Assessing Private Equity Fund Performance

Constantin Wagner
Analyst
Petiole Asset Management

One of the challenges associated with private equity investments is that managers can claim to be top-quartile investors by relying on certain metrics that may not show the full picture of the portfolio. Investors then need to understand key performance metrics to better make investment decisions.

Private equity is an asset class with the potential to generate a solid outperformance relative to the public markets. Due to the dispersion in the performance of private equity funds, however, understanding how this asset class can be assessed allows for more thorough performance analysis.

One of private equity's defining features is the irregular timing of cash flows (whether in- or outflows) as committed capital may not be called upon immediately and estimating exit horizons with certainty can be difficult. As a consequence, private equity returns are often measured in different manners than other asset classes.

As a result, experts have adopted various metrics to give investors improved perspectives on their private equity investments' performance, and to benchmark them against investments in other asset classes.

I. Internal Rate of Return

The Internal Rate of Return (IRR) is the most commonly used metric by professionals in the field as well as leading financial institutions, including the CFA Institute. IRR is defined as the implied annual rate of return on an investment, and if used as the discount rate, it renders the net present value (NPV) of an investment zero.

Pros	Cons
• Relatively easy to calculate and interpret • IRR considers the important time value of money - $1 dollar today is more valuable than $1 in the future, which is particularly true with inflation running at decades-high • IRR allows investments with irregular cash flows to be analyzed, compared, and ranked	• IRR assumes that cash flows are invested at the same rate of return, which may lead to either an overstatement or understatement of the fund • Calculation of IRR requires the knowledge of every cash flow associated with an investment, and this can become tricky in a fund context as General Partners typically net distributions and capital calls • IRR can be artificially inflated by changing the timings of distributions

IRR simply calculates the earned "interest rate" on a series of withdrawals. As such, the size and timing of cash flows affect IRR calculation.

When analyzing or comparing IRR between funds, it is important to understand whether the reported IRR is gross or net of fees and carried interests, as there can be major differences between the two. Limited Partners often look at net IRR to know the actual returns they receive, while General Partners often use gross IRR in marketing materials.

The effect of leverage should be considered as private equity investments typically relies on high amounts of debt funding, especially when compared to public companies. Thus, investors must determine what part of the IRR is driven by leverage and distinguish between levered vs unlevered IRR because leverage affects cash flows (i.e. interest and principal payments) and the initial equity invested.

The table below shows the capital calls and distributions for a hypothetical fund where negative cash flows are capital calls and positive cash flows are distributions.

Time Period	01.Jan.21	31.Dec.21	31.Dec.22	31.Dec.23	31.Dec.24	31.Dec.25	31.Dec.26
01.Jan.21	-15						
31.Dec.21		-10					
31.Dec.22			-4			Reinvestment Rate = IRR = 29.4%	
31.Dec.23				40			
31.Dec.24					0		
31.Dec.25						18	
31.Dec.26	IRR		29.4%				8

II. Performance Ratios

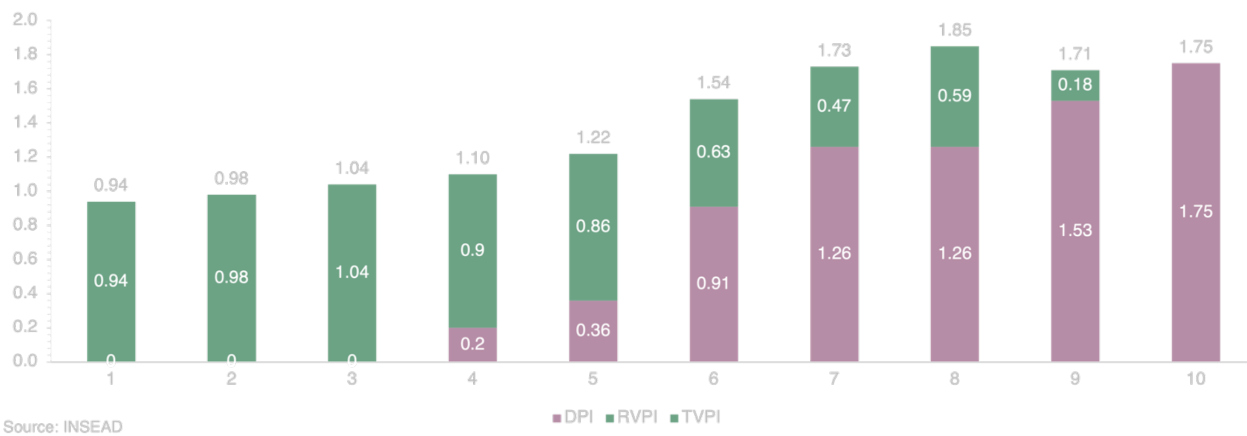
Private equity industry practitioners often use a set of three performance ratios to analyze and assess returns, all of which measure interim performance relative to the capital paid in the private equity investment or fund:

