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Benefits of private equity amid higher interest rates

- After an extended era of relatively low interest rates—followed by a prolonged period of "higher rates for longer"—investors may question how much of the value that private equity (PE) funds create is driven by financial leverage that is sensitive to increasing interest rates. Our analysis shows that, since the 1980s, the largest source of value creation for PE fund investments has shifted from financial leverage to operational business improvements.[1]
- In an analysis of five rate-tightening cycles since 1985, the corresponding median and pooled[2] PE fund vintages matched or exceeded public equity market performance on average, and the top-quartile PE managers outperformed the public equity markets in all scenarios, delivering 10.5% average annualized outperformance.[3]
- Vanguard believes that private and public equity investors are well served by a consistent investment philosophy that eschews market-timing and tactical asset allocation shifts in favor of broad diversification, patience, and discipline.

1 See Figure 2 on page 3 and accompanying analysis for more detail.

2 Pooled returns combine the cash flows of all PE funds in the database for the specified vintages.

3 See Figure 1 on page 2.

PE performance during periods of interest rate tightening

We have identified five periods of interest rate tightening since 1985 that can provide insight into PE's performance in increasing-rate environments: 1988–1989, 1994–1995, 1999–2000, 2004–2006, and 2015–2018. We excluded the 2022–2023 rate-hiking cycle because it is too early to form conclusions about those vintages. **Figure 1** shows the performance of U.S. PE funds by vintage on an absolute basis and relative to the public equity markets across the five tightening cycles. The top-quartile PE funds outperformed public equity by over 10% annually across the five scenarios, highlighting the value of partnering with skilled managers and diversifying across vintages.

Over the five cycles, the pooled return of all U.S. PE funds outperformed the Russell 2000 Index in four of the scenarios and generated a 6.7% average annualized excess return. The median U.S. PE fund underperformed in three of the five cycles but generated a 1.7% average annualized excess return, driven by strong performance from the 1994–1995 and 2015–2018 vintages. This highlights the risk of missing just a few vintages because of an aversion to investing in PE during tightening cycles. For the 1994 and 1995 vintages, when the federal funds rate rose by 3 percentage points, investors who didn't participate missed out on excess returns of 8.6% at the median and 23.9% at the top quartile above the Russell 2000 Index. As previous Vanguard research has shown, timing the markets may be futile, both in public and private equity markets (Vanguard 2023a).

FIGURE 1

Top-quartile PE funds outperformed public equity in rising-rate environments

PE performance across interest rate-tightening episodes (1985–2018)

	Historical tightening action dates		Federal funds target rate (%)			U.S. PE absolute performance (net IRR)			Private vs. public equity performance: U.S. PE Direct Alpha* vs. Russell 2000		
Private equity vintage years	**Initial**	**Final**	**Initial**	**Final**	**Total tightening (percentage points)**	**Pooled**	**Median**	**Top quartile**	**Pooled**	**Median**	**Top quartile**
1988, 1989	Mar 29, 1988	May 16, 1989	6.50%	9.81%	3.31%	19.0%	12.9%	24.0%	4.5% +	−0.3% −	8.9% +
1994, 1995	Feb 4, 1994	Feb 1, 1995	3.00%	6.00%	3.00%	33.8%	19.9%	39.3%	20.0% +	8.6% +	23.9% +
1999, 2000	Jun 30, 1999	May 16, 2000	4.75%	6.50%	1.75%	6.3%	0.6%	9.4%	−1.5% −	−6.3% −	1.5% +
2004, 2005, 2006	Jun 30, 2004	Jun 29, 2006	1.00%	5.25%	4.25%	8.8%	6.6%	12.9%	1.6% +	−1.1% −	5.0% +
2015, 2016, 2017, 2018	Dec 16, 2015	Dec 19, 2018	0.25%	2.50%	2.25%	18.3%	16.5%	23.5%	8.9% +	7.5% +	13.4% +
Average across five cycles			**3.10%**	**6.01%**	**2.91%**	**17.2%**	**11.3%**	**21.8%**	**6.7%** +	**1.7%** +	**10.5%** +

\+ PE outperformance

− PE underperformance

* Direct Alpha is a widely used methodology to assess the performance of PE versus public equity investments. For additional details, please see the **Appendix**.

