Institutional Investments in Private Equity

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Key questions for (prospective) LPs

- What is the evidence on PE fund performance?
- Do different LPs systematically perform differently?
  - Different classes of LPs?
  - Different individual LPs?
- How should we think about risk?
  - Is PE performance sufficient given the risks?
- What about fees?
  - Should institutions avoid fees by investing directly in portfolio companies rather than indirectly through PE funds?
- Should LPs consider investing in funds on the secondary market rather than at fund inception?

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Performance measurement

- PMEs are a huge improvement over the traditional IRR or MIC/TVPI (undiscounted multiple of investment capital).
- It is unclear that PMEs fully control for risk.
- Leverage, illiquidity.
- Attempts to correct for these generally result in lower estimates of the outperformance of PE.
    - See Robinson and Sensoy (2015), Axelson, Sorensen, and Stromberg (2014).

Performance measurement

- The field is still searching for an accepted risk-adjusted performance measure.
- Still, much improvement in both data and methodology over the last dozen years.
- The consensus in the literature is the buyout has outperformed.
- Venture capital is more variable, and no clear outperformance since the late 1990s.

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Differences in LP performance

- What kinds of LPs are suited to perform well in PE?
- Lerner, Schoar, Wongsunwai (2007): Endowments strongly outperform other investor types, including pension funds, banks, and insurance companies.
  - Endowments: 44.3% IRR, pension funds 20.2 %, others less.
  - Among funds raised 1991-1998.
- LSW attribute outperformance to endowments' ability to select as well as access top performers.
  - Top GPs often ration access to their funds, for reasons that are not entirely clear.
- Consistent with the view that PE is an opaque, complex asset class in which there are returns to LP expertise.

Differences in LP performance

- Sensoy, Wang, and Weisbach (2014).
- The endowment performance advantage disappears in more recent data, funds raised 1999-2006.
- Former endowment outperformance concentrated among VC funds.
- Even in the earlier period in which endowments outperformed, little evidence of superior selection ability.

Differences in LP performance

- Instead greater access by virtue of being early adopters in VC.
  - Among VC, endowments did no better in first-time funds, in which access plays little role.
  - And, endowments declined to reinvest in extremely well-performing VC partnerships.
    - 62.6% IRR to reinvested funds, but funds that were not reinvested earned 59.2%.
  - Endowments primarily benefited from the wide dispersion of returns and return persistence between successive funds of a GP partnership.
- In any case, the endowment advantage is gone.
- In fact, all LP types perform roughly the same.

What explains these newer results?

- Consistent with a maturing, increasingly better-understood (commoditized?) industry.
- More competition: more PE funds raised with larger pools of capital.
- Less low-hanging fruit.
- All of this points to increasing homogeneity in GP skill.
- Indeed, the dispersion of venture capital returns has decreased markedly.
  - Cross-sectional standard deviation of fund IRR was 70.1% among funds raised in 1991-1998.
  - 13.2% among funds raised in 1999-2006.
  - (Nevertheless, PE still has much greater dispersion than other asset classes.)
- Return persistence has diminished as well.

What is return persistence?

- First documented for private equity by Kaplan and Schoar (2005)
- If a given fund performs well, more likely that the next fund of the same GP partnership will also perform well.
- Returns are serially correlated within a partnership over time.
- Great news for LPs with access to top-performing GPs.
- But a theoretical puzzle: GPs are not extracting all the rents created by their skill.
- Widely replicated result, but until recently data were limited to funds raised in or before the 1990s.
- More recent data suggests persistence persists, but weaker.

Performance persistence has declined

- Robinson and Sensoy (2015) show serial correlation has declined.
- Most comprehensive recent analysis by Harris et al. (2014).
  - Almost 70% of top quartile VC managers remain above the median in their next fund.
  - Just half of top quartile buyout managers do. Exactly as predicted by pure chance.
- Korteweg and Sorensen (2015) show that although some partnerships reliably perform better than others, it is hard to tell whether this is due to skill or luck using only returns data.
  - Conclude that “investable persistence" is weak.
  - But this does not take into account any information other than past returns that might help predict future returns.

Individual LP performance

- All of these trends suggest it is harder than before for an LP to be above average.
  - More competition, less disperse returns, weaker persistence, and no return differences across LP types.
- Cavagnaro, Sensoy, Wang, and Weisbach (2015) look at individual LP performance.
- Look for evidence of LP skill using bootstraps.
  - Looking at the distribution of LP returns, are there more LPs in the tails than would be predicted by chance?
  - Yes, but less so in more recent times.
- Also adapt the Korteweg/Sorensen (2015) approach to look at LP skill rather than GP skill.
  - Again, evidence that some individual LPs are skilled, even if there are no differences when LPs are aggregated up within “types".

