# PRIVATE EQUITY FINDINGS

*Insights from private equity research worldwide*

ISSUE 16 2020
£25 €30 $35

**DISTORTING MIRROR?**
The impact of subscription lines on fund performance

**DIMINISHING RETURNS**
Does a leap in fund size lead to worse performance?

**LPA BLUES**
Do small LPs lose out in LPA negotiations?

**BIGGER SLICE, SMALLER PIE**
The venture capitalist's share – how much is too much?

## UNFORESEEN CONSEQUENCES

How private equity investments affect competitors, sector productivity, and public markets

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Private equity managers are raising ever-larger funds – but at what cost to their returns? We examine recent research that considers the relationship between fund size growth and performance. The results may surprise some investors.

*"I hear about this problem – the relationship between fund size growth and performance – endlessly. It's a favourite theme of PE consultants and casual industry observers because it's readily measurable and intuitively explicable. But that doesn't make it determinative."*

Steve Moseley, Alaska Permanent Fund Corporation

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Private equity firms are increasingly using subscription lines of credit – but is the practice distorting the picture for investors? With the help of two new research papers, we consider the effects this form of debt has on fund performance measures.

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As private equity has grown in stature, so has its sphere of influence. We speak to the authors of three academic studies looking at the indirect impact of private equity investments – on competitors; on public markets; and on sector productivity – and discuss their findings with two seasoned fund managers.

*"If PE is successfully making productivity gains in its own companies – and thereby encouraging productivity gains in the broader market – regulators need to be very careful indeed about taking any steps that could hamper that."*

Steven J. Davis, The University of Chicago Booth School of Business

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How much influence do large investors have over fund terms in private equity? And can they be relied on to negotiate beneficial terms for all investors – or only for themselves? We examine these issues with the author of a recent academic paper and a veteran private funds lawyer.

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What is the optimal split of equity between company founders and venture capital investors? How do different equity splits affect the eventual outcomes for portfolio companies? We catch up with the author of new research that looks at how the terms of VC investment contracts impact the ultimate value of start-ups. We also ask whether entrepreneurs should trade investor quality for less favourable terms.

*"A critical view is that VC firms – who understand contracts much better than typical entrepreneurs and have considerable bargaining power – may grab a larger slice of the pie, even if that shrinks the entire pie in the process."*

Arthur Korteweg, University of Southern California Marshall School of Business

# FOREWORD

**Professor Josh Lerner**
Head of Entrepreneurship Department,
Harvard Business School

**Jeremy Coller**
Chief Investment Officer,
Coller Capital

The years since the financial crisis have seen private equity grow significantly, both as an asset class and as a source of funding for businesses. As a result, its influence now spreads far and wide. In this issue, we take a look at the impact the industry has outside the companies it backs. In **Unforeseen consequences**, we draw together the findings of three new academic studies that examine PE's wider effects: on public companies; on competitors to PE-backed businesses; and on industry sectors more broadly.

Talking to the authors of this research and to experienced fund managers, we explore PE's wider contribution to the business, economic, and social environment. The article also asks whether higher levels of regulation and oversight – something currently being proposed by policymakers with negative perceptions of the industry – might have unintended consequences beyond the PE industry.

As PE has grown, so inevitably have fund sizes, with some managers taking advantage of strong limited partner appetite for the asset class to raise ever larger vehicles. Should this be a cause for alarm? After all, there is a commonly held belief among many LPs that large step-ups in fund size lead to lower returns. Using the findings of new research, **Diminishing returns** delves into whether there is a causal relationship between fund size growth and performance. The results are more nuanced than suggested by a simple rule of thumb.

We also focus in this issue on another aspect of PE that has seen rapid growth in recent times – the use of subscription lines of credit (SLCs). While these loans are ostensibly deployed to reduce the number of capital calls from LPs and to enable GPs to transact quickly in a competitive market for deals, their increased use has not been without controversy. **Distorting mirror?** explores two pieces of academic research that look at the effect of SLCs on IRRs, on other performance measures, and on fund rankings. It asks whether SLCs are simply a useful tool for GPs and LPs, or whether they are being used to massage returns data.

Negotiation is an essential skill for anyone making or taking PE and venture capital investment. Our final two articles explore how differences in the balance of power at the negotiating table can affect the ultimate outcomes for PE stakeholders.

In **LPA blues**, we showcase a theoretical paper that asks whether large LPs can be relied on to use their bargaining power for the benefit of all investors in a fund. We discuss the issue both with the author of the paper and with a private funds lawyer steeped in years of nitty-gritty negotiations.

**Bigger slice, smaller pie** features an interview with one of the authors of a new study that quantifies the optimal split of equity between VCs and business founders. The article examines the extent to which the outcomes of contract negotiations can predict or determine the fortunes of a VC investment.

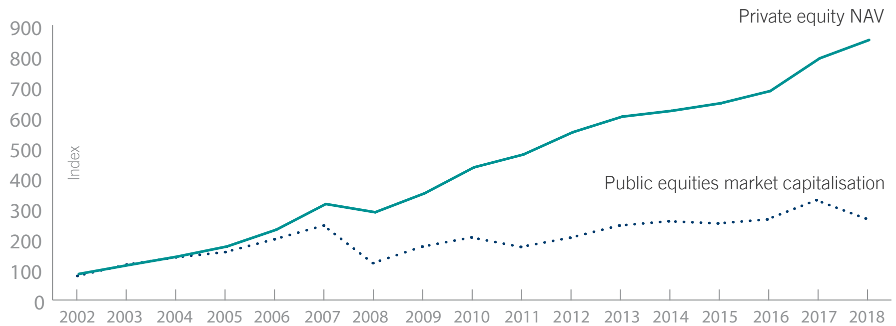
We hope you enjoy this latest issue of *Private Equity Findings*, which we believe throws an academic spotlight on some of the most interesting issues currently being encountered by industry practitioners. As ever, we would welcome your feedback or questions, and these can be directed to: *pefindings@collercapital.com*.

# BY THE *NUMBERS*

## Private equity growth outstrips public equity

- Global private equity has grown much faster than public equity over the past two decades: its net asset value (NAV) has increased by 7.5 times since 2002, more than twice as much as the market capitalisation of the world's listed companies, according to a report by McKinsey, *Private markets come of age*.
- However, this growth is concentrated in the years following the global financial crisis. Between 2002 and 2006, PE NAV growth closely matched that of public equities market capitalisation, yet from 2007 onwards, public equities have all but stagnated compared with the value of assets held by PE, which has grown significantly.
- The report notes that the number of US PE-backed companies rose from around 4,000 in 2006 to 8,000 in 2017, while that of publicly listed companies fell 16% from 5,100 to 4,300 over the same period (and by 46% from 1996).
- This, McKinsey says, shows that PE has gone from alternative to mainstream, as investors now view the asset class as essential to achieving exposure to pockets of growth.

Growth of global PE NAV vs public equities market cap (indexed to 2002)

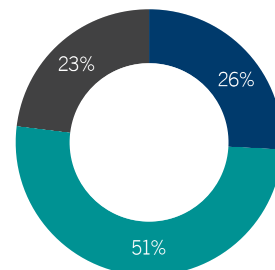



Sources: *McKinsey Global Private Markets Review 2019*, data from Preqin, World Bank, Coller Capital

## Long-term funds on the rise

- The trend for private equity firms to raise funds with a longer life – 15 years or more – appears to be accelerating.
- As many as 26% of PE firm respondents to the *2020 Global Private Equity Outlook* survey by Dechert and Mergermarket say they have already established a fund with a life of 15 or more years. In addition, a further 51% say they are considering doing so.
- This is a significant increase on the proportion registered in the previous year's survey, in which just 32% said they were considering a longer-life fund.
- The most popular rationale for doing so, according to the survey, is that it expands the available pool of investment targets (30% say this), followed by 27% who say that it aligns their interests with those of limited partners and 18% who say that it enables them to increase returns by holding on to profitable companies for longer.

Is your firm considering raising a long-hold fund (around 15+ years in duration)?



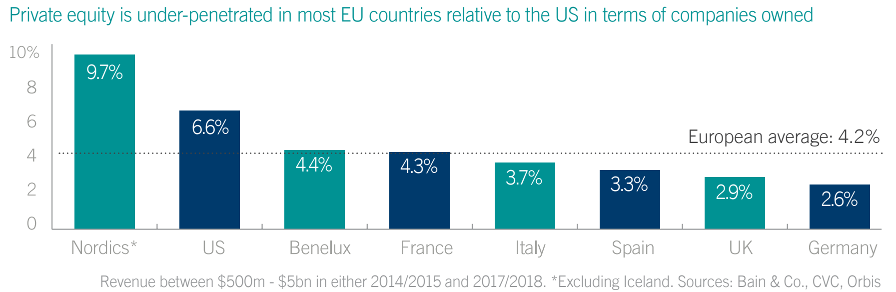

Source: Dechert/ Mergermarket, *2020 Global Private Equity Outlook*

- We've already established one
- Yes – we're considering it
- No – we're not currently considering it

## Europe has capacity to absorb a significant volume of private equity dry powder

- The percentage of companies with revenues of between $500m and $5bn that are owned by private equity is lower across most European countries than it is in the US, according to analysis by Bain & Co. This suggests that there is greater potential for strong deal flow for larger buyout funds in many European markets than in the US.

