PRIVATE EQUITY FINDINGS

Insights from private equity research worldwide

ISSUE 19 2023
£25 €30 $35

PRIVATE EQUITY IN A DOWNTURN
What the pandemic playbook reveals about portfolio management today

WHAT'S THE FUTURE FOR TECH HUBS?
Is there a case for a more dispersed VC funding model?

CLIMATE ALPHA
How to value decarbonising investments

RELATIONSHIPS OR REPUTATION?
Can portfolio performance affect debt terms?

BUT WHAT ABOUT THE WORKERS?

Why PE should look beyond management in the war for talent

INCLUDING CONTRIBUTIONS FROM: AMERICAN UNIVERSITY | HARVARD BUSINESS SCHOOL | IESE BUSINESS SCHOOL | THE UNIVERSITY OF BRITISH COLUMBIA, SAUDER SCHOOL OF BUSINESS | THE UNIVERSITY OF CHICAGO BOOTH SCHOOL OF BUSINESS | UNIVERSITY OF CALIFORNIA | UNIVERSITY OF NOTRE DAME

Coller Capital

COLLER RESEARCH INSTITUTE

CONTENTS

FOREWORD

JOSH H LERNER
Entrepreneurial Management Unit,
Harvard Business School

JEREMY COLLER
Chief Investment Officer
& Managing Partner, Coller Capital

Private equity's mantra of management, management, management has served the industry well to date with many investors and commentators citing firms' efforts to find and recruit top portfolio company executive talent as a major reason for the asset class's outperformance. In our cover feature, **But what about the workers?** we explore the findings of a new academic paper that demonstrates just how important finding the right management team is to private equity.

Yet while it may make economic sense to focus on the C-suite when labour supply is plentiful, the current environment calls for a broader approach to attracting and retaining workers. Using a second piece of research that examines employee satisfaction following a buyout, the feature moves on to discuss how firms can win the war for talent in a tight labour market and continue to create value in the companies they back.

Private equity in a downturn features another of today's challenges – how to manage portfolio companies through high inflation. Recent research into how PE firms responded to the disruption caused by Covid-19 offers an insight into how much time general partners dedicated to keeping the lights on in the businesses they back, while also continuing to pursue revenue growth. The study focuses on pandemic response, but many of the findings on PE's modus operandi have relevance today as the industry helps steer companies through choppy waters.

The inflationary environment is also having a clear impact on financing costs as interest rates rise. In **Relationships or reputation?** we take a look at a new academic study that asks whether the performance of a PE firm's wider portfolio can affect the pricing of refinancing packages, and explore what the findings mean for securing optimal terms in the current market.

The recent collapse of Silicon Valley Bank and the public markets technology correction of 2022 continue to have repercussions across venture capital portfolio companies, but early-stage investing has had plenty of ups and downs during its history, and these challenges may simply turn out to be more bumps along the road. Yet some have recently been asking more fundamental questions about the venture capital model and the wider societal effects of concentrating new technology development and capital in a small number of locations. **What's the future for tech hubs?** discusses the findings of three academic papers on the impact these innovation centres have on local and national economies and on what a different, more dispersed model of VC technology funding could look like.

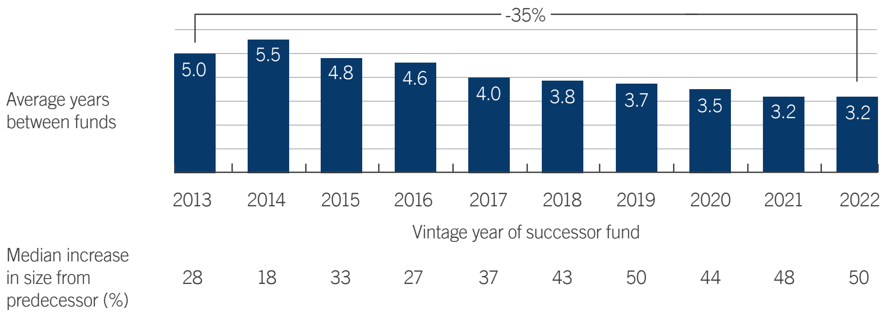
And finally, even as pressure to reach net zero intensifies among limited and general partners, investors currently lack the tools needed to assess precisely how and whether an investment in decarbonisation will affect returns. In **Climate alpha: valuing decarbonisation**, we showcase a new valuation methodology put forward by a group of academics, researchers and policymakers that seeks to cut through the uncertainty of future policy changes and technological developments to help investors calculate the risk-reward profile of decarbonising investments.

We hope you find our latest issue both interesting and thought-provoking. As ever, we welcome any feedback you may have – our email address is: *pefindings@collercapital.com*.

