Discussion of
"Limited Partners and the LBO Process"
by Paul Schultz and Sophie Shive

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Overview

- Novel fact: Pension funds (e.g.) which hold PE funds and stocks in their portfolios are more likely to hold the LBO target's stock than other stocks prior to the LBO announcement

Channels how this correlation could happen:

1. **Bad matching of stocks:** (not included in authors' list)
   - LBO stocks are ones that ex ante are more attractive for pension fund investment

2. **LP selection of strategies** correlated with strategies that PE funds utilize in supporting LBOs
   - Authors: data refutes this

3. **LPs giving info to PE funds**
   - Holdings results support this hypothesis

4. **PE funds giving info to LPs**
   - Would want to see net buying behavior. Not really strong in results. Yes, some

Main evidence: Within an LP portfolio

	Obs.	LP Target Stock	LP Match Stock	t-stat
All LBOs				
$hold_{q-1}$		**0.499**	**0.477**	**(2.10)**
buy_{q-1}	1,414	0.210	0.189	(1.59)
$sell_{q-1}$		0.222	0.221	(0.05)
Premium>0				
$hold_{q-1}$		**0.502**	**0.476**	**(2.42)**
buy_{q-1}	1,352	**0.214**	**0.192**	**(1.67)**
$sell_{q-1}$		0.218	0.221	(-0.22)

- Hard to tell your story out as far as q-3. (other stories, yes)
- Issue of sample moving around from q-3 to q-1

- ALL LBOs:
  - Evidence of higher holdings
  - But no evidence of buying

My thoughts: a bit thin

- Better in the premium > 0, but that might be endog to info in the market (e.g., if there is multiple bidders)

Big picture: if you are correct, I think you are working against yourself in your empirical choices

Thus, my discussion:

- Structure the empirics to let evidence come out

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Suggestion:
Write the paper in that order

- First, document the correlation (or pattern or regularity)
- Then rule out or rule in channels
  - Now you are pitching a story that may or may not be the channel
  - But the pattern is intrinsically interesting if any economic story is at play

  - And change the title

Document the pattern

- Authors start with a sample of LBOs

- Find the PE funds & the LPs in those particular funds
  - Note: I'm a bit worried in the step from 2600 LBOs to 600

- End up with 200 LBOs, or 1041 LBO-LP pairs

- These 1041 LPs have 850 stocks each in their portfolios

Document the pattern

Suggestion:

– Matching results are only as good as the match.

– Thus, first run the <u>full set of observations</u> but make the estimation consistent with <u>constructing a diversified portfolio</u>
  – Var of interest:
    – Continuous holdings %, equal weighted and scaled in a way deviating from a value-weighted portfolio,
    – % increase, % decrease

  – Show univariate and multivariate:
    – With a host of fine-grain fixed effects for year, industry, etc.
    – Items that would factor into a diversified portfolio selection

Channel 1: Bad matching of stocks

<u>Overview</u>: Frame the matching as solving the problem of isolating omitted portfolio demand for stocks variables that the all-observation estimation with fixed effects cannot isolate

<u>Again, same idea of portfolios but applied to matching</u>: sample of companies that look like LBO companies within the portfolio of LP stocks.

<u>Done</u>: Match stocks on market cap, institutional ownership and institutional turnover
- Side comment: are you standardizing before minimizing sum of squares?
- Side comment: why just 1 pick versus caliper gradients here?
- Bigger Comment: Why not do this within [fine] SIC codes?

- Your variables: ex post institutional demand (next slide)

<u>Prefer</u>: Match variables that represent the ex ante setting up the portfolio
- Match on covariance role in portfolio in a mean-variance portfolio sense

Channel 2: LP Selection of Strategies

Channel defined: Pension funds select securities in a way correlated with the way that PE funds select LBO targets, over and above simple diversification

- Issue is not fixed by doing matching that is consistent with pensions just implementing mean-variance portfolios
- Here, your idea of matching on institutional preferences for these stocks is a good first test

- Second Test: (in paper)
  - Compare the selection of a future LBO stock not within LP's portfolio, but to other pension funds (those not invested in that particular PE Fund) demand for that LBO stock.

Channel 2: LP Selection of Strategies

<u>Comments:</u>

- Why not approach this in the same way, trying to isolate role that the security is playing across similar LPs

1. Authors match LPs (pension funds) on # securities and size
   - Role of PE serves different function for different investors
     - Some work I've done with Barber & Yasuda, we estimate demand for PE funds by LP type (public pension, bank, insurance, etc)
   - Match within type of LP

2. If trying to isolate the role that LBO stock is serving in portfolio
   - You have a difference-in-differences
     - Compare demand for, say, a telecom LBO target stock in pension fund A to other telecom stocks in pension A, all relative to that difference in pension B

Economic Channels

Channels how this correlation could happen:

1. Bad matching of stocks
2. LP selection of strategies correlated with strategies that PE funds utilize in supporting LBOs
3. **LPs giving info to PE funds**
4. **PE funds giving info to LPs**

Both Channel 3 and 4 are economic channels and interesting

Agreed, Channel 4's insider trading implications perhaps makes it more provocative.

Channel 3 perhaps breaks tax laws on passive investor.

Who had the information: LP or PE fund?

- Channel 4 implies that the LP will learn and be a net buyer
- Channel 3 implies that the LP will know and be a larger holder

I think the evidence thus far looks like Channel 3

	Obs.	LP Target Stock	Match Portfolio Target Stock	t-stat	Obs.	LP Target Stock	LP Match Stock	t-stat
				All LBOs				
$hold_{q-2}$		**0.333**	**0.304**	**(2.25)**		**0.522**	**0.502**	**(1.92)**
buy_{q-2}	985	0.147	0.141	(0.44)	1,408	0.233	0.236	(-0.16)
$sell_{q-2}$		**0.139**	**0.169**	**(-2.07)**		0.219	0.208	(0.90)
$hold_{q-1}$		**0.358**	**0.313**	**(3.28)**		**0.499**	**0.477**	**(2.10)**
buy_{q-1}	1,041	0.173	0.152	(1.48)	1,414	0.210	0.189	(1.59)
$sell_{q-1}$		0.140	0.153	(-0.96)		0.222	0.221	(0.05)

Channel 3: LPs giving info to PE funds

- I have a particular interest in this channel: Old paper I wrote, updating last year after I could see exits of the portfolio company.

"Influence in Delegated Management: Active Investors in Private Equity Funds"   Morse (2015)

- Sample of 234 PE funds with sovereign LP investors

- 3.7 percent of portfolio companies have prior linkages to these LPs.
  - Represents a linkage in 54 percent of PE funds.

- PE funds with deal linkages perform 2.3 % points worse in IRR.
  - Attribute 1% of the lower PE fund performance causally to lower exit returns in these linked companies.

- On the flip side, exit linkages bring benefits
  - 2.2 percent of portfolio companies are bought by acquirers linked to the LP.
  - Exit linkages bring a positive excess PE fund return.
  - Consistent with a bailing out of failed investments or a propping up of fund performance.

Channel 3 vs 4

- Tests to distinguish could do a finer job at looking for timing of information

- It would be helpful to also delve into how PE funds pick LBO targets in general

- I think the paper could be written more agnostic about which Channel, but strongly on economic arguments for why we care in either case why information passes from LP to PE fund or vice versa.

Punchline

- Great topic
  - Existing literature desperately needs more exploration as to whether big investors have an advantaged playing field

- My suggestions have just been about empirical models and ordering
  - Frame estimations more in diversified portfolio construction
  - Get some broader results using full sample
  - Then spend rest of paper pinning down channel