Private equity is under-penetrated in most EU countries relative to the US in terms of companies owned




Revenue between $500m - $5bn in either 2014/2015 and 2017/2018. *Excluding Iceland. Sources: Bain & Co., CVC, Orbis

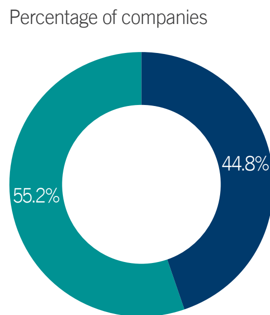
- In the US, 6.6% of companies in this size bracket are owned by PE; in Europe, the average is just 4.2%. PE ownership as a percentage of companies is rather lower in Spain, the UK and Germany, at just 3.3%, 2.9% and 2.6%, respectively. This is despite significant growth in deal activity over recent years: deal value has grown annually by an average of 20% over the past five years.
- The Nordic countries – and Sweden especially – are an exception. However, overall, the figures suggest that European markets have significant capacity to absorb PE's increasing dry powder.

## Former private equity and venture capital investments make up nearly half of NASDAQ-listed businesses

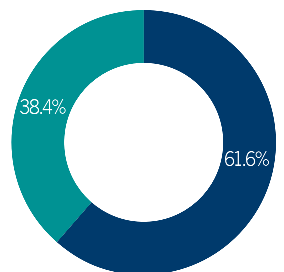
- Not only has private equity's growth outstripped public markets, its contribution (venture capital included) to building businesses that become listed companies is significant. Nearly half (44.8%) of current NASDAQ-listed companies were formerly backed by PE or VC, according to PitchBook analysis in *Private Markets: A Decade of Growth*.
- In addition, these companies make up almost two-thirds (61.6%) of NASDAQ's market capitalisation and include names such as Facebook, Alphabet, Netflix, Kraft Heinz and lululemon athletica.
- PitchBook adds that there were more than 2,000 PE- and VC-backed initial public offerings in the US and Europe between 2009 and 2019, and these exits were valued at a total of $1.4trn on a pre-money valuation basis.

Former PE and VC companies on NASDAQ

Percentage of companies




Percentage of market capitalisation




■ Previously PE- or VC-backed
■ Not previously PE- or VC-backed

Source: *PitchBoook, Private Markets: A Decade of Growth*

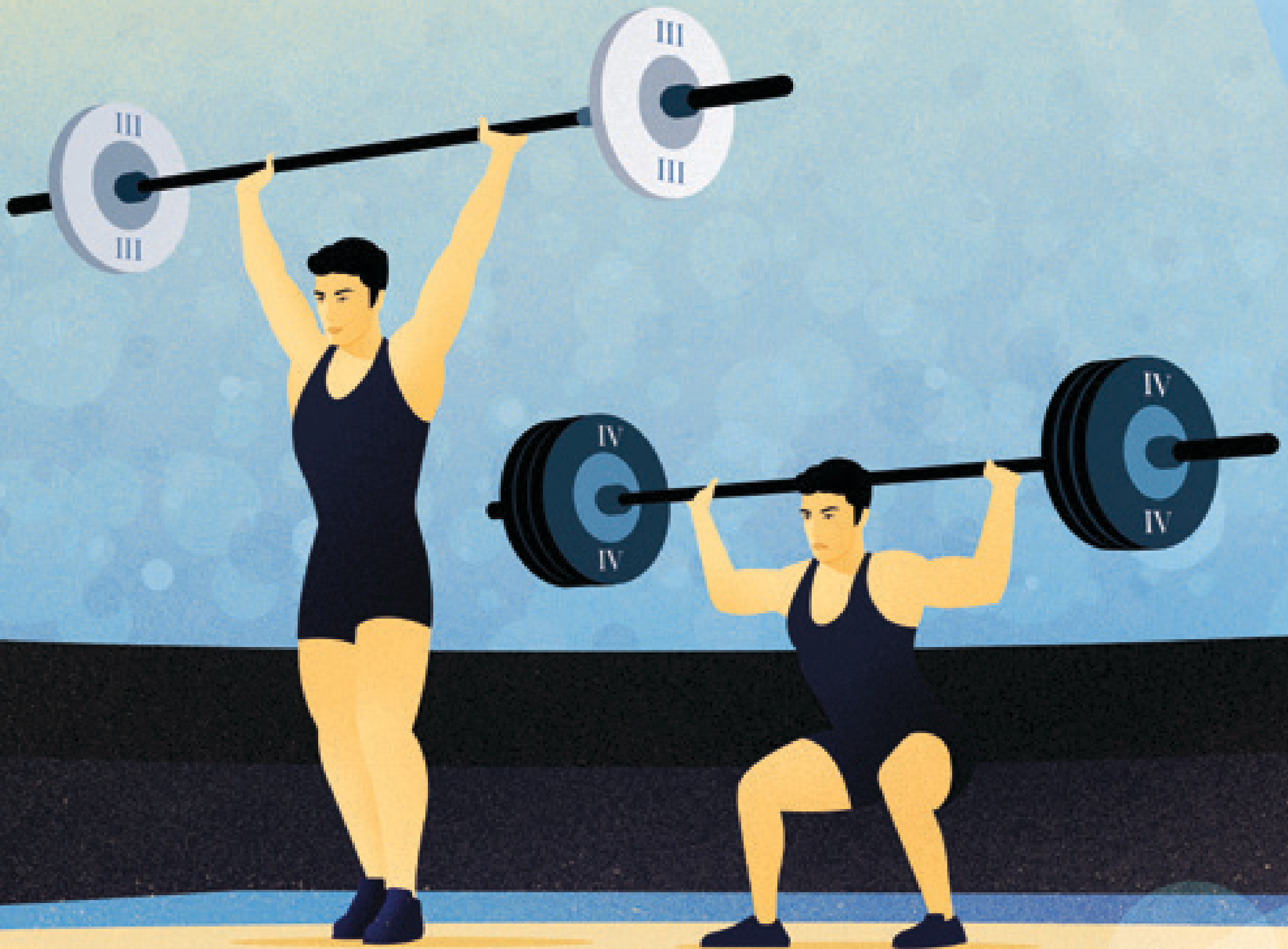
**93%**

The percentage of limited partners who believe the difference in the quality of general partners' strategies and teams will lead to a significant divergence in private equity returns across managers in the next economic downturn, according to Coller Capital's latest *Global Private Equity Barometer*.

**7%**

The remaining 7% of LPs are more sanguine, taking the view that the industry has changed sufficiently since the financial crisis to avoid a major divergence in returns.

Taken together, the results suggest that LPs believe that GP quality and selection still matter considerably in the asset class.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# DIMINISHING *RETURNS*

**As private equity funds continue to grow in size, should investors be concerned? We examine a new paper that asks whether raising a larger fund affects performance – with some surprising results.** By Vicky Meek.

Blackstone's recent $26bn fundraising for its eighth buyout fund illustrates a major trend in private equity (PE): funds are, on average, getting larger. The firm's latest offering is the biggest buyout fund ever raised and is significantly larger than its $18bn predecessor, which reached a final close in 2015. While not all fund managers are seeking such significant step-ups, the average size of funds raised in 2018 grew to $363m – larger than the $339m recorded in 2017 and the highest level since 2007.

But what is the impact of fund growth on performance? New academic research by Andrea Rossi, assistant professor of finance at the Eller College of Management, The University of Arizona, sets out to test the widely held view that when a general partner increases its fund size, performance declines.

In *Decreasing Returns or Reversion to the Mean? The Case of Private Equity Fund Growth*, Rossi assesses the performance of a series of funds raised by buyout and venture capital fund managers (with a 2011 vintage year cut-off to ensure realised returns are measured). And his initial findings appear to confirm the fears of many LPs – when a firm raises a larger follow-on fund, it tends to underperform the preceding ones.

Yet Rossi wanted to see whether the growth in fund size actually causes poorer performance. Starting with the premise that firms with higher past returns are more likely to raise larger follow-on funds, he draws on research by Arthur Korteweg and Morten Sorensen *(Skill and Luck in Private Equity Performance)*. That research found that managerial ability, or skill, accounts for around 14% of the variation in buyout returns, and 5% of the variation in the case of VC funds – with the remainder due to idiosyncratic shocks or chance. Rossi confirms these results. When he uses a simulation to account for reversion to the mean in performance, or the tendency for fund returns to revert to the long-run average after a period of atypical outperformance, he finds that increased fund size is associated with a minimal decline in returns. The results show little evidence of a causal relationship between fund size and performance, leading him to say that any such claim is based on "spurious evidence".

### A common misperception?

Given Rossi's initial finding of declining returns in larger successor funds, it's easy to see why people might draw causal links between the two. "I hear about this problem – the relationship between fund size growth and performance – endlessly," says Steve Moseley, head of alternative investments at Alaska Permanent Fund Corporation. "It's a favourite theme of PE consultants and casual industry observers because it's readily measurable and intuitively explicable." But, he adds, "that doesn't make it determinative".

Indeed, to Rossi, a decline in returns after a previous fund has performed strongly is a perfectly logical outcome. "You often hear LPs express disappointment that a follow-on fund has not performed as well as a previous very successful fund, and then point to growth in fund size as the cause," he says. "Yet I'd argue that this is to be expected from a statistical point of view – the lower returns are simply a reversion to the mean."

He gives an example to illustrate the point. "One firm in my study had a second fund that delivered an IRR of more than 40%, yet its subsequent, larger fund achieved 15%. It was the same team managing those two funds, it was just that the earlier fund happened to invest in a company that did very well. The disappointing performance of the follow-on fund was simply expected reversion to the mean and had very little to do with fund size. I find this across managers."

