PE:

Where has it been?

Where is it now?

Where is it going?

Steve Kaplan
Overview

- What does PE do at the portfolio company level?

- Why?

- What does PE do at the fund level? Talk about two recent papers:

- What does this mean going forward?
  - Performance?
  - Fees?
  - Direct investing and Co-investing?
  - Regulation?
What Does PE Do At The Portfolio Company Level?
What Does PE Do At The Portfolio Company Level?

- Evidence that private equity / buyout funded companies outperform. Buyouts associated with increases in productivity.
  - Kaplan (1989b) in the 1980s.
  - Davis et al. (2013) from 1980s to early 2000s.
    » Look at large fraction of all U.S. buyouts from 1980 to 2005.
    » PE firms exit low productivity plants.
    » PE firms enter (build / buy high) productivity plants.
    » **Net effect is: significant increase in productivity.**
  - Cohn and Towery (2014).
    » Similar results with tax data.
  - Caveat - results marginally positive for public-to-privates.
    » Guo et al. (2008), Cohn et al. (2013).

- Employment growth similar / slightly lower than firms in same industry.
“There is a general consensus across different methodologies, measures, and time periods regarding a key stylized fact: LBOs and especially MBOs enhance performance and have a salient effect on work practices.” Cumming, Siegel, Wright (2007)
What Do PE Firms Do?

- Suggests that PE firms are successful.
  - Companies are more efficient.

- What drives the success? Kaplan and Stromberg (2009) focus on:
  - Financial Engineering.
    » Better incentives and capital structure.
  - Governance Engineering.
    » Better management and greater monitoring.
  - Operational Engineering.
    » Capabilities to help companies operate better.
What Do PE Firms Say They Do?

- Gompers, Kaplan and Mukharlyov (2015) look at the engineering components.
- Survey 79 PE firms with almost $800 B AUM.
  - 40% to 50% of capital raised.
Value Creation – Identified pre-deal?

Key return drivers (ranking).

- Growing value of business and operational improvements.
- Leverage and multiple arbitrage also important, but less so.

Graph showing:
- Growth in the value of the underlying business
- Industry-level multiple arbitrage
- Leverage
- Operational improvements
- Refinancing
- Other
Value Creation – Pre-deal?

- Where do PE investors expect to get value when they invest?
  - Increased revenue and improved incentives perceived as key sources of value.
Who Works on the Deals?

- Operating partners and consultants frequently used post-deal.

![Bar Chart]

- Deal team
- Operating partners
- Outside consultants
- Other
What about at the fund level?

- What is the history of commitments to PE?
- What does performance at the portfolio company level translate into at the fund level?
Commitments to U.S. Private Equity Partnerships 1980 - 2014 (in $ billions)

Source: Private Equity Analyst, Steven N. Kaplan
Commitments to Private Equity Partnerships in U.S. as Fraction of Stock Market Capitalization 1980 - 2014

Source: Private Equity Analyst, Steven N. Kaplan
What has performance been on average?

- What does performance at the portfolio company level translate into at the fund level?
How is performance measured?

- The industry focuses on two metrics
  - Annualized IRR (net of fees)
  - Multiple of Invested Capital (MIC) or Total Value to Paid-in-capital (TVPI).
    » Total Value Returned / Invested Capital
    » (Distributed Value + Residual Value) / (Capital calls + Fees)

- Each has its drawbacks
  - Net IRR
    » Absolute (not relative) - does not control for the market.
    » Is sensitive to sequencing of investments.
  - Multiple of Invested Capital
    » Absolute (not relative) - does not control for the market.
How is performance measured?

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What has performance been on average?

U.S. Buyout IRR by Vintage Year, 1992 - 2010
Average as of September 2014

Source: Burgiss
What has performance been on average? MOIC

U.S. Buyout MOICs by Vintage Year, 1991 - 2010

Source: Burgiss
How is Performance Measured?


- Compare two investments:
  - 1. Invest $100 million.
     » 3 years later it returns $200 million.
     » IRR = 26% ; Multiple of Invested Capital = 2X
  - 2. Invest $100 million.
     » 3 years later it returns $100 million.
     » IRR = 0% ; Multiple = 1X

- Which investment is better?
How is Performance Measured?

- **Investment 1:**
  - Invest $100 million in March 1997.
  - Return $200 million in March 2000.
  - Instead, if you had invested the $100 million in the S&P 500, you would have had $207 million in March 2000.
  - Gross PME = $200 / $207 = 0.97.
  - Net PME = $180 / $207 = 0.87. [less 20% carry].