BY THE *NUMBERS*

Pace and scale of buyout fundraising rise sharply

Average years between successor and predecessor fund vintages, global buyout funds



Source: Bain & Company, *Global Private Equity Report 2023*; Preqin

- The pace and scale of buyout fundraising increased significantly in the 10 years to 2022. Funds returned to the market within just 3.2 years of predecessor funds on average in 2022 – a decrease of 35% on the five years in 2013, according to Preqin figures quoted in the Bain & Company *Global Private Equity Report 2023*.

- At the same time, the median increase in size from predecessor funds rose to 50% in 2022, up from just 28% in 2013.

- Rapid deployment, plus strong appetite and liquidity among LPs, helped drive these increases. However, with exits and distributions slowing and LPs facing the denominator effect, fundraising cycles look set to lengthen and fund size growth to moderate.

50%

The percentage of limited partners who said they planned to increase their target allocations to alternative assets in the next 12 months, according to Coller Capital's *Global Private Equity Barometer, Summer 2022*.

Source: Coller Capital, *Global Private Equity Barometer, Summer 2022*

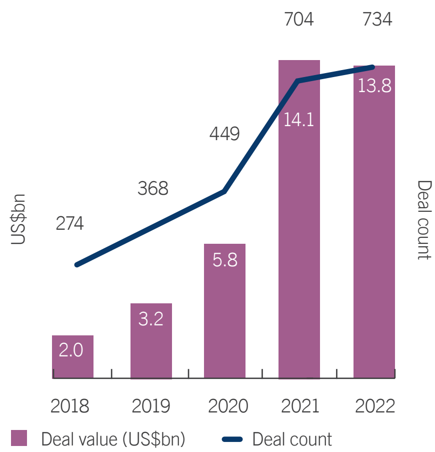
29%

The percentage of LPs planning to increase target allocations to alternative assets six months later, according to the *Barometer, Winter 2022-23*. A major cause of the decline appears to be the denominator effect: 42% of LPs surveyed said this would slow their commitment pace to PE.

Source: Coller Capital, *Global Private Equity Barometer, Winter 2022-23*

Carbon tech investment bucks venture capital downturn

Carbon and emissions tech VC deal activity



Source: Pitchbook, *Q4 2022 Carbon & Emissions Tech Report*

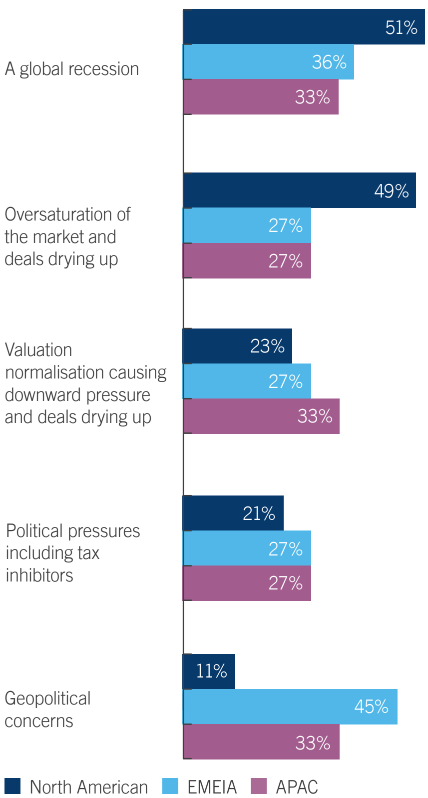
- As the value of venture capital deals fell globally in 2022 (by 30% in the US, according to Pitchbook data), one bright spot emerged: carbon and emissions tech. Global deal values in this space remained broadly flat in 2022, at $13.8bn, versus a record 2021 total of $14.1bn, Pitchbook's *Q4 2022 Carbon & Emissions Tech Report* shows.

- Deal count also increased in the sector, from a previous high in 2021 of 704, to 734 in 2022.

- Carbon tech – in particular carbon capture innovations – was the main reason for the sector's resilience in 2022, with green chemicals and manufacturing investment also registering increases.

Recession, geopolitics and deal flow weigh on private equity managers

Looking forward, what do you see as the biggest worry for the private equity industry?