### Bigger deals

Rossi's paper also argues that managers can mitigate the effects of raising more capital by investing in larger targets, although there is a difference between buyouts and VC. "On the whole, buyout firms are able to scale up successfully. My research suggests that when managers invest in operations and hire people, and can make larger investments to limit the number of portfolio companies, they can keep decreasing returns at bay," he says. "The same is less true of VC, since there is only so much capital you can deploy in early-stage companies. Raising larger funds inevitably means investing in more companies – and that can hurt returns. That's why many VC firms limit their fund sizes."

This point is echoed by Moseley. "Fund size and change in fund size are variables whose importance can vary from huge to negligible," he says. "We look at these, but we tend to focus more on aligning the fund size with investment strategy and resources. Sometimes the mismatch is obvious. Take Softbank's Vision Fund [which raised $100bn]. They have time to prove me wrong, but that looks to me now like a fund size that's grossly mismatched with the opportunity set. They're hunting small game with a large-calibre weapon."

This clearly means that LPs need to pay closer attention to the extent to which GPs seeking to raise a larger follow-on fund are scaling up their operations and where they intend to invest. "Sometimes you do get LPs walking away when firms raise larger funds, but that's usually if there have been, say, three funds in succession that have grown," says Tom Keck, partner and co-founder of StepStone. "They'll usually look at whether the team has scaled commensurately, whether the firm is developing new partners – you don't want to invest in a firm where performance has been driven by one or two personalities – and whether it is expanding into new geographies. If a fund is going into new areas where it can't demonstrate past success, that's where LPs are more likely to get upset."

> "IF YOU WERE IN A CASINO AND HAD A 1% EDGE, THAT WOULD BE ENOUGH TO GIVE YOU QUITE AN ADVANTAGE. SO IF YOU HAVE 14% OF RETURN VARIATION THAT IS NOT ACCOUNTED FOR BY IDIOSYNCRATIC FACTORS, THAT'S SIGNIFICANT."
>
> **Tom Keck**
> *StepStone*

Yet even if fund size growth doesn't, by itself, drive down returns, there are plenty of investors who believe the best opportunities lie in small and mid-sized funds that don't target large companies. Moseley is one. "Our capital has greater value to smaller funds than bigger ones," he says. "Our PE portfolio is heavily weighted to smaller funds and this bias has enhanced returns. Net annualised returns since programme inception on our commitments to funds of less than $2bn is 20.4%; for those greater than $5bn, it's 15.6%. This relationship is almost linear for fund groupings in between, and, while these figures don't include our co-investments, we find the same pattern there."

### More than luck?

Yet given that the private equity industry raises funds on the back of past performance – on the basis that managers have skill – how do the paper's assumptions around the role of luck in returns stack up?

Rossi points to the example of early investment in social networks to illustrate the role of luck. "When Facebook received VC backing, there were another 40 or so other similar players, all of which started to gain traction," he says. "But then Facebook took over. It wasn't clear at the point of investment that it would ultimately be the winner, but Facebook investors achieved an IRR off the chart. This performance was less to do with the fund managers and more to do with the opportunities available in the market at that point. This explains why funds that follow extremely successful ones tend to have lower returns."

He also suggests that for buyout funds, which are less focused on home runs than VC funds, credit and M&A market conditions can play an important role in determining returns. Because these conditions are outside the control of the fund managers and vary over time, this makes it difficult for buyout firms to replicate past performance.

"The question of luck versus skill is the single most important question we have to answer when looking at managers," according to Keck. Yet he also believes that if skill accounts for 14% of the difference in returns between sequential funds, this should not be seen as a low figure. On the contrary, it should be seen as evidence that managerial capability and quality matter. "If the research suggests that 14% of the performance difference between two funds is due to skill, that's pretty good," he says. "If you were in a casino and had a 1% edge, that would be enough to give you quite an advantage. There are many factors that make up performance, so if you have 14% of return variation that is not accounted for by idiosyncratic factors, that's significant."

"Skill exists," agrees Moseley. "I'm sure there are lots of funds that get lucky, but the best data-driven argument I know for the existence and importance of skill in PE is measurable performance persistence across deals and funds."

Rossi emphasises that he is not suggesting there is no skill in PE. "Private equity fund managers clearly know what they are doing," he explains. "What we see is the paradox of skill at work: in a given market, the more skilled the players are, and the closer to each other those skills are, the harder it is to stand out."

So, overall, what should LPs draw from the research? They should look at the broader picture, says Rossi. "One of the key takeaways is that returns are affected more by what's happening in the wider industry.

"Previous studies have shown that when large amounts of capital are being raised in aggregate and competition for investments increases, performance suffers. This matters significantly more than how much an individual manager is seeking to raise."

## THE RESEARCH

In *Decreasing Returns or Reversion to the Mean? The Case of Private Equity Fund Growth*, Andrea Rossi of The University of Arizona examines whether growth in fund size affects returns to LPs. Using a dataset of more than 2,000 buyout and VC funds, the author compares returns across funds operating in the same market environment. He uses a statistical model to estimate the causal relationship between fund size and performance. To account for macro-economic shocks and regional differences, he includes controls for vintage year and region.

Running a naïve model, the research seems to confirm the conventional wisdom of larger funds producing lower returns, finding a 1% increase in size associated with a decline of 5.1 basis points in IRR for buyouts and 8.7 basis points for VCs. But on closer examination, this result appears to be a correlation, not a story of cause and effect.

Building on a more sophisticated model, reflecting the work of Korteweg and Sorensen *(Skill and Luck in Private Equity Performance)*, Rossi is able to account for the impact of reversion to the mean (the notion that returns tend to cluster at the long-run average despite periods of outperformance) on investment success. The original Korteweg and Sorensen analysis found that 14% of the variance in buyout fund returns (and 5% of the variation in VC funds) can be explained by skill. But how much of the negative relationship between fund size and returns remains after accounting for mean reversion?

Rossi finds that the effect of fund growth on returns for buyout and VC funds is statistically insignificant. By accounting for reversion to the mean, a doubling of fund size would lead to a decline of 0.3 percentage points in IRR for buyout funds and 1.1 percentage points for VC funds – far lower than would be the case if larger follow-on funds caused lower returns. Instead, Rossi argues that funds that outgrow their predecessor funds by the biggest margins were, on average, lucky in the past, and their lower performance is simply an artefact of chance, not size.

# DISTORTING *MIRROR?*

**The use of subscription lines of credit in private equity has come under increased scrutiny in recent times. Are they a benign cash flow management tool or returns-enhancing financing trickery? Two new research papers shed light on the issue.** By Brendan Scott.

Subscription lines of credit (SLCs) – a form of bridge financing that allows fund managers to finance the equity portion of deals without the need to issue urgent capital calls to their limited partners (LPs) – have become a widely used tool by private equity firms over the past few years. A Preqin report published in June 2019 demonstrates how much their use has grown: just 13% of pre-2010 vintage year PE funds used SLCs, while 47% of post-2010 vintage year funds used them. SLC use has even grown in venture capital funds, increasing from 9% to 24% over the same period.

SLCs have a number of benefits. They enable general partners (GPs) to transact at short notice, in what has arguably become a highly competitive market, while allowing LPs to retain investable cash on their balance sheets for a longer period of time. They also enjoy less frequent and more predictable capital calls.

Yet, their use can be controversial. When using SLCs, GPs effectively delay capital calls, which reduces the amount of time over which LP capital is put to work. This has led some to question whether GPs may use SLCs to artificially boost a fund's return in net IRR terms – the annualised, time-weighted metric widely used for performance comparisons. This has the potential to move a fund up the performance quartile rankings, which may make it more attractive to investors. In response, the Institutional Limited Partners Association (ILPA) released best practice guidelines in 2017 to improve transparency around GPs' use of SLCs and set out reasonable thresholds for their deployment.

### Cause for concern?

But is there any substance to these concerns? And what is the real impact of SLCs on performance? Two recent studies examine these issues, with differing results.

The first study, *Distortion or Cash Flow Management? Understanding Credit Facilities in Private Equity Funds*, by Pierre Schillinger, Reiner Braun and Jeroen Cornel, suggests that, under normal circumstances, fear of returns manipulation may be overstated. The authors use a simulation approach applied to 100,000 hypothetical funds based on more than 6,000 buyout deals between 1994 and 2013. After simulating each fund twice – once with an SLC and once without – they find that the difference in net IRR terms is "moderate", with an average increase of 0.47 percentage points and a median increase of 0.2 percentage points.

"Given that it is such a prominent topic in the industry, I would have expected SLCs to have had an even more severe impact on fund performance," says Braun, one of the authors. "And GPs often say that SLCs are something they have to use, otherwise they will be at a disadvantage when it comes to performance and their future fundraising. Yet our results suggest that this is not necessarily the case."

Their research also finds that the impact of SLCs on net IRRs depends on the fund's performance – those that underperform without SLCs see negligible, if any, improvement when using SLCs, while the star performers see the biggest gains. This implies that it is not possible for industry laggards to massage their performance by using these credit facilities.

### Duration matters

However, one of the main concerns expressed by some LPs is the duration of SLCs. As ILPA notes in its best practice guidelines: "Today, fuelled by low interest rates after the financial crisis, subscription lines have evolved beyond a short-term bridging function, to serve as a broader tool used to manage the overall cash of the funds, with repayment terms often extending beyond 90 days."