- **Investment 2:**
  - Invest $100 million in March 2000.
  - Return $100 million in March 2003.
  - Instead, if you had invested the $100 million in the S&P 500, you would have had $59 million in March 2003.
  - Gross PME = $100 / $59 = 1.70.
  - Net PME = $100 / $59 = 1.70.
How is performance measured?

- More important question, how does private equity perform relative to (or as an alternative to) public equity?
- Kaplan and Schoar (2005) introduced KS-PME.
  - = market-adjusted multiple.
  - KS-PME = Public Market Equivalent.
    » ∑(S&P 500 discounted value of cash outflows)_t
    ∑ (S&P 500 discounted value paid in capital)_t
    » Compares fund to investment in S&P (including dividends).
    » If PME > 1, then LPs did better than S&P 500.
  - Pros and cons:
    » + Does control for the market.
    » + Not sensitive to investment sequence.
What has performance been on average?

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<th>Year</th>
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Do Buyout Funds Outperform Public Markets?

- Cannot say whether Buyout PE outperforms public markets in previous slides.

- Need to compare individual fund cash flows to public markets.
  - Among commercial databases, only Burgiss does this correctly (by calculating PMEs).

- We use Burgiss individual fund cash flow data to calculate performance.
Question?

- Have PE / Buyout funds of vintages 2006 to 2010 beaten the S&P 500?
What has performance been on average? PMEs

U.S. Buyout PMEs by Vintage Year, 1991 - 2010

Source: Burgiss
What has performance been on average?

U.S. Buyout MOIC and PME by Vintage Year, 1991 - 2010

Source: Burgiss
Do Buyout Funds Outperform Public Markets?

- PMEs consistently greater than 1.0 for vintages before 2006.
  - On the order of 1.20 to 1.30
    » 20% to 30% outperformance over the life of the fund.
    - Works out to 3% to 5% outperformance per year.

- Not sensitive to leverage.

- Outperform Russell 2000 and Russell 2000 value, albeit by less.

Persistence in Performance:

- Are there good GPs?
- Do the good GPs repeat?
**Persistence in Performance:**

- Top quartile performance is strong. Top 2 quartiles have PMEs > 1.

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<th>Panel A : Buyout Funds</th>
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<td>A.1 Total Sample</td>
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| A.2 Pre-2001 Funds Current Fund Quartile PME |   |   |   |   |
| 1                      | 30.2% | 2.87 | 1.97 | 71 |
| 2                      | 14.9% | 1.81 | 1.33 | 61 |
| 3                      | 7.3%  | 1.39 | 1.01 | 67 |
| 4                      | -2.7% | 0.92 | 0.68 | 57 |

| A.3 Post-2000 Funds Current Fund Quartile PME |   |   |   |   |
| 1                      | 22.8% | 1.86 | 1.67 | 90 |
| 2                      | 13.6% | 1.44 | 1.31 | 87 |
| 3                      | 8.7%  | 1.27 | 1.14 | 90 |
| 4                      | -2.4% | 0.94 | 0.85 | 84 |
Persistence in Performance: Are there good GPs?

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<th>Current Fund Quartile</th>
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Steven N. Kaplan
Persistence in Performance: Are there good GPs? Historically yes but.

But, it is stronger in earlier period.

- Stay away from bottom quartile.

Current Fund Quartile

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Past Performance, Fundraising, Future Performance

Kaplan and Schoar (2005), Kaplan and Stromberg (2009) and Robinson and Sensoy (2011) find a negative relation between capital committed to PE and future vintage year IRR and MICs.

We use the Burgiss vintage year returns and the PEA capital commitments to estimate these relations.

- Capital committed is measured in the vintage year and the previous vintage year and is deflated by the market value of the U.S. stock market (from CRSP).
Go back to the historical record

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<th>Dependent variable:</th>
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<th>IRR</th>
<th>Multiple</th>
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<td>Capital Commitments to</td>
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<td>Total Stock Market Value</td>
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- ** Multiples and PMEs related to funds raised.

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R-squared 0.32 0.04 0.22

Steven N. Kaplan
Summary

- Buyout funds have outperformed public markets in the 1980s, 1990s, and through mid-2000s.
  - Each dollar invested in average fund returned about 20% more than a dollar invested in the S&P 500.
  - Works out to outperformance of > 3-5% per year.
  - Conclusions insensitive to benchmark indices and systematic risk.
    » Lower, but positive using small cap / value indices.