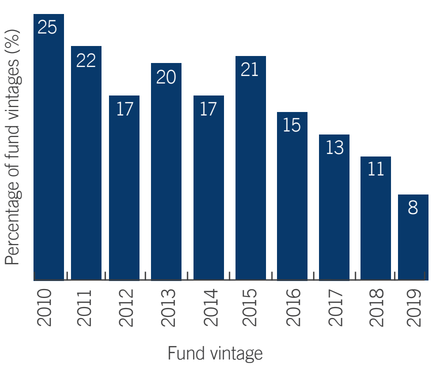


Source: EY, *Global Private Equity Survey 2023*

- A global recession is the greatest concern for private equity fund managers based in North America (51% said this was their biggest worry), while geopolitical issues loom largest for their peers in Europe, the Middle East, India and Africa (45% of these general partners cited this), the *EY Global Private Equity Survey 2023* reveals.
- Meanwhile, all regions are concerned about deal flow – nearly half (49%) of North American GPs felt the market could be "oversaturated" and deals could dry up (27% of EMEIA and Asia Pacific respondents felt this was a concern).
- In APAC, a third cited the normalisation of valuations – as interest rates rise and as public markets correct – causing downward pressure on portfolios and reducing deal flow. In EMEIA, 27% of respondents were worried about this, and in North America 23%.

First-time funds falter

Percentage of first-time funds in top quartile (2010-2019)

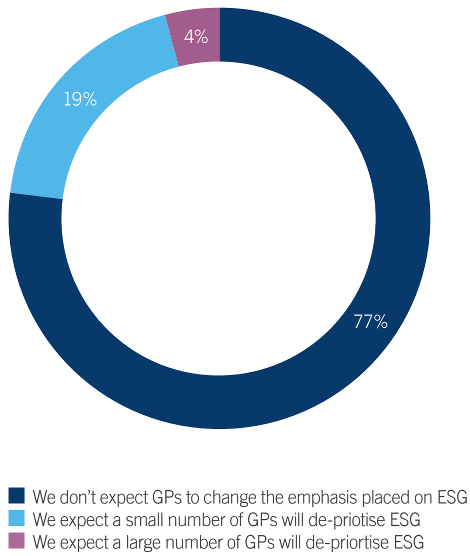


Source: Preqin Pro data, as of October 2022

- Preqin reports fewer top-performing first-time funds as larger managers gain from economies of scale. Only 8% of first-time funds in 2019 ranked in the top quartile, down from around a fifth between 2010 and 2015. However, performance of recent vintages may still improve.
- Preqin suggests this is because of capital concentration among larger, established managers, which gives them more resources, better leverage terms and larger networks than first-time funds.

ESG backlash will have limited impact on PE practice, say LPs

How will the "Anti-ESG" movement in the US affect the importance of ESG in the PE market?



Source: Coller Capital *Global Private Equity Barometer Summer 2023*

- Even as several US states have proposed or adopted anti-ESG legislation in a backlash against the consideration of environmental, social and governance factors in business and investment decisions, limited partners expect the impact on private equity ESG practice to be limited, according to the Coller Capital *Global Private Equity Barometer Summer 2023*.
- Just 4% of LPs expect a large number of general partners to de-prioritise ESG, 19% say a small number will make ESG a lower priority, while the vast majority (77%) expect no change in emphasis.

PRIVATE EQUITY *IN A DOWNTURN*

A new academic survey explores how general partners responded to Covid-19 disruption, providing a unique snapshot of the industry in the midst of a pandemic. We examine the findings and ask what they tell us about how private equity might be approaching today's challenging economic conditions. By Nicholas Neveling

Private equity's long investment horizons mean that investors will almost always be exposed to periods of economic turbulence during the 10 or more years of a fund's life. This is certainly the case for today's limited partners, as high levels of inflation persist for longer than originally anticipated and geopolitical tensions add to market uncertainties. So how do GPs react in such difficult times? And to what extent has this changed as the market has matured?

These were questions that three academics sought to answer, using the pandemic's disruption as a natural experiment. In *Private Equity and Covid-19*, Paul Gompers, Steven Kaplan and Vladimir Mukharlyamov present the findings of a 2020 survey of 272 PE professionals about how their organisations worked with management teams and portfolio companies to preserve value.

"IF YOU COMPARE THE PE TEAM LEVEL OF ENGAGEMENT WITH THAT OF THE DIRECTORS OF A PUBLIC COMPANY, I CAN GUARANTEE THAT THE LATTER WEREN'T CHECKING IN ONCE A WEEK THROUGH THE PANDEMIC"

Steven Kaplan *University of Chicago Booth School of Business*

The survey findings offer a distinctive insight into PE decision-making through the worst period of pandemic uncertainty and a perspective on how the tools PE firms used to protect portfolio companies during lockdowns might be applied against the current backdrop of persistently high inflation.

