made based on certain pre-defined milestones pertaining to the Company's financial as well as non-financial metrics. A simple application of the peer group multiples to the Company's financial metrics would not be appropriate. Let us say after 6 months, Company A's performance is on track. Similarly, market multiples have also improved to 9x trailing EV/EBITDA and 6x forward EV/EBITDA. Comparing the company's progress with the market, it is concluded that a market participant would still expect the Company to outperform the market, but to a lesser extent as compared to the situation as on the transaction date.

Thus, for the valuation analysis, a trailing multiple of 10.5x EV/EBITDA and a forward multiple of 7x EV/EBITDA shall be considered.

4. Application of calibration when valuing a company using the income approach – An illustration

Continuing with the previous example, let us assume the implied internal rate of return ("IRR") for Company A at a transaction value of USD 600 million is 15% taking into account the forecasted cash flows and the purchase price. The difference between the IRR and a discount rate estimated for a guideline public company is attributable to subject company factors.

Similar to the market approach, it would not be appropriate to directly apply a market participant discount rate to the cash flows of Company A at subsequent measurement dates. Here again, one would track the business performance of the company with the peer group performance to assess whether any change is warranted in the alpha or the company specific risk factor. For example, let's assume the company's revenue grew by 10% while the growth in the peer group is 20%. On a standalone basis, the company's growth could be a positive factor but when compared to the peer group, it seems to be lagging. In that case, an alpha higher than the one determined at the time of the transaction date may be warranted.

The higher discount rate will reflect a broadening gap between the company and the peer group performance.

5. Calibration as a support for company specific risk premium

A very useful application of calibration under the income approach is how it can be used as a tool to support the subjective inputs that are employed. One of the most subjective inputs is the company specific risk premium used in the weighted average cost of capital ("WACC"). Let us understand how calibration can be used to support the company specific risk premium by the following illustration:

Let us continue with the previous example. This transaction price of USD 600 million implies an IRR of 15% considering the future cash flows as well as the transaction price. When the WACC is calculated using market-based inputs, the resultant company specific risk premium is 5% as follows:

Cost of equity	%	Notes
Risk-free rate ("Rf")	3.00%	1
Equity risk premium ("Rpm")	7.50%	2
Beta	1.00	3
Size risk premium	3.02%	4
Company specific risk premium	5.00%	5
Cost of equity ("Ke")	18.52%	
Weight of equity ("We")	71.65%	

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Cost of debt	%	Notes
Cost of debt ("Kd")	8.20%	6
Marginal tax rate	25.49%	7
Kd (post tax)	6.11%	
Weight of debt ("Wd")	28.35%	8

Description	%
Weighted average cost of equity	13.27%
Weighted average cost of debt	1.73%
WACC	15.00%

On subsequent measurement dates, when determining the fair value of the portfolio company's investment, a company specific risk premium of 5% would be the starting point. Adjustments shall be made to the same based on the developments in the Company during the intervening period.

6. The timeliness factors

Intuitively, calibration is most helpful when there is not significant time elapsed between the original investment date and the subsequent measurement date. However, even in case of a significant time gap between the two dates, calibration serves as a reasonableness test to justify the movement in value being in tandem with the company's performance. However, such calibrated value must be corroborated by the value conclusions using other methods. If there has been another round of investment from another party, that transaction will be more relevant from a calibration standpoint. However, significant change in circumstances for a company makes calibration irrelevant. Examples of such changes include bankruptcy, upcoming IPO etc.

Closing thoughts

The illustrations discussed in this newsletter may paint a simpler and clearer picture of how calibration works. Often, calibration involves qualitative inputs which require judgement on the part of the appraiser. KNAV brings significant collective experience and deep industry expertise to the table, thereby introducing remarkable credibility to your calibrated valuations.

The following newsletters shall delve into further nuanced aspects of calibration and how they influence the subsequent valuations of portfolio companies.

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