On this point, the Braun et al study finds that SLCs can have a much more significant impact on fund performance. While the results discussed above are based on SLCs repaid over a six-month period, the research finds that, for every quarter the loan is extended beyond this, net IRR is enhanced by around 0.42 percentage points, regardless of the pre-SLC IRR. In other words, the longer the term of the loan, the greater the IRR inflation. If maturities are stretched to two years, SLCs can significantly alter fund rankings, with nearly half (44.4%) of all funds moving up by at least one performance decile, while only 1.2% move down.

"GENERAL PARTNERS OFTEN SAY THAT SLCs ARE SOMETHING THEY HAVE TO USE, OTHERWISE THEY WILL BE AT A DISADVANTAGE. OUR RESULTS SUGGEST THIS IS NOT NECESSARILY THE CASE."

**Reiner Braun**
*Technical University of Munich*

"If the maturities on SLCs are 12 months or more, then LPs should probably take a closer look and exercise some caution, as the underlying rationale may be to boost IRRs rather than simply manage capital calls," says co-author Pierre Schillinger.

ILPA's guidelines suggest that facilities should have a maximum term of 180 days, yet the use of SLCs appears to vary considerably by GP. While one industry participant noted that the Braun et al study assumption of a six-month maturity equivalent to 25% of undrawn capital was "pretty robust", another suggested that 12 months was more realistic.

### Distortion at play?

The second study, *Distorting Private Equity Performance: The Rise of Fund Debt*, by James F. Albertus and Matthew Denes, takes an empirical approach, employing cash flows of recent funds that use SLCs to investigate the same question as Braun et al. For each fund, the authors estimate the impact of SLCs on performance by first computing the actual net IRR using the fund's cash flows. They then compute an "unlevered IRR", or the IRR for the fund if it had issued capital calls instead of using SLCs.

The study finds that, on average, using an SLC increases a PE fund's net IRR by three percentage points. Looking only at averages, however, masks how the effects of SLCs vary with fund age. The research finds that for "young funds" (those with an age of five years or less), the IRR gain rises to 7.3 percentage points, while for older funds this gain is only 2.1 percentage points.

"Overall, it is quite a large gain," says Denes. "There's an even more pronounced impact on funds that are relatively younger and there's a larger impact the more the fund uses debt, which is intuitive because the more they're using debt, the more they are delaying capital calls."

The results point to two issues. The first is the quantum of debt being used by GPs. The Albertus and Denes study says there has been a "dramatic rise in the aggregate use of SLCs from 2014 to 2019". In their sample, the total value of SLCs used, in real terms, rose from $151.4m in Q2 2014

to $19.5bn in Q1 2019. In addition, the total credit employed by the average fund increased markedly, rising from $21.6m to $86.4m over the same period.

The authors point out that the rise of SLCs may have an impact on how much equity is being deployed by private equity managers over the longer term. The paper notes that the proportion of equity being called for all funds using SLCs decreases by 3.3% after controlling for vintage year and fund age, yet when examining "young funds", the proportion of equity called decreases by 9.2%.

The research also finds evidence that SLCs delay capital calls throughout a fund's life, which, says Albertus, "is hard to reconcile with the idea that funds are using SLCs to manage capital calls for LPs – you'd expect them to be mostly used early in the investment period".

"Fund managers claim they are using SLCs to make it easier for LPs and to invest quickly," says Denes. "Yet we find evidence that funds are using SLCs throughout the fund life – as opposed to just during the investment period – and those using SLCs tend to call less equity. That suggests that the debt is being used to substitute for the equity."

### Interim measures

The second issue is the impact of SLC use on younger funds. As Adam Turtle, founding partner at Rede Partners, notes, this early distortion period – three to four years into the fund's life – is exactly when managers start raising capital for new funds.

"That can cut two ways," he says. "On one hand, obviously you can say there's a performance boost that is to the GP's benefit. The flip side is that, sometimes, obviously inflated interim performance is disregarded because it is not realistic. You can end up with outsized IRRs when only a limited amount of capital has been drawn."

It's a point picked up by Christoph Jäckel, a partner at Montana Capital Partners, who says that "LPs should be cautious when it comes to interim reporting because the performance of younger funds can be impacted substantially by the use of a credit line." His firm conducted analysis on quarterly cash flows from 491 buyout funds with vintages from 1990 to 2007 using Preqin data, comparing net IRRs with and without SLCs across the funds' full lifetime. In addition to the impact of SLCs on interim IRR, the research finds SLCs improve average net IRRs by four percentage points over the life of a fund.

While this is largely in line with the findings in the Albertus and Denes study, Jäckel says his firm's research also chimes with the Braun et al findings about star performers.
In his firm's study, the four percentage-point gain is significantly skewed by outperformers in the sample, he says. For median performers, the IRR gain drops to just one percentage point, and, for 25% of funds, IRR declines when using an SLC.

"The four percentage-point average is a little misleading," says Jäckel. "What you really need to look at is the median because a few outliers really drive the average. Our study found that, for 70% to 80% of funds, there was no real impact once the outstanding credit line had been repaid. The remaining 20% or so were great funds already – even without the SLC." It should be noted that the Albertus and Denes study does not report a median.

> "WE FIND EVIDENCE THAT FUNDS ARE USING SLCs TO DELAY CAPITAL CALLS THROUGHOUT THE FUND LIFE, NOT JUST DURING THE INVESTMENT PERIOD."
>
> **Matthew Denes**
> *Carnegie Mellon University*

### LP views

While there may be a debate around the effect of SLCs on IRR, the ILPA guidelines recommend that GPs report net IRR both with and without the use of credit facilities. This should provide some clarity to LPs, many of which have now become accustomed to the use of SLCs, according to Maurice Gordon, managing director and head of private equity at Guardian Life Insurance. "Understanding SLCs is now a normal part of the underwriting process for LPs," he says. "We like to follow the ILPA standards. Typically, a duration period of six months and 20% of committed capital seems to be reasonable. [But] I've not heard of anyone declining to commit to a good fund just because of SLC terms."

He also says that many LPs are in favour of credit lines, for a number of reasons. "The primary benefits is the

reduction in the number of capital calls we have to manage," he explains. "Also, modest leverage in times of extremely low interest rates can help to enhance overall returns. And although this is not necessarily the case with us, some LPs' bonuses are linked to IRRs."

Indeed, contrary to popular belief, it may not even be GPs behind the recent rush to adopt SLCs. "From my vantage point, it is more LP-driven than GP-driven," says Rede Partners' Turtle. "One or two GPs started using them, but it was the influential LPs that saw the benefits and began encouraging GPs to do it to optimise net IRR. So this hasn't really been a case of GPs trying to get away with something that LPs were resisting. Obviously, there has been pushback from some investors who have a different opinion on it, especially where the SLCs are used excessively."

### Beyond IRR

Yet IRR is not the only measure of performance used by the industry, although it is often the metric employed to calculate remuneration for GPs and, as Gordon notes, some LPs. This, says Johanna Barr, managing director and global co-head of limited partner services at Advent International, is where conflicts of interest can creep in. "Who's pushing for SLCs and who isn't?" she asks. "Some chief investment officers say they don't like them because, ultimately, they reduce the cash-on-cash multiple."

The two academic papers analyse multiples and market-based performance measures on the basis that the interest and ancillary fees that must be paid on these loans eat into the absolute cash returns on PE funds. Braun et al find that median and mean net multiples deteriorate only marginally, by about 0.02, when SLCs are used, while the decline in public market equivalents (PMEs) is close to zero. Albertus and Denes find a larger reduction of 0.22 in PMEs, which falls to 0.13 for relatively older funds. Yet for the total value to paid-in ratio, the Albertus and Denes study finds a smaller drop – just 0.0058.

"FROM MY VANTAGE POINT, IT WAS THE INFLUENTIAL LPs THAT SAW THE BENEFITS OF SLCs AND BEGAN ENCOURAGING GPs TO USE THEM TO OPTIMISE NET IRR"

**Adam Turtle**
*Rede Partners*

Given the variance in the results, it's clear that LPs need to consider several performance metrics when evaluating funds that use SLCs. "IRRs have been criticised quite extensively in the past couple of years," says Braun. "SLCs may add to that, given the potential for manipulation. Right now, the best an investor can do is look at money multiple, PME, IRR and direct alpha."

### A temporary phenomenon?

But to what extent are SLCs a temporary phenomenon? One of the drivers of their use in recent years, surely, has been low interest rates. Even on this point, academics and practitioners are divided. The Braun et al study, for example, found that the effect of SLCs on IRRs remained positive in both low and high interest rate environments, suggesting that

## THE RESEARCH

In *Distortion or Cash Flow Management? Understanding Credit Facilities in Private Equity Funds*, Pierre Schillinger and Reiner Braun (both of the Technical University of Munich) and Jeroen Cornel (BlackRock Private Equity Partners) examine the impact of subscription lines of credit (SLCs) on fund performance metrics.

The authors simulate 100,000 hypothetical funds using a proprietary dataset of 6,353 distinct buyout deals from 1994 to 2013. After making base-case assumptions about SLC terms, such as a six-month maturity equivalent to 25% of undrawn capital, the authors simulate each hypothetical fund twice: once without an SLC and once with an SLC. The difference between each fund's net IRR before and after the SLC, or "delta net IRR", measures the SLC's impact on performance. The authors report average and median delta net IRRs of 0.47 and 0.2 percentage points, respectively, and conclude that SLCs have a "moderate" impact on performance.