1. **Distributions Divided by Paid-In Capital (DPI)** - this ratio measures the portion of the paid-in capital that has been cumulatively distributed so far. For example, a DPI of 0.5x means that 50 cents have already been distributed to investors for every $1 they invested/contributed.

2. DPI will be zero at the start of investment and will begin to increase as distributions get paid. When the DPI becomes equal to 1, it means that the fund has broken even, and any number above 1 indicates that the fund has paid out more than what was initially invested.

3. Re**sidual Value (aka NAV) divided by Paid-In Capital (RVPI)** - As the term suggests, RVPI is the portion of the value of the investment/fund that is unrealized. It is high at the beginning (as most investments are yet to be realized/harvested); as the investments are exited, RVPI decreases to zero. For instance, an RVPI of 0.6x means that the remaining investments are valued at 60 cents for every $1 dollar invested.

4. **Total Value divided by Paid In capital (TVPI)** - the Total Value consists of both distributions and residual value, that is TVPI = RVPI + DPI. A TVPI of 1.45x, for example, means that the investment has created a total gain of 45 cents for every $1 dollar invested.



Source: INSEAD

To illustrate an example, the graph above reflects the dynamics of the three multiples (DPI, RVPI, and TVPI) over the life of a private equity fund/investment.

- TVPI is often <1 in year 1 due to upfront fees related to management and fund setting
- In the early years of the investment period, most (if not all) investments are unrealized or unharvested; hence, RVPI is equal to TVPI which indicates that DPI is equal to zero
- As the fund progresses and distributions are made, DPI grows and in the case of the sample fund shown above, the first value realization occurred in the 4th year
- The share of the fund's DPI continues to rise to become equal to the TVPI when all investments have been realized or exited

Pros	Cons
• Ease to use as you don't need to take into consideration the timing of investment or distributions • Multiples offer a quick way of analyzing the performance of the fund as any multiple above 1 shows that the fund has returned more money than the initial investment • Since returns are expressed as proportion of invested amount, investment of different sizes can be compared	• The multiples ignore time value of money. A 1.8x fund may look attractive at first glance, but it wouldn't be that attractive if it has taken 10 years to produce such a return • The multiples aren't useful in the early stages of the fund/investment

Why use both IRR and Performance Multiples?

IRR and Performance Multiples are two important analysis tools on their own. IRR incorporates the time value of money but is not sufficient in defining an investment's absolute return, which is a perspective covered by the multiples. When used together, they provide better insights on the potential benefits of private equity investments.

III. Relative Performance Indicators

Public Market Equivalent (PME)

The performance of public investments is measured on the basis of time-weighted returns which aren't particularly comparable to the IRR of private investments. In an attempt to address this, Public Market Equivalent is created where an investment in a private equity fund is compared to an equivalent investment in a public benchmark (i.e., S&P 500, Dow Jones). The PME is generated by establishing a hypothetical investment that purchases and sells shares in the selected public market in a way that mimics the private equity fund cash flows. For example, if a $50m drawdown was made by the private equity fund, then $50m will be hypothetically invested in the public market index which will yield two directly comparable IRRs.

If the IRR of the private equity investment is greater than the IRR of the private market equivalent, then the fund can be considered to have outperformed.

PME+

PME+ is an adjustment to PME that was developed to address the short exposure problem that can be present in the PME calculation if large distributions are made. It does so by scaling distributions with a factor called lambda until the final valuation of the private market index is equivalent to the NAV of the private equity.

IV. Conclusion

By approaching private equity performance analysis with IRR, Multiples, PME, and industry context, investors can better analyze how quickly investments saw returns, the absolute returns of an investment, and how did the investments fair against the public market.

Petiole's transparent portfolio reporting and thorough deal selection provide investors with world-class investment analysis. Contact our team to learn how we assess fund performance and our investment approach today.

References:

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