> "AFTER THE 2008 FINANCIAL CRISIS, MANY GPs BUILT EXPERIENCED CAPITAL MARKETS TEAMS TO HANDLE ALL BANKING AND FINANCING ARRANGEMENTS IN THEIR PORTFOLIOS. THAT EXPERTISE WAS OF HUGE VALUE THROUGH THE LOCKDOWN PERIOD AND HAS BEEN CRUCIAL THROUGH THE CURRENT PERIOD TOO"
>
> **Alan Gauld** *abrdn*

ALL CHANGE?

The study also offers clues as to how GP strategies have evolved over time, since it is a follow-up from a survey the researchers conducted in 2012. "We had undertaken a PE survey eight years earlier and felt 2020 was an important time to repeat the research," says Kaplan. "It was obviously a tumultuous time, and we wanted to gain some insight into what PE firms actually do and how they take action in periods of volatility. We wanted to know what was going on."

For Kaplan, one of the most striking contrasts between the 2020 and 2012 surveys was PE's focus on growth versus cost-cutting – and that was the case despite the uncertainty and economic turmoil playing out in the background when the 2020 participants were polled. When GPs were asked to rate each source of value in new deals on a scale of one to 10, revenue growth emerged as the overwhelming driver of value, with an average score of 8.2. By contrast, cost reduction ranked some way back, with a score of 5.4.

"It was noticeable just how focused PE firms in the 2020 study were on growth rather than cost-cutting," says Kaplan. "When they were making an investment, the number one thing they expected to get value from was growing revenue rather than reducing costs, multiple arbitrage, or leverage. Of course, there was some cost-cutting, but if firms just cut costs and don't grow portfolio companies, they don't deliver good returns."

And it seems as though driving growth has remained a priority for managers as they tackle today's headwinds. "One of the most important findings from my perspective was that PE is an asset class that prioritises growth in order to deliver returns," says Tom Leader, head of Caledonia Private Capital. "We did a lot of acquisitions during the pandemic with a focus on growth. Our asset management business, 7IM, did two deals, and our pub and brewery business, Liberation, acquired 21 pubs from Wadworth. Growth and acquisitions remain at the centre of everything we do now. Acquisitions are still an important part of our playbook."

HANDS ON

The survey also revealed how active management of portfolio companies characterised PE's response to Covid-19. It found that during the pandemic, deal teams were involved with 84.4% of portfolio companies, while operating partners supported 57.6%. The survey also showed high intensity of interaction, with 81.7% liaising with the typical portfolio company at least weekly, 50.7% multiple times a week and 6.8% daily. Workloads also clearly intensified: investment partners were working nearly 60 hours a week, while operating partners put in more than 50 hours a week.

For Leader, the findings on interaction chime strongly with his firm's pandemic experience. In addition to daily contact with management teams, the firm held weekly board meetings and put weekly and quarterly cash flow forecasting in place across all portfolio companies. And interestingly, some of this practice has stuck. While the frequency of interaction has stepped down somewhat since 2020, regular contact has continued, with the firm settling into "a slightly elevated level of engagement" compared with before the pandemic.

Aidan Robson, founder and partner at Endless, also says that portfolio interaction ramped up as Covid-19 spread. "There weren't going to be many deals during those first weeks of lockdowns, so we had 100% of the team focused on the portfolio," he says. As new deals came back into the frame and the portfolio steadied, the balance between portfolio management and new deals levelled out. As a special situations investor, however, Robson says the firm has consistently been "very hands on" and always works closely with management teams.

This active approach from PE continues to contrast with other forms of ownership. "If you compare the PE team level of engagement with that of the directors of a public company, I can guarantee that the latter weren't checking in once a week through the pandemic," Kaplan says. "That speaks volumes as to how actively involved PE firms are with their portfolio companies. The research shows how quickly PE reacts and the support it offers."

CONSERVATIVE OUTLOOK

The poll also offers a counterpoint to criticism prevalent today of PE's approach to valuing assets during downturns. Indeed, as public market valuations plunged through 2022, PE firms came in for criticism from some LPs and commentators for not marking down the valuations of portfolio companies on their books in line with falls in public equities, and for taking an unreasonably bullish position on portfolio company performance.

Yet the findings indicate that the industry takes a conservative – as opposed to an aggressive – approach to valuations and performance, and that firms extend their investment timelines during more difficult periods. The research found that 72.2% of respondents extended investment horizons for existing portfolios and were targeting IRRs for new investments of 22.6% on average, versus 27% in the 2012 survey. It also found that PE firms were too pessimistic in their outlook – using performance data from Burgiss, the authors found evidence that PE funds outperformed the expectations set during the depths of the pandemic uncertainty.

Other research has also found a similar pattern of conservative interim valuations. For buyout exits between 2012 and Q3 2022, 70% were achieved at a higher price than the company's last quarterly valuation, according to Burgiss data, including some that sold for double the GP's last mark.