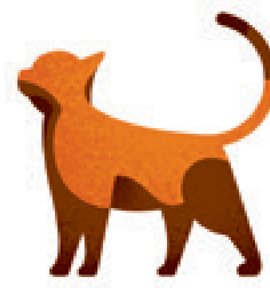
However, the authors also find the impact of SLCs depends on fund performance and SLC maturity. On average, every one percentage point increase in a fund's net IRR, before the use of an SLC, increases the change in net IRR due to the SLC by 0.16 percentage points – better-performing funds realise the largest gains in net IRR by using SLCs, while the worst-performing funds see smaller gains or a decrease. Duration also has a profound impact on performance: increasing the maturity of the SLC by one quarter increases its impact on net IRR by 0.42 percentage points. The authors find that if SLC maturities are extended to two years, 44.4% of all funds increase in ranking by at least one decile (based on IRRs), while only 1.2% move down in ranking.

*Distorting Private Equity Performance: The Rise of Fund Debt*, by James F. Albertus and Matthew Denes (both of Carnegie Mellon University), takes a different approach. The authors use actual fund-level cash flow data from 264 funds employing SLCs from 2014 to 2019 and calculate what each fund's performance would have been if SLCs were replaced with capital calls. On average, the authors estimate that SLCs increase IRR-based performance by three percentage points. The study also finds that fund age matters. The effect of SLCs on the IRRs of young funds is 7.3 percentage points; for older funds it is only 2.1 percentage points. It should be noted that, while the Schillinger et al study covers the entire life of a fund, this research includes interim performance because the funds are more recent.

Both papers also examine whether SLCs can cause multiples and market-based performance measures to decline because of interest payments and associated fees. Schillinger et al (2019) find that, on average, the impact of SLCs on net multiples and public market equivalents (PMEs) is close to zero at -0.02 and 0.00, respectively. Albertus et al (2019) find that, on average, the use of SLCs reduces a fund's TVPI (similar to a multiple, with the addition of the fund's NAV to distributions) and PME by 0.0058 and 0.22, respectively.

their use will continue. "Our data are positively skewed, and this was pretty surprising," says Schillinger. "When you look at the decile improvement gained by using SLCs, the risk/reward profile is essentially favourable across all deciles, from top to bottom and across more than 20 vintage years. So, from a game theory perspective, it seems rational for everyone in the industry to use SLCs sooner or later."

Yet there are others who would disagree. "I guarantee that if the interest rate went up to 8%, where the hurdle rate is, no one would use SLCs any more," says a GP. "At that point, the numbers don't make sense from a practitioner perspective." With interest rates remaining low for the foreseeable future, we may have some time to wait before we know which view will prevail.



# UNFORESEEN CONSEQUENCES

**As private equity has grown, its influence has touched more companies. But what are its effects on competitors, public markets and sector productivity? We explore the findings of three recent research papers that examine PE's broader impact.**

**Private equity continues to grapple with a punishing perception problem – many politicians and members of the general public still associate the asset class with company collapse and job destruction. In polarised times, the industry's ability to communicate the benefits it brings, not only to the businesses it backs but also to the wider economy and society, has never been more important.**

**Three recent academic papers delve into exactly these issues, revealing that PE's influence spreads well beyond its immediate portfolio companies. One explores how having PE experience influences the behaviour of CEOs running public market companies. Another examines the impact of a PE-backed player on competition in its industry. A third studies PE's productivity improvement potential.**

**The results of these research initiatives are important for policymakers trying to balance being responsive to their constituents with promoting economic growth. We talked to the authors of the three studies and to PE investors about what the findings tell us regarding the industry's spill-over effects and how these should influence any future regulation.**
Chaired by Amy Carroll.

**Serdar Aldatmaz**
Serdar is an assistant professor of finance at George Mason University's School of Business. His primary research spans PE, venture capital, initial public offerings (IPOs), entrepreneurship and innovation.

**Scott Hsu**
Scott is an assistant professor in finance at the Sam M. Walton College of Business at the University of Arkansas. His research interests include PE, VC, political connections and IPOs.

**How would you describe public and political perceptions of PE's spill-over effects today?**

**Neil MacDougall:** "It's hard to get good press for PE at the moment. Everything in the venture world is deemed to be wonderful, but buyouts are a far harder story to sell. Is that because the venture industry is doing a great job of explaining what it does? Or do people just like the idea of novelty and growth, while PE is only ever associated with financial engineering? It's certainly something we all need to be concerned about. How do we get our message across in a better and more compelling way?"

**Johan Van de Steen:** "Sovereign wealth funds and pension funds are increasing their allocation to PE. But broader public opinion continues to be defined by bad news stories. To much of the general public, PE firms are still locusts and fat-cat financiers."

**In light of this, why are the findings of these research papers so important?**

**Steven J. Davis:** "The PE model has been controversial for many years, primarily because in some quarters it is seen as contributing to job destruction. But we also live in a time where there is a great deal of concern about slow productivity growth. PE's focus on managerial professionalisation means it could be an important driver of productivity. If so, it's critical to understand why that is, so we can replicate those benefits, and also so policymakers can have the information they need to make the right decisions around the asset class."

**Serdar Aldatmaz:** "There has certainly been a lot of negative publicity around PE and its implications for the broader economy. Most recently, we have seen Elizabeth Warren's 'Stop Wall Street Looting Act', which is being pushed in the US Senate. Senator Warren refers to PE firms as 'looting companies'.

"This negative perception has been around for some time. In 2015, PE-backed casino operator Caesars filed for bankruptcy and PE was substantially blamed, not only for the collapse but also for downward pressure on its peers' financials.

"At the same time, though, you have Hertz, one of the biggest buyouts in history. It was taken private in 2005 and then quickly sold back to public markets two years later. That deal attracted a lot of controversy, but PE made the

**Steven J. Davis**
Steven is the William H. Abbott distinguished service professor of international business and economics at The University of Chicago Booth School of Business and a senior fellow at the Hoover Institution.

**Neil MacDougall**
Neil is chairman at Silverfleet Capital, having served as managing partner between 2004 and 2019. He has led many of the firm's most successful investments, including Finnish Chemicals and Sterigenics, and was previously chairman of the British Private Equity & Venture Capital Association.

**Johan Van de Steen**
Johan is the partner responsible for IK Investment Partners' strategy, operations and business control team. He began his career at Siemens before joining McKinsey & Company and later becoming an operating partner at KKR Capstone.

company significantly more efficient. And, critically for our study, a lot of improvements were also seen in the car rental industry more broadly, particularly among Hertz's main competitors – Avis Budget and Dollar Thrifty.

"IF PE IS SUCCESSFULLY MAKING PRODUCTIVITY GAINS IN ITS OWN COMPANIES – AND THEREBY ENCOURAGING PRODUCTIVITY GAINS IN THE BROADER MARKET – REGULATORS NEED TO BE VERY CAREFUL INDEED ABOUT TAKING ANY STEPS THAT COULD HAMPER THAT DYNAMIC."

**Steven J. Davis**
*The University of Chicago Booth School of Business*

"There has not been a great deal of evidence to date about the asset class's broader externalities, or side effects, and so we thought this was important to explore. We found that when PE invests in a sector, publicly traded companies within the same industry do significantly better in terms of labour productivity, profitability, employment and capital expenditure. In other words, there are positive spill-overs from the PE target onto public peer companies in the same industry."

**Is that a result of competitive pressures, or could it be that PE is good at identifying positive industry trends?**

**Serdar Aldatmaz:** "It could be argued that PE investors just have perfect foresight. But we did distinguish between the two scenarios – we examined the PE investments against the baseline of the industry's historical performance, for example – and everything suggests that it isn't how an industry is performing that attracts PE capital. Instead, it's PE coming in that changes industry performance."

**Neil MacDougall:** "Yes, it's what you would expect in a competitive market: if somebody raises the bar, the competition needs to improve their performance as well."

**Scott Hsu:** "I agree. The findings make sense. PE firms bring cost-cutting and value-enhancing initiatives to targets. When those targets start to improve, their peers come under pressure to act and so the whole industry's productivity and efficiency improves."

**Steven J. Davis:** "When Walmart started taking market share, everyone tried to figure out what it was doing so they could imitate it. Those that couldn't didn't survive. What's interesting, though, is that our study evaluates productivity gains post-buyout, by comparing outcomes to those of control businesses. If this research is correct, it means we are probably 'under-scoring' our productivity gains by not taking that spill-over effect into account. If PE is successfully making productivity gains in its portfolio companies – and thereby encouraging productivity gains in the broader market – regulators need to be very careful indeed about taking any steps that could hamper that dynamic."

"REDUCING INVESTMENT AND EMPLOYMENT DOES NOT MEAN PUTTING THE BRAKES ON A BUSINESS. ON THE CONTRARY, THESE THINGS ARE OFTEN THE RESULT OF IMPROVING LABOUR AND CAPITAL EFFICIENCY – A CRITICAL FOUNDATION FOR FUTURE GROWTH AND VALUE CREATION."

**Johan Van de Steen**
*IK Investment Partners*

**Johan Van de Steen:** "PE isn't affecting public companies only through competitive pressure. It is casting its shadow over public markets in other ways as well. It is increasingly active in public markets, by acquiring significant minority positions with influence or taking underperforming companies private. This poses a threat – or an incentive – to public companies, encouraging them to do better."