Notes: The Russell 2000 Index includes the smallest 2,000 companies in the Russell 3000 Index (which is composed of the largest 3,000 companies by market capitalization). The Russell 2000 index is widely used for PE performance comparison because it's one of the broadest benchmarks for U.S. small-cap companies, which better reflects the PE investable universe relative to indexes that contain large-cap companies such as the Russell 3000 Index or the Standard & Poor's 500 Index. IRR is internal rate of return.

Sources: MSCI and the Federal Reserve Bank of St. Louis. PE data are from the MSCI dataset of all U.S. PE funds (buyout, venture, growth) with performance through December 31, 2024.

Past performance is no guarantee of future returns. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

PE value creation over time

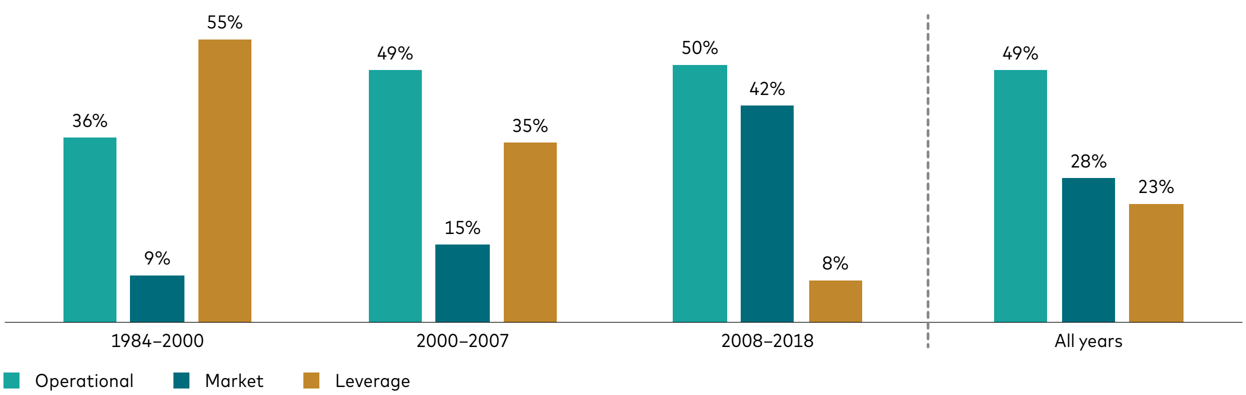
Following an extended period of relatively low interest rates, investors may question how much of the value that PE funds create is driven by financial leverage versus operational improvements such as growing sales and improving profitability. **Figure 2** illustrates the contribution of operational improvements, market factors, and financial leverage to PE returns since 1984.

The PE industry has evolved significantly over the past 50 years. The best PE managers have robust value creation playbooks that are core to their competitive advantage. The contribution of leverage to U.S. PE value creation has fallen dramatically, from 55% before 2000 to just 8% since the global financial crisis in 2008. On the other hand, sources of operational value creation such as revenue growth and profit margin expansion have increased, from 36% before 2000 to 50% since 2008. We believe that capital structure has become increasingly commoditized. In contrast, a manager's ability to provide value through operational improvements is now seen as a competitive advantage for the top PE firms. Managers who generate more value from operational improvements relative to peers may generate better returns over the long run because they can operate more successfully under various market environments, including rate-tightening cycles.

FIGURE 2

The contribution of leverage to PE value creation has fallen dramatically in the past two decades

U.S. PE value creation contribution by factor



Notes: The sample used in the analysis comprises 2,951 fully exited deals from 1984 through 2018, with $945 billion in combined equity investments and $1.9 trillion in total enterprise value. These transactions are estimated to cover about a quarter of the value of all global historical buyout activities with PE fund sponsors over this period. "Operational" includes revenue growth; earnings before interest, taxes, depreciation, and amortization (EBITDA) margin expansion; and EBITDA multiple expansion attributed to the general partner. "Market" includes EBTIDA multiple expansion and leverage attributed to comparative public market movements. "Leverage" includes excess leverage employed by the general partner above comparative public market leverage and the ratio of debt paydown (change in net debt from investment entry to exit) to total enterprise value at entry. The decrease in the leverage component is driven primarily by a decline in general partner excess leverage above comparative public market leverage. However, the contribution from deleveraging is negative for the 2000–2007 and 2008–2018 periods, which means that on average, general partners increased the level of debt while owning the company relative to entry.