Alan Gauld, a senior investment director in the PE team at asset manager abrdn, says this chimes with his experience. "In our portfolio, which is mainly focused on the mid-market buyout segment, PE valuations are largely calculated using bottom-up earnings and applying a valuation multiple based on a mix of listed and transaction comparators," he says. "They are generally sensible. If you look back over the past 10 years or so, when firms have exited an asset, they have done so at a 25% to 30% uplift to the carrying value of the two previous quarters."

Robson agrees that criticism of PE valuations during the past year has been harsh, and that comparing PE firms' asset values to daily shifts in equity markets is unhelpful, given the differences between public and private assets.

"The stock market uses a forward-looking valuation model, while PE uses a backward-looking one. They are two very different ways of valuing a business," says Robson. "PE also doesn't necessarily have to take into consideration short-term fluctuations in markets because it is a longer-term investor and therefore doesn't need to mark-to-market the way the stock market has to on a live basis. Accordingly, if a GP doesn't think the market is going to stay the way it is for the medium or long term, then that doesn't come into its valuation considerations."

Michel Degosciu, managing director of LPX AG, a research consultancy focused on listed alternative assets, adds that his organisation's research covering the past decade shows that buyout investments delivered 11% net asset value growth annually, mirroring the 12% stock performance of the businesses making those deals. "These figures show us that, over time, PE valuations do track stock market valuations," he says. "There may be short-term periods of divergence, but you can't make any kind of judgement based only on a 12-month period. You have to look over a horizon of at least 10 years to form any kind of view on PE valuations."

ADAPTING THE RESPONSE

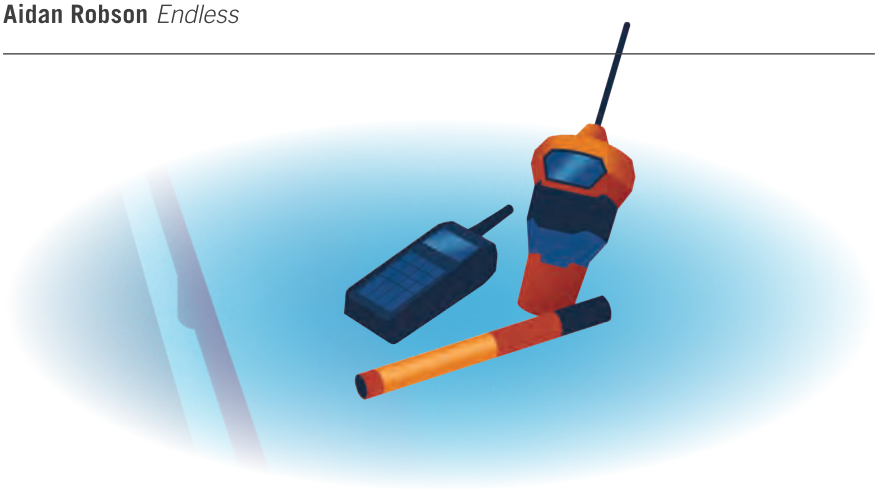
But while the growth focus, hands-on management and prudent valuations that served PE portfolios so well through Covid-19 lockdowns remain as relevant in an inflationary environment, managers are not simply copying and pasting pandemic playbooks.

"The current set of circumstances are very different to those under Covid," says Leader. "During the pandemic, for example, we saw managers across the board draw down on revolving credit facilities. With rates rising, that is not something you would do now because having high borrowing on your balance sheet costs money. When interest rates were low, we also didn't see much hedging in the industry. It just seemed unnecessarily expensive. That has caught up with a lot of people."

One thing that proved hugely valuable through the pandemic as well as in the current inflationary environment is the investment that many firms have made in capital markets expertise, according to Gauld. "After the 2008 financial crisis, many GPs built experienced capital markets teams to handle all banking and financing arrangements in their portfolios," he says. "They became much more proactive. That expertise was of huge value through the lockdown period and has been crucial through the current period too. All our GPs have focused on flexibility in their debt packages, with covenant-lite or loose terms common, and maturities have generally been pushed way out. That is incredibly helpful in an environment where debt is less available and more expensive."

"RATHER THAN JUST TRYING TO SURVIVE THE NEXT SIX MONTHS, AS WAS THE CASE DURING COVID, THE FOCUS IS MORE ON HOW INFLATION IS PASSED THROUGH, THE COST RECOVERY OF THOSE INFLATIONARY PRESSURES, AND THE IMPACT THAT HAS ON WORKING CAPITAL"

Aidan Robson *Endless*



Cash management priorities have also shifted as inflation has set in. "Many businesses are facing funding challenges as inflation comes through. You can easily move into a negative working capital cycle that consumes large sums of cash. Rather than just trying to survive the next six months, as was the case during Covid, the focus is more on how inflation is passed through, the cost recovery of those inflationary pressures, and the impact that has on working capital," Robson says.