**Scott, you found that one way that PE spills over into public markets is through the PE experience of some public market CEOs. How does that experience manifest itself?**

**Scott Hsu:** "We looked at the spill-over effect through a novel lens, by considering the human capital side of the industry. In particular, we found that PE effects spill over to listed companies through public company CEOs who have received on-the-job training while working for private equity targets in the past.

"We called these spill-over effects 'managing with PE style', and that is exactly what we found. We looked at the job histories of public company CEOs and found that those with a PE background – and in particular, those who had previously held the CEO position in PE targets – exhibit cost-cutting and value-creating characteristics within the public companies they manage."

**Neil MacDougall:** "But why do you get these differences in behaviour? Do these CEOs simply realise they have the ability to make changes faster because they have done it in a private context? Does that, therefore, bring a feeling of greater operational freedom to their quoted situation? It may just come down to the fact that they realise they can make this level of change without destroying a business. They are less focused on quarterly results because they take the view that if they get it right over four or five years, their shareholders will ultimately thank them."

**Johan Van de Steen:** "Having sat on the board of public companies and having been involved in several take-private transactions, I have seen the benefits of bringing in PE-trained CEOs. All else being equal, they bring more focus, discipline and sense of urgency to value creation. They are also used to working in an environment of transparency and accountability, and are more compatible with more active boards and investors."

**One of the characteristics exhibited in PE transactions, however, is job reduction. Can PE really be positioned as a force for good in the wider economy while the story around employment remains mixed?**

**Johan Van de Steen:** "Reducing investment and employment does not mean putting the brakes on a business. On the contrary, these reductions are often the result of improving labour and capital efficiency – a critical foundation for future growth and value creation. PE's objective is not to starve a company of resources. Doing so would put the long-term viability of a business at risk. On exit, PE owners need to demonstrate sustainable growth in revenues and profit margins. Slash-and-burn tactics just don't work."

**Steven J. Davis:** "It is important to remember that PE doesn't have a single narrative. For example, we saw very large employment gains in the wake of private-to-private deals. Lots of these gains come through acquisitions, but even if you strip them out of the data, those findings still stand. That's a positive story that everyone can be happy with. But there is no denying that the story is materially different when it comes to other forms of buyouts, particularly take-privates."

**Neil MacDougall:** "It is no surprise to me that employment increases following private-to-private deals. If you are buying a family-run business, for example, the owners will often have been perfectly happy simply taking out dividends, while the PE firm will be focused on growing the company, making it bigger and more valuable. To do that you need people. It's the difference between investing for growth and holding for yield."

**Why then does employment fall following a take-private?**

**Neil MacDougall:** "Quoted companies have the burden of quarterly reporting and the CEO has to look after numerous investors. When we sold a business to a US corporation, the buyer doubled the size of the finance department simply to deal with those tasks. PE has a much more direct and focused communications channel and you can usually save money, thereby reducing the headcount. There will be other factors at play as well, although those will be more industry-specific."

"WE FOUND THAT PE EFFECTS SPILL OVER TO LISTED COMPANIES THROUGH PUBLIC COMPANY CEOs WHO HAVE RECEIVED ON-THE-JOB TRAINING WHILE WORKING FOR PE TARGETS IN THE PAST."

**Scott Hsu**
*University of Arkansas*

**PE's ability to drive productivity is a common theme across the research. But Steven, you found that productivity gains varied, depending on the macro-economic backdrop. What do you think is going on there?**

**Steven J. Davis:** "First of all, we found average productivity gains of 8% over two years. That is very significant. But yes, the results did vary when we dug down into different types of buyouts and also different credit conditions. We found that deals executed in years when credit was tight performed really well on the productivity margin. A plausible hypothesis is that when credit is tight, PE firms have to generate profits through operational improvements, and are consequently more selective in the deals they pursue and more focused on generating extra profit at an operational level. The flip side of that, however, is that when credit conditions are loose, more deals may take place, but investment decisions might not be so wise and the focus on productivity performance may not be as great."

**Johan Van de Steen:** "The availability, or not, of cheap credit is an important factor in the effort required to generate target returns. As credit becomes scarce or more expensive, PE owners have to push harder on earnings growth and cash generation to achieve similar returns."

**Neil MacDougall:** "It's all about sweating the assets."

**Johan Van de Steen:** "But I don't agree that when credit is cheap, PE becomes less selective. When credit is cheap, prices go up, so you actually have to be more selective to ensure you don't pay too high a price."

**Scott Hsu:** "The finding that target productivity gains are larger for deals executed during tighter credit market conditions seems to suggest that PE has positive effects in helping target firms become more competitive – or survive – when economic conditions are less favourable. Overall, I am glad and appreciate that the authors found these important effects of PE, and I hope that these findings will lead to a fairer assessment of its impact."

**As PE ownership becomes more extensive, do these findings not mean that the asset class could potentially amplify economic peaks and troughs?**

**Steven J. Davis:** "There is some potential for that. We see, in particular, a lot of take-privates happening at the top of the cycle, with high leverage adding strain when the cycle turns. That is a concern and it is something the tax and regulatory system should take into account. The tax system in the US treats debt financing more favourably than equity financing, and this can encourage excessive leverage. It's not that I am against debt financing, but I don't see a good justification for the corporate tax code to encourage greater levels of debt than would otherwise be the case."

"WE FOUND THAT WHEN PE INVESTS IN A SECTOR, PUBLICLY TRADED COMPANIES WITHIN THE SAME INDUSTRY DO SIGNIFICANTLY BETTER IN TERMS OF LABOUR PRODUCTIVITY, PROFITABILITY, EMPLOYMENT AND CAPITAL EXPENDITURE."

Serdar Aldatmaz
*George Mason University*

**Serdar Aldatmaz:** "I'm not sure that PE ownership could amplify peaks and troughs. In fact, research has found that industries with high levels of PE ownership are less prone to market shocks."

**Johan Van de Steen:** "The PE sector is well aware of the risks of investing in cyclical industries, such as the need to get the timing right, the potential negative impact on the holding period for an asset if you have to sit out a downturn, or even more basic things like the limitations of leverage as a tool for cyclical businesses. As a rule, many PE investors do not invest in structurally cyclical industries."

**Neil MacDougall:** "I agree. That is probably three steps of logic too far. Given the level of PE activity as a percentage of overall economic activity, I can't imagine a variation significant enough to make a difference to the cycle at all. We see ourselves more as a cork on the wave than a wave generator."

**Do the results of these pieces of research show that PE is intrinsically better at managing business than public markets?**

**Serdar Aldatmaz:** "I think they do. It is clear that PE targets become more and more efficient. There is some degree of financial engineering involved in that, of course. Leverage forces companies to behave differently because management has less free cash flow and because they are more closely monitored. But there is also operational engineering. Companies are simply run in a different way that makes them more efficient. Now we know it also has broader implications for peer companies, and that is very important."

"IF YOU ARE BUYING A FAMILY-RUN BUSINESS, THE OWNERS WILL OFTEN HAVE BEEN PERFECTLY HAPPY SIMPLY TAKING OUT DIVIDENDS, WHILE THE PE FIRM WILL BE FOCUSED ON GROWING THE COMPANY, MAKING IT BIGGER AND MORE VALUABLE. TO DO THAT YOU NEED PEOPLE. IT'S THE DIFFERENCE BETWEEN INVESTING FOR GROWTH AND HOLDING FOR YIELD."

Neil MacDougall
*Silverfleet Capital*

**As the number of take-privates rises and public ownership falls, what does that mean for PE's influence on the wider economy?**

**Steven J. Davis:** "It's an interesting question because, as you say, we have this long slide in the number of listed companies, particularly in the US. That suggests that being listed is less attractive than it once was. As the industry has grown in prominence, it has shown that there is a different way to bring managerial expertise and financial resources to bear. I do see PE as having a potentially positive social and economic function to play, partly because it takes people with a high level of managerial expertise and spreads that expertise widely."

**Johan Van de Steen:** "I believe PE ownership will continue to grow. As a result, there will be further professionalisation of companies and management, a stronger focus on value and returns, and higher levels of industry consolidation – all phenomena typical of PE's buy-and-build approach.

"More PE ownership could mean slightly more short-termism as most PE firms operate a finite fund life structure, typically holding companies for five years. But again, bear in mind that exit value and returns correlate strongly with creating sustainable value, so I don't think greater levels of PE ownership are likely to lead to a slash-and-burn mentality."

**Serdar Aldatmaz:** "These pieces of research show that thinking about PE should not just focus on the target company. Policymakers need to consider the broader implications. The sector helps industries to grow faster and become more efficient, which will only increase societal welfare over the long term. Anyone thinking about regulating or limiting the asset class should carefully analyse these findings before making their decisions."

## THE RESEARCH

All three research papers attempt to quantify PE's impact, not only on the businesses it backs but on competitors, public markets, and the economy as a whole.

*The Economic Effects of Private Equity Buyouts* analyses thousands of US PE investments between 1990 and 2013, a period that experienced huge swings in credit market conditions and GDP growth. Its authors – Steven J. Davis (University of Chicago), John Haltiwanger (University of Maryland), Kyle Handley, Ben Lipsius (both University of Michigan), Josh Lerner (Harvard University) and Javier Mirander (US Census Bureau) – identify significant differences between the impacts of these deals, depending on their nature and the economic backdrop against which they took place.