Source: Binfare et al., 2022.

Conclusion

Private equity provides investors with the opportunity to outperform public markets over the long term. While PE returns may be affected by interest rates, our analysis shows that PE can outperform even during rate-tightening cycles, especially when an investor has access to top-quartile funds. Further, PE firms have generated significantly more value from operational improvements than from financial leverage over time, and that trend has accelerated over the past two decades. We believe PE managers that can generate long-term value through enduring business improvements will be best-positioned to weather rate-tightening cycles.

Because investors cannot reasonably predict which PE vintages will outperform (Brown et al., 2020), Vanguard believes an optimal PE investment allocation consists of a programmatic approach whereby investors regularly invest across multiple PE vintages in varying market environments. For advised Personal Investor clients, Vanguard can tailor a PE investment program to specific goals and objectives. We encourage Vanguard self-directed Personal Investor clients who are interested in PE to reach out to their Vanguard relationship manager.

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Appendix

More about the methodologies

Direct Alpha refers to the Gredil-Griffiths-Stucke Direct Alpha method. It is a measure of annualized excess return and compares the relative performance of the private market investment with the stated index as of the measurement date; the calculation is an internal rate of return, based on the series of fund cash flows and the residual value, discounted to a single point in time using the respective index returns; the cash flows are discounted to the same point in time to effectively eliminate the impact of any changes in the stated public equity index from the private market cash flows. For example, a direct alpha of 3.5% indicates that the private investment has generated an annualized excess return of 3.5% over the stated index.

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With private equity ("PE") investments, there are five primary risk considerations: market, asset liquidity, funding liquidity, valuation, and selection. Certain risks are believed to be compensated risks in the form of higher long-term expected returns, with the possible exceptions being valuation risk and selection risk. For selection risk, excess returns would be the potential compensation, however, limited partners ("LPs") must perform robust diligence to identify and gain access to managers with the skill to outperform. PE investments are speculative in nature and may lose value.

Market risk: PE, as a form of equity capital, shares similar economic exposures as public equities. As such, investments in each can be expected to earn the equity risk premium, or compensation for assuming the nondiversifiable portion of equity risk. However, unlike public equity, PE's sensitivity to public markets is likely greatest during the late stages of the fund's life because the level of equity markets around the time of portfolio company exits can negatively affect PE realizations. Though PE managers have the flexibility to potentially time portfolio company exits to complete transactions in more favorable market environments, there's still the risk of capital loss from adverse financial conditions.

Asset liquidity risk: Various attributes can influence a security's liquidity; specifically, the ability to buy and sell a security in a timely manner and at a fair price. Transaction costs, complexity, and the number of willing buyers and sellers are only a few examples of the factors that can affect liquidity. In the case of PE, while secondary markets for PE fund interests exist and have matured, liquidity remains extremely limited and highly correlated with business conditions. LPs hoping to dispose of their fund interests early—especially during periods of market stress—are likely to do so at a discount.

Funding liquidity risk: The uncertainty of PE fund cash flows and the contractual obligation LPs have to meet their respective capital commitments—regardless of the market environment—make funding risk (also known as commitment risk) a key risk LPs must manage appropriately. LPs must be diligent about maintaining ample liquidity in other areas of the portfolio, or external sources, to meet capital calls upon request from the General Partners ("GPs").

Valuation risk: Relative to public equity, where company share prices are published throughout the day and determined by market transactions, PE net asset values ("NAVs") are reported quarterly, or less frequently, and reflect GP and/or third-party valuation provider estimates of portfolio fair value. Though the PE industry has improved its practices for estimating the current value of portfolio holdings, reported NAVs likely differ from what would be the current "market price," if holdings were transacted.

Selection risk: Whether making direct investments in private companies, PE funds, or outsourcing PE fund selection and portfolio construction to a third party, investors assume selection risk. This is because PE doesn't have an investable index, or rather a passive implementation option for investors to select as a means to gain broad PE exposure. While there are measures an investor can take to limit risk, such as broad diversification and robust manager diligence, this idiosyncratic risk can't be removed entirely or separated from other systematic drivers of return. Thus, in the absence of a passive alternative and significant performance dispersion, consistent access to top managers is essential for PE program success.

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