The fact that PE firms are actively involved at the portfolio company level, focusing on growth and cautious when it comes to valuations, however, means that whatever the challenges, managers are well placed to devise an effective response.

THE RESEARCH

In their paper *Private equity and Covid-19*, Paul A Gompers (Harvard Business School), Steven N Kaplan (The University of Chicago Booth School of Business), and Vladimir Mukharlyamov (Georgetown University McDonough School of Business) surveyed PE managers about their portfolio performance and decision-making process through the Covid-19 pandemic.

The survey followed a similar study conducted in 2012 by the same academics and published in 2016. The new survey included 54 questions and was designed to draw comparisons with the 2012 findings. The median respondent answered 96% of the questions, and resulted in a response rate much higher than previous, related surveys. A total of 272 respondents participated, representing 214 firms with more than US$1.9trn of assets under management.

Among the key findings, the study shows that growth – by a much higher margin than cost-cutting – was the key driver in new deals and that the intensity and frequency of PE engagement with portfolio companies was high during the pandemic. It finds that PE investment and portfolio management teams engaged with 84.4% of portfolio companies, while operating partners supported 57.6%. The frequency of interaction with portfolio companies was also high, with 81.7% communicating at least weekly, including 50.7% several times a week and 6.8% daily.

The survey also finds that at the time, managers took what turned out to be a conservative view of existing portfolio performance. The authors draw on performance data from Burgiss to find that PE firms were possibly too pessimistic.
In addition, the research finds that returns expectations in the industry have tracked lower from the 2012 research, moving from an average IRR of 27% to 22.6%.

WHAT'S THE FUTURE *FOR TECH HUBS?*

Tech hubs may be great at building connections, innovation and wealth, but are they also creating social inequality? And should venture capital firms and their investors care if they do? We discuss two new research papers that examine the local and national effects of concentrating funding for new ideas in small areas and another that offers the potential for a different, more dispersed model.

Over the past three decades, governments the world over have attempted to foster tech hubs in the belief that they serve as both cradles of innovation and fertile ground for wealth creation. But some observers are now asking whether these hubs are intensifying social inequalities by giving rise to concentrations of extreme wealth in a small number of areas while also causing significant income disparity within them.

Two recent academic papers provide some answers to these questions by researching the impact of tech hubs and the concentration of VC funding around them. One focuses on the local level, the other national. Meanwhile, another study explores the extent to which VC funding spread geographically during the pandemic as a result of the need for online communication – potentially offering a different model for investing in early-stage technology businesses (see Research box, page 27, for details).

We caught up with authors of each of these papers to discuss their findings with a VC investor and a limited partner. Here is what they had to say.

Chaired by Amy Carroll

"CRITICS ARE ASKING WHETHER TECHNOLOGICAL INNOVATION IS REALLY BENEFITING THE COUNTRY AS A WHOLE OR SIMPLY THE EAST AND WEST COAST ELITES"

Josh H Lerner *Harvard Business School*

OLAV SORENSON

Olav Sorenson is the Joseph Jacobs chair in entrepreneurial studies and professor of sociology and strategy at the University of California. His research primarily pertains to economic geography, focusing on how entrepreneurship influences the growth and competitiveness of regions.

JOSH H LERNER

Josh Lerner is the Jacob H Schiff professor of investment banking at Harvard Business School. Much of his research focuses on venture capital and private equity. He co-directs the National Bureau of Economic Research's Productivity, Innovation and Entrepreneurship Program and founded the Private Capital Research Institute.

MALCOM FERGUSON

Malcom Ferguson joined Octopus Ventures in 2013, and divides his time between assessing new opportunities within the fintech team and ongoing portfolio management. He was previously in investment banking, first within the technology, media and telecoms team at Bank America Merrill Lynch and then at GP Bullhound.

How important are tech hubs in the VC ecosystem today?

Brian Buenneke: "Hugely important. We opened our first office in San Francisco back in 1987, precisely to be in a tech hub where we would be close to the VC managers. We have since pursued the same strategy globally because we feel being local is vital."

Malcolm Ferguson: "VC revolves around tech hubs. They provide a gravitational pull, which creates a concentration of all the key ingredients that go into building a company, from talent and mentorship to capital and customers.

"When we evaluate a company, we don't discuss whether or not it is situated in a tech hub. But pretty much all our portfolio companies are hub-based. Our first interactions with founders are now all virtual, which is one way we try to level the playing field, but it just so happens that the companies with the best teams, fastest traction and most exciting propositions seem to be situated in hubs."