Employment rises following acquisitions of other privately-owned companies and in secondary buyouts, but falls following divisional buyouts and take-privates. Meanwhile, labour productivity increases in all cases, but particularly in periods where credit availability is tight.

A further paper, *Private Equity in the Global Economy: Evidence on Industry Spillovers*, by Serdar Aldatmaz of George Mason University and Gregory Brown of University of North Carolina, explores the impact of PE investment on other companies operating in the same sectors and geographies. Its dataset covers 19 industries across 48 countries.

The research finds that, following a PE investment, productivity, employment and capital expenditure all rise in public companies operating in the same space. Furthermore, the more intense the industry's competitive dynamics, the bigger the effects.

The research does consider whether the findings could be attributed to PE's prowess in pre-empting positive industry trends. However, it concludes that the results are more likely to be explained by competitive forces. It specifically points to the buyout of Hertz in 2005, for example, which was followed by increases in employment, labour productivity and profit growth at competitors Avis Budget and Dollar Thrifty.

Finally, *Managing with Private Equity Style: CEOs' Prior Buyout Target Experiences and Corporate Policies*, by Hung-Chia Scott Hsu, Tomas Jandik and Juntai Lu, all of University of Arkansas, investigates the impact of a chief executive's PE experience on their managerial practices in the public arena. The research finds that CEOs with prior PE experience reduce investment by 34% and employment by 23%. This behaviour is particularly evident when the experience is recent and when it has been gained at a company prone to cost-cutting measures.

The research also finds that CEOs with PE experience are more likely to file patents, improve operational efficiency and, ultimately, improve the value of a business.

# LPA *BLUES*

**The terms under which investors commit to private equity firms are often heavily negotiated. Yet to what extent can larger limited partners really be relied upon to secure robust protections for all investors?**
By Vicky Meek.

**William W. Clayton**
William W. Clayton is an associate professor of law at Brigham Young University Law School, having joined the faculty in July 2018. He was previously a corporate attorney at Wachtell, Lipton, Rosen & Katz and at Simpson Thacher & Bartlett, and has held the position of executive director at the Yale Law School Center for the Study of Corporate Law. His research interests include investment funds, contracts, corporate governance and securities law.

As private equity has grown in size and stature – the net asset value of private markets has grown more than sevenfold since 2002, according to a recent report by McKinsey & Company – so regulatory scrutiny of the industry's practices has increased. In the US, the Securities and Exchange Commission (SEC) has highlighted a number of concerns in recent years and has attempted to shine a brighter light on PE governance practices.

One common counter-response from the industry has been to argue that limited partnership agreements (LPAs) are heavily negotiated, and therefore substantive critiques of their terms are unwarranted. For example, after the

SEC issued pointed criticisms in 2014 and 2015, Steve Judge, who was at the time chief executive officer of the Private Equity Growth Capital Council (now the American Investment Council), was quoted in a variety of publications as saying such agreements were "the result of highly negotiated terms between sophisticated parties", a characteristic of the industry that created an "alignment of interest". Similar statements have been made by industry representatives in the years since then.

In a new paper, William W. Clayton of Brigham Young University Law School questions whether the effects of negotiation and bargaining power in PE funds are really that simple. In *The Private Equity Negotiation Myth*, he examines the incentives of larger investors in a PE fund – those that typically have the most bargaining power when a fund is raising capital – and pushes back on the assumption that they can always be expected to demand LPA terms that will benefit all investors.

Clayton argues that "individualised" benefits commonly included in side letters, such as fee discounts and co-investment rights, can dilute large investors' incentives to negotiate LPA terms.

To illustrate this point, he offers an example of an investor with two options. "On one hand, this investor could negotiate for an LPA governance term that would increase the fund's profits by $10 and reduce the general partner's profits by $10," he explains. "However, since the investor owns only a portion of the fund, it would enjoy a fraction of that fund's increased profits – $1, for example, if it is a 10% investor."

Alternatively, the investor in Clayton's example could negotiate for a fee discount that would bring it a $10 benefit and reduce the GP's profits by $10. Just as this investor would have a strong incentive to negotiate for the fee discount – which exhausts the same amount of bargaining power and brings a larger individual benefit than the LPA term – similar incentives are likely to exist whenever large investors are deciding the points they wish to negotiate.

"Large investors have finite bargaining power," says Clayton. "The fact that other investors can free-ride on negotiated LPA terms provides an incentive for large investors to prioritise individualised terms when deciding how to use their bargaining power. Of course, this is one of many considerations and is unlikely to eliminate the negotiation of LPAs altogether. But it is likely to have a dampening effect that is difficult to measure."

"JUST BECAUSE YOU HAVE LARGE INVESTORS ABLE TO NEGOTIATE TERMS DOESN'T GUARANTEE OPTIMAL LPA TERMS FOR ALL INVESTORS IN THE FUND."

GPs may counter that they sometimes give investors most favoured nation (MFN) rights, which entitle an investor to the same side letter terms granted to other investors in the same fund. Yet Clayton points out that a number of those do not receive these and those that do are often entitled to receive only the side letter benefits granted to investors that have made commitments to the fund of equal or lesser value. As a result, even when investors have MFN rights, negotiating for rights and privileges through side letters will usually still lead to fewer free-riders than negotiating for changes to LPA terms.

Further, Clayton posits that the ability to negotiate for individualised benefits can make large investors less likely to walk away from a fund with weak LPA terms. "Counter-intuitively," he says, "when large investors can negotiate for individualised benefits that offset the harm caused by weak protections, it's possible that bargaining power actually makes them less sensitive to LPA terms."

However, Clayton is keen to stress that his purpose is not to argue whether there is an investor protection crisis in PE. "My paper is focused on whether the negotiation-based defence is, by itself, convincing," he says. "Other process-based defences could be more compelling. It could be the case, for example, that the other investors actively compare LPA terms across the market, giving GPs a market competition-based incentive to offer high-quality terms."

He adds: "Some have argued in recent years that PE should be opened up to retail investors, and the SEC is considering this possibility. In response to investor protection concerns, some maintain that retail investors could free-ride on the demands of large, institutional investors if the two groups are permitted to invest alongside each other in PE funds. My paper shows why you can't make this assumption – just because you have large investors able to negotiate terms doesn't guarantee optimal LPA terms for all investors in the fund. Policymakers need to take the whole ecosystem of investors into account before they can assume that the LPA terms will be robust."

## Jason Glover

Jason Glover is managing partner of the London office of Simpson Thacher & Bartlett and a member of the firm's executive committee. He has advised on structuring complex global funds for many of the leading European and emerging market private equity firms and has been named Global Private Funds Lawyer of the Year seven times, including in 2019. He joined Simpson Thacher & Bartlett in 2010 from Clifford Chance, where he headed the global private funds practice.

"From a theoretical point of view, the arguments put forward in the paper make a lot of sense," says Jason Glover, managing partner of the London office at Simpson Thacher & Bartlett. "Yet I'd argue that the reality, certainly today, is quite different."

If you look at the industry 20 years ago, Glover says, extensive investor negotiation of private equity terms was pretty rare. "Yet much has changed," he explains. "Investors have become much more sophisticated in their approach to PE as they have hired knowledgeable staff and their allocations have increased on both an absolute and relative basis. PE is an important investment for them, so they take legal advice from some of the best in the industry."

He points to the scale of negotiation in today's market – acting for a general partner with a €10bn-plus fund, for example, he estimates that on average, his team spends 7,000 hours negotiating terms with limited partners and their legal counsel. "That's a vast amount of time, but it's pretty typical," he says.

"The paper rightly points out that investors negotiate via side letters. This is because, unlike in other industries, all investors are asked to sign the same document – the limited partnership agreement. Consequently, any specific needs of a particular investor, such as reporting, must be dealt with separately."

Yet he takes issue with the idea that this means large investors are generally the sole beneficiaries of these negotiations. "It's certainly true that large investors can negotiate for fee discounts that may not be available for all investors – but that's the same in any industry, particularly in asset management," he says. "However, this doesn't apply to the two other main areas of negotiation – transparency and governance, which are arguably the most important areas of investor protection."

When it comes to transparency, investor requests are likely to be granted to all limited partners, on the basis that this information is being generated anyway, says Glover. "And to the extent that side letter provisions relate to governance, such as where certain individuals need to spend a certain amount of time on investments, or prohibitions on change of control, this would naturally apply to all investors since it's a behavioural change that affects the whole fund."

There has been another significant shift – the advent of the Institutional Limited Partners Association. Established by mainly larger investors – which Clayton argues are the most likely to be able to bargain for their own benefit – it has given both large and small LPs a voice in global discussions on transparency, governance and alignment of interest between GPs and LPs. It has also published guidelines on best practice in a variety of areas, including fees, governance and transparency. PE firms that deviate from these guidelines are likely to encounter robust questioning by prospective LPs of any size.

And finally, he adds, investors often now work collectively when negotiating fund terms. "It's not uncommon for a legal counsel to be working on behalf of seven or eight investors," says Glover. "There's a lot of collective bargaining."

# THE RESEARCH

In *The Private Equity Negotiation Myth*, William W. Clayton of Brigham Young University Law School questions the idea that large investors can always be expected to demand strong fund agreement terms for all investors in a private equity fund.

In the article, Clayton shows why the prevalence of "individualised" contracting through side letters can encourage large investors to prioritise the use of their bargaining power to negotiate for individualised benefits over terms in limited partnership agreements (LPAs).