How to be an above average LP?

- Not entirely clear.
- Based on research, likely to be two main factors.
- Add value from the GP's perspective.
- Ability to use soft information when evaluating GPs.

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What are the sources of risk facing LPs?

- Primarily market risk and liquidity risk.
- Market risk: the value of the fund's investments will move together with other asset classes, especially public equities.
  - Think of this type of risk as the beta of the fund's underlying investments.
- Liquidity risk.
  - Timing of fund cash flows uncertain.
  - Costly to exit a fund before its contracted life.
- Is average performance high enough to compensate for these risks?

Is being an average LP good enough?

- Bollen and Sensoy (2015) build a valuation model for PE taking all of these sources of risk into account.
- Model joint evolution of private and public equity values in a real options setup.
- PE cash flow timing is random, and the LP is subject to rare events (“shocks") that force an early sale of the partnership stake at a discount.
    - Secondary sales.
- Use the model to solve for the expected return on the PE fund’s underlying investments so that the LP is indifferent between a portfolio containing some allocation to PE and one containing only public equities and the riskfree bond (“breakeven asset return").
- Note: the model is explicitly from the perspective of an initial LP who may become a seller on the secondary market.

Is being an average LP good enough?

- Given the breakeven asset return, compute corresponding net-of-fee fund returns using a typical fee schedule.
- Compare this to empirically observed returns.
- Bottom line: empirically observed average returns are sufficient.
- As long as the LP is not too risk averse. Allocations up to 40% are justified for risk-tolerant LPs.
- Caveat: for VC this hinges on the full sample PMEs close to 1.4. Post-2000 numbers close to 1.0 are harder to rationalize.

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The secondary market

- Mechanism for primary (initial) LPs to sell their stakes.
- Why do sellers sell?
  - Liquidity needs
  - Changing portfolio managers
  - Changing Strategy: Focus on different sectors (within PE or out of PE)
  - Wish to lower portfolio risk
  - “Tail-end" portfolios
- Why do buyers buy?
  - Purchase at a Discount
  - Reduce “Blind Pool Risk"
  - Earlier Return of Capital
- Transaction Volume is about 2% of global PE exposure - $42 billion in 2014.

The secondary market

- Nadauld, Sensoy, Vorkink, and Weisbach (2015) analyze prices and returns to buyers and sellers using a proprietary dataset provided by a large intermediary in this market (about 40% of transaction volume).
- How does the market work?
  - Selling firm approaches intermediary.
  - Intermediary auctions off stake, highest bidder usually wins.
  - Prices are stated as a fraction of NAV.
  - Buyer pays seller cash for the agreed price for the investments the seller has already made.
  - Seller receives all subsequent cash flows from these investments and is responsible for all future draw downs of capital.

Main results

- Transactions tend to occur at a large discount to Net Asset Value (NAV), on average transactions occurs at 86% of NAV.
- Buyers dramatically outperform sellers. Outperformance likely results from sales at a discount to true value.
  - Transaction weighted IRR for Buyer is 17.8%
  - Transaction weighted IRR for Seller is 4.2%
  - Main results hold with market-adjusted performance measures.
- Transactions costs for sellers are substantial.
  - Still a major concern for primary investors in private equity.
  - Even with market, private equity should be viewed as a very illiquid asset.
  - Market only exists for very large funds.
- Transactions costs vary across transactions.
  - Higher when asymmetric information is high.
  - Higher when market demand for private equity funds is low.

Main results

- Sellers tend to be cash flow dependent institutions.
  - Endowments, pension funds, foundations.
- Buyers tend to be flexible and do not rely as strongly on cash generated by investments.
  - Funds of funds, sovereign wealth funds
- Market appears to be a seller initiated market in which buyers provide liquidity and sellers pay substantial transactions costs.
- As the market grows, opportunity for well-financed buyers.

Summary

- No longer evidence that broad classes of LPs perform differently.
- Dispersion and persistence of fund returns has diminished.
- Likely harder to be an above-average primary LP.
- But there continues to be evidence of differential individual LP skill.
- And average performance of buyout funds is likely to sufficiently compensate for risks and costs.
- Appear to be opportunities on the secondary market.

Thank you!

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