So why is it now relevant to explore the economic and social impacts of tech hubs?

Josh Lerner: "Historically, the US has embraced innovation. Yet over time, more questions are being raised about the economic impact of new technology, both by liberals such as Berkeley professor Laura Tyson and conservatives such as JD Vance, who was recently elected to the US Senate. These critics are asking whether technological innovation is really benefiting the country as a whole or simply the East and West Coast elites. These questions have become increasingly important to answer."

Olav, your research on the *Silicon Valley Syndrome* focuses on the impact of tech hubs in their immediate vicinity. What were your findings?

Olav Sorenson: "We know from previous research that VC-backed high-tech companies create a lot of value and jobs. But the *Silicon Valley Syndrome* research took that a step further, by looking at the nature of jobs that have been created. Some job creation takes place in the high-tech companies themselves, of course, but there is also a lot of job creation among local

BRIAN BUENNEKE
Brian Buenneke is a partner in the US investment team at Pantheon, with management oversight of primary investment. He also leads the firm's venture programme and is a member of the environmental, social and governance committee and the inclusion and diversity committee. Before joining Pantheon, he worked at HarbourVest, Duke Street Capital and Paul Capital Partners. He is based in San Francisco.

LIUDMILA ALEKSEEVA
Liudmila Alekseeva is a PhD candidate in finance at the IESE Business School, part of the University of Navarra. Her work explores the effects of companies' adoption of innovative technologies on labour and productivity. She also studies questions in entrepreneurial finance with a focus on VC.

services, be that restaurants or dry cleaners, as well as high-end services such as doctors, dentists, theatres and orchestras. Actually, of the job creation that takes place in a region, more involves these local services than the tech sectors themselves.

"We also found that, while we saw job growth in both the tech sector and local services, there is a decline in employment in other tradeable sectors, such as manufacturing. As the tech sector makes the region more expensive by consuming everything from employees to real estate, that drives up the cost of doing business for other sectors, where companies either end up moving elsewhere or failing as a result."

And is that process increasing income disparity in these regions?

Olav Sorenson: "Yes, because the tech jobs created tend to be high paying, while jobs in local services are generally at the bottom of the income distribution curve. Jobs in other tradeable sectors tend to pay better than local services. But those jobs are lost and so there is this hollowing out in the middle.

"Meanwhile, even within the local service sector there is variation in how much jobs pay. Fast-food restaurants, for example, will pay very little, while a financial planner will be paid well. What we observed was an increasing disparity in what those service jobs pay. Income increases at the top end, presumably because there are now a lot of high earners in the region, which increases demand, while at the bottom end of the distribution curve, wages stay flat or even decline."

Brian Buenneke: "I certainly think there is some evidence of that hollowing out in San Francisco and potentially also in Boston. Those markets are geographically constrained and so have more challenges than somewhere like Austin or Miami when it comes to factors such as the affordability of housing."

Malcolm Ferguson: "There has been a significant inflow of capital into the VC ecosystem over the past three or four years and so more money has been chasing a similar number of companies. When they raise money, those companies spend it on marketing and increasing their head counts. Given that there is a finite pool of talent, that has resulted in massive wage inflation for highly skilled tech professionals, which has increased inequality.

"I wonder, however, whether that dynamic will revert now there is less money in the ecosystem. Later-stage technology companies are already pausing their hiring and, in some cases, reducing their head counts as they navigate the more challenging fund raising market. If talent then becomes more available, the pressure on staff costs may soften."

But why should it matter to VC firms if their activities are increasing inequality in the areas in which they operate?

Olav Sorenson: "The fact that carried interest is treated as capital gains is an implicit subsidy for all VC managers. Some of the justification for this is that VC creates jobs. But there are also increasing concerns over inequality, and if one of its sources is the concentration of wealth in certain locations, that could create political pressure to end those subsidies and to increase regulation of the industry as well.

"At the same time, LPs are increasingly focused on the social impact of their investments to the extent that they are not just looking for a financial return. They want to know that their money is doing good as well. Those investors may start to ask more questions about how the economic growth created is being distributed."

However, the *Diffusion of disruptive technologies* paper appears to support the idea that technology-based entrepreneurship created within hubs ultimately benefits the broader country through dispersed job creation, albeit over a long time frame.

Olav Sorenson: "That is true. But looking at the nature of the diffusion, it is evident that the jobs being created further away from where the tech originated tend to be lower paying and lower skilled. A new cellphone will be designed in a tech hub, for example. That will create a huge amount of value. Then eventually, every Verizon store across the US will have someone who can set up and fix those phones. Those jobs will pay much less than the original design and manufacture, so you also see a rise in inequality across regions due to these tech innovations."

Josh Lerner: "That is absolutely right. We find that hiring is originally extremely concentrated in the initial hubs where the technology emerges – which are primarily in California and the north-eastern US – and then gradually disperses. But it takes a very long time. For jobs to spread evenly across the country, reflecting the broader population, it takes around 50 years. The jobs associated with these technologies also start out as highly skilled and highly paid research positions, gradually moving towards positions using the technology rather than developing it. Those jobs tend to be lower paying, while the higher-paying jobs stay largely in the original hubs.

"In that sense, there is some truth in what tech sceptics such as JD Vance are saying. There is job creation across the country from new technologies, but the highly skilled and high-paying jobs remain in a small number of concentrated locations."

Brian Buenneke: "We have certainly seen this phenomenon among large-cap tech companies, although it typically does not occur during the time horizon of a venture investor. Companies like Google, Oracle or Salesforce tend to disperse their workforces over time, opening up new offices and taking advantage of lower-cost locations."

But jobs are jobs. Surely, these hubs are creating a net benefit if they are boosting employment on a national level, even if it does take decades to happen?

Josh Lerner: "It is not just about creating jobs; it is about creating quality jobs. One has to wonder how sustainable it is to have these huge gaps in income and opportunity across the country. It is easy to see how that could be a recipe for social unrest. If, as an investor, you care about your country, this should be something you deem important.

"At the same time, we all know that Silicon Valley is a hugely expensive place to do business. Rents are high and people working there need to be compensated to meet these costs. Those costs are ultimately coming out of the pockets of companies and their investors. In that sense, this isn't only an environmental, social and governance issue, it is also about pure profit maximisation."

Brian Buenneke: "I would question whether that economic rationale is as strong as it once was. Yes, there are some incrementally lower costs to be found outside the biggest hubs when it comes to things like real estate. But in some ways, the ability to work remotely is levelling the playing field when it comes to the cost of hiring talent. The wage gap is shrinking."

"VC REVOLVES AROUND TECH HUBS. THEY PROVIDE A GRAVITATIONAL PULL, WHICH CREATES A CONCENTRATION OF ALL THE KEY INGREDIENTS THAT GO INTO BUILDING A COMPANY, FROM TALENT AND MENTORSHIP TO CAPITAL AND CUSTOMERS"

Malcolm Ferguson *Octopus Ventures*

The impact of virtual communication and remote working is an interesting point because the *From in-person to online* research appears to suggest that existing tech hubs might lose some of their sway, as venture capitalists have become more comfortable investing further afield. Might this alleviate some of the negative externalities that we have discussed?

Liudmila Alekseeva: "Yes, our research found that in the post-pandemic period, VC firms are investing further away than before Covid. We believe this is primarily because of the forced adoption of online investment using communications tools during the Covid restrictions. This period showed that in-person interactions are not always necessary, and online meetings can reduce the time and money spent on travel."

Josh Lerner: "It's a fascinating area of study. Our research period ended just when things got interesting in 2020 in terms of changes in the way we work. Certainly, there is a lot less pressure on entrepreneurs to move to somewhere like Silicon Valley today. There is more willingness from investors to fund people where they are. Places like Austin, Miami and Park City, Utah, are all benefiting from this. But the question remains if we will see a reversion to the norm after a few years or whether there will be a more permanent rethinking over distance.

"It will also be interesting to see if there will be differences by sector. Software might lend itself to distance, but in life sciences or hard-core technology, such as advanced materials or energy, working virtually becomes more challenging and proximity to physical facilities more important."

Olav Sorenson: "This research was particularly interesting to me because I wrote one of the very first papers on the geography of VC some 20 years ago. This paper discusses the cost of investment at a distance as largely being one associated with transportation. But I believe, and the paper I wrote back in 2001 asserted, that what keeps investment local is more about personal networks. That remains the case today, even as we move increasingly online. It may become easier to interact with founders, but ultimately, being able to ask a trusted contact what they think about those founders will be constrained with distance, not the cost of travelling there."

Liudmila Alekseeva: "Networking is extremely important in helping investors to collect information about start-ups, which they rely on when making their investment decisions, and I agree that being located in hubs has historically been viewed as the most effective way to exchange that information. We are not saying that hubs are going to die, but the concentration of activity no longer needs to be as great. Instead of just a handful of mega-hubs, we might start seeing a larger number of smaller locations with significant levels of innovation and VC investment.

"We also noted that VC investors appear to be compensating for the lack of in-person communication with remote companies by collaborating with other venture