Clayton's analysis is based on the idea that, because investors have a finite amount of bargaining power, they are incentivised to use it to negotiate for terms that will maximise benefits for their own constituents. He shows that, because other investors typically free-ride on negotiated LPA terms, large investors have an incentive to prioritise individualised benefits when deciding how to use their bargaining power.

Clayton also suggests that, counter-intuitively, bargaining power can actually make large investors less sensitive to the quality of LPA terms than they would be if they lacked bargaining power. This is because bargaining power can be used to negotiate for individualised benefits that offset the harms caused by weak LPA terms. For the reasons above, Clayton concludes that LPs and regulators cannot simply assume that the presence of large investors with bargaining power will lead to LPAs that contain optimal terms for all investors.

# *BIGGER SLICE, SMALLER PIE*

**Venture capital's role in providing finance and support to fledgeling businesses is widely recognised. Yet entrepreneurs seeking early-stage and growth capital can baulk at the terms requested by VC investors. We speak to the author of a new study that examines how terms can affect investment outcomes.** Interview by Nicholas Neveling.

**Arthur Korteweg**

Arthur Korteweg is the dean's associate professor in business administration and associate professor of finance and business economics at the University of Southern California Marshall School of Business. He is a financial economist whose research interests include corporate finance, private equity, and alternative assets more generally. In his PE research, Korteweg focuses on investment decisions in alternative asset classes such as venture capital, buyouts, real estate and art.

How much should entrepreneurs give up when they seek venture capital (VC) finance? For many, the response is likely to be as little as possible. Yet the findings of a new academic study, *Venture Capital Contracts*, suggest this may not always be the correct answer.

To investigate the relationship between contract terms and deal outcomes, the authors collected information for over 10,000 first-round VC financings. By combining their final dataset and outcomes with a novel theoretical model, the researchers were able to assess how VC contract terms impact the average value of a start-up. Their model suggests that the optimal VC share of a company's first round is 15% (or 28% when preferred terms are taken into account). With lower ownership, the venture capitalists don't add sufficient value to

the company and with higher ownership, the entrepreneur is not sufficiently engaged and the company's value declines. Yet the average share actually sold to (first-round) investors is 40%.

Beyond the VC ownership amounts, though, the authors' findings suggest that start-up founders should also weigh VC quality (the investor's ability to add value to a firm using its experience and networks). In some cases, entrepreneurs are better off giving up more equity to attract a high-quality VC with a proven record of value addition. In this case, entrepreneurs get a smaller slice of a much larger pie – and therefore a larger absolute pay-off compared with backing from a low-quality VC firm.

We caught up with one of the paper's authors, Arthur Korteweg, to discuss the findings.

### Why did you decide to research VC contract splits?

"The role of contracts in business value creation is a topic that has long interested economists. Contracts have always been thought to be particularly important in the start-up world, where they should incentivise both entrepreneurs and VC firms to work to maximise value. This matters for society, as start-ups are an important source of job creation and economic growth, so it's crucial to get this right.

"The predominant 'benign' view in academic literature is that contracts are set up to create as much value as possible – to grow the size of the pie, so to speak – and to distribute it efficiently between the VC firm and the entrepreneur. However, a more critical view is that VC firms – who understand the contracts much better than your typical entrepreneur and have considerable bargaining power – may grab a larger slice of the pie, even if that shrinks the entire pie in the process."

### What superior terms are VC firms able to secure in your research?

"They are typically able to negotiate for a higher equity share and board seats. The best firms can also get participation [a preferred equity pay-out and a common equity claim]. Though these terms do not help create value – in fact, they reduce the start-up's total value – they shift more of the value to the VC firm, and therefore are attractive to the investor.

"Our study does not allow us to say much about the mechanism through which these effects happen, but one possibility that seems sensible is that venture capitalists want the entrepreneur to take more risks and go for an out-of-the-park homerun, which is not necessarily a strategy that optimises value creation – it's not a likely outcome – but if it is successful, then the rewards can be great."

### What was your definition for a high-quality VC firm?

"Our definition of VC quality essentially captures anything and everything through which the VC firm raises the value of the business, and, ultimately, the probability of a successful outcome. You can think of the VC firm's added value as encompassing factors such as its strategic advice, its ability to institute good governance, the size of its Rolodex, and so on."

### How did you model the VC contracting process?

"Our model captures the way in which VCs and entrepreneurs search for, and bargain with, each other. Both parties have to search and find each other – and searching is costly. We find that an entrepreneur of a given quality sometimes ends up being funded by a higher-quality VC, sometimes by a lower-quality one. This gives some variation in outcome in, for example, IPO rates or high-value acquisitions, that must be due to the VC quality."

> "I WOULD HAVE THOUGHT THAT BOARD SEATS WOULD BE VALUE-ENHANCING FOR START-UPS, BUT WE FOUND THAT GIVING VCs A SEAT TENDS TO MODESTLY REDUCE VALUE"

### Were you surprised by any of the results?

"We tried not to harbour too many expectations as to what we would find, but our results on the effect of board seats were a surprise to me. I would have thought that VC board seats would be value-enhancing for start-ups, but we found that giving a venture capitalist a seat on the board tends to modestly reduce a start-up's value. This is true for all but the highest-quality venture capitalists who, by contrast, add value if they are on the board."

## THE RESEARCH

*Venture Capital Contracts*, by Michael Ewens of the California Institute of Technology, with Arthur Korteweg and Alexander Gorbenko of the Marshall School of Business, explores how VC contract terms predict the likelihood of start-up success.

The academics collected a dataset of 10,000 first-round VC financings between 2002 and 2015, and filtered down the data to between 1,695 and 2,581 contracts, containing cash flow and control rights details. The research found that contracts materially affect start-up values. Using a model that controls for VC and entrepreneur quality, the study found, in line with other research, that there is an optimal equity split: a VC share of 15% (or 28% when preferred terms such as liquidation preferences are taken into account) maximizes the start-up's value, while any increase in that proportion reduces it. However, it also found that VC firms were able to negotiate to receive much more favourable terms than the optimal split – with an average deal giving the VC firm a 40% share (or nearly half of the company's value when preferred terms are included). This means the average deal is expected to generate 83% of the value the start-up would have had, on average, under the optimal equity split.

The research also examines other VC contract terms: participation (which offers the VC a preferred equity payout and a common equity claim); board seats; and pay-to-play (which removes certain rights from the VC if it does not participate in further financing rounds). The research finds that, when controlling for VC and entrepreneur quality, participation and board seats lower the chance that the company will succeed. Pay-to-play has the opposite effect.

However, the research goes on to say that an entrepreneur is still better off with a high-quality VC. High-quality VC firms were found to deliver the best outcomes, even though they had negotiated away from the optimal contract split. While entrepreneurs received less favourable terms when working with a high-quality VC firm, the study showed that they, too, received superior outcomes compared with start-ups receiving better terms from lower-quality managers.

### Can we go so far as to say that contract terms predict deal success?

"Yes, we can – at least for your average start-up's first VC round. For example, for your average entrepreneur and VC firm, participation and VC board seats tend to reduce business value, while pay-to-play tends to be value-enhancing. I should be careful to point out that we cannot look at all VC/entrepreneur contract terms in this context – in particular, terms that are nearly always present, such as liquidation preferences, which, in our data, are almost always 1x for first-round financings."

"A CRITICAL VIEW IS THAT VC FIRMS – WHO UNDERSTAND CONTRACTS MUCH BETTER THAN TYPICAL ENTREPRENEURS AND HAVE CONSIDERABLE BARGAINING POWER – MAY GRAB A LARGER SLICE OF THE PIE, EVEN IF THAT SHRINKS THE ENTIRE PIE IN THE PROCESS."

### What do you think this study means for entrepreneurs?

"Most entrepreneurs understand that if you go with a better VC firm, you will end up agreeing to more investor-friendly terms. We do find that entrepreneurs still benefit from going with a higher-quality firm because these investors add a lot of value. In other words, the entrepreneur gets a smaller slice of a much larger pie. This is worth more than a larger slice of the smaller pie that a lower-quality VC firm would help generate.

"However, I think the most important take-away for entrepreneurs is to make sure they understand how the contract works and who gets what in different circumstances. It's up to you to be informed."

### And what about VCs?

"VCs are doing what is optimal for them. But from a societal perspective, what is optimal for the VC is not necessarily the best outcome for everyone. If impact on society is a consideration for a VC, this may be something to take into account."

**Are there any questions from this study that you would be interested in pursuing further?**

"There is still a lot to be done. We would like to look at how characteristics of the VC firm and entrepreneur influence the contracts and their impact on a start-up's value, as well as the role of contracts in future investment rounds. We would also love to be able to say more about the role of invested amounts – for example, how much equity would an entrepreneur be willing to give up for another $10k in funding?"

"MOST ENTREPRENEURS UNDERSTAND THAT IF YOU GO WITH A BETTER VC, YOU WILL END UP AGREEING TO MORE INVESTOR-FRIENDLY TERMS. WE DO FIND THAT ENTREPRENEURS STILL BENEFIT FROM GOING WITH A HIGHER-QUALITY VC BECAUSE THESE INVESTORS ADD A LOT OF VALUE."

# PRIVATE EQUITY FINDINGS

Published by the Coller Research Institute, with the support of Bladonmore and Bella Private Markets.

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Brigham Young University Law School
Carnegie Mellon University
George Mason University
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The University of Arizona
University of Arkansas
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