- For post-2005 vintage funds, performance not so good
  » Roughly equal to public markets.

- Persistence has declined.

- More capital committed => worse performance.
Where Is PE Going?

- What does all of this mean going forward?
  - Performance?
  - Fees?
  - Regulation?
  - Coinvestment?
Where Is PE Going?  
Performance

- Will funds outperform in future?
  - PE firms have made meaningful commitments to operational engineering.
    » Should be able to add value to companies?
Where Is PE Going?  
Performance

- Will funds outperform in future?
  - PE firms have made meaningful commitments to operational engineering.
    » Should be able to add value to companies?
  - But, many firms have done this.
    » Bidding against each other, does added value go to seller?
Where Is PE Going? Performance

- Will funds outperform in future?
  - Vintage year performance for buyout funds, both absolute and relative to public markets, decreases with aggregate capital committed.
    » Capital committed now well above historical average.
    » Understates capital committed because does not include separate accounts / direct / co-invests which also have increased markedly.
Commitments to Private Equity Partnerships in U.S. as Fraction of Stock Market Capitalization 1980 - 2014

Source: Private Equity Analyst, Steven N. Kaplan
Where Is PE Going?

Fees

- Fees continue to be in the news.
  - “Who do you think received more cash from Yale’s endowment last year: Yale students, or the private equity fund managers hired to invest the university’s money?” Victor Fleischer, NYT, 8/19/2015.
Where Is PE Going?
Fees

- Fees continue to be in the news.

- Creating pressure for LPs to:
  - Scrutinize fees.
  - Invest directly.
Where Is PE Going?
Fees, Direct Investing and Co-Investing

- Many LPs trying to do more co-investment and more direct investing, trying to bypass the GPs.
Where Is PE Going?
Fees, Direct Investing and Co-Investing

- Many LPs trying to do more co-investment and more direct investing, trying to bypass the GPs.
  BUT, BE CAREFUL!

- Fang, Ivashina, Lerner look at direct investments and co-investments by a sample of institutional investors. They find:
  - “little evidence of attractive relative performance by direct investments,” despite fee savings.
  - “co-investments underperform traditional fund investments: this poor performance appears to result from fund managers’ selective offering of larger deals at market peaks as co-investments.”
  - Probably using a positively selected sample.

- But, some hope. New paper by Jenkinson et al. finds better results.
  - Coinvest not so good as gross, but better than net.
What will happen to fees?

- Pressure on management fees.
  - Co-invest.
  - Volume discounts.
    - Separate accounts for very large LPs in larger GPs.
  - Much less pressure on better performers.

- Carry relatively stable for most funds.
  - 8% preferred return is a real positive for PE.
    - Contrast with hedge funds / VC.
  - Better performers pushing for higher carry / lower pfd. return.
What will happen to fees?

- Key issue is not the fees, but whether performance, net of fees, beats public markets.
  - If PE beats public markets, then PE will have demand and fees will not change much.
  - If they do not, then ???
What will happen to fees?

- What is effect of SEC / LP focus on fees / transparency?
  - Focus encouraged by anti-PE forces.
  - PE funds will be more transparent.
  - On margin, may reduce monitoring / transaction fees.
    » This already happening because of 0 / 100 split.
Where Is PE Going?
Regulation

- Comes from Dodd-Frank.
  - Strange (in that PE had nothing to do with the crisis).

- Ironically, extra regulation favors large, existing firms.
  - Regulations are a fixed cost.
    - The larger you are, the better you can amortize that fixed cost.
    - Larger firms can afford strong compliance.
  - Larger firms are better at regulatory capture.
  - Harder for new firms to start.
    - Compliance costs increase fixed costs of starting.
What will happen to the industry overall? Who will the winners be?

- Industry is not going away.
  - Duration of investments and funds is matched – long-term.
  - For best executives, private equity ownership preferable to public company ownership.
  - Private equity a complement to public company managers versus activists.
  - Operational engineering capabilities are real.
  - Provides liquidity to family and corporate sellers.
What will happen to the industry overall? Who will the winners be?

- Winners? Large, existing funds.
  - Dodd-Frank / regulations help incumbents / existing firms.
    » Economies of scale in regulatory costs.
  - Economies of scale in fundraising.
    » Largest investors do not want too many relationships.
    » Need to write large checks.
  - Economies of scale in operational engineering.
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- As long as performance is good enough. Key question:
  - Does performance, net of fees, beat public markets.
What will happen to the industry overall? Who will the winners be?

- GPs whose performance beats public markets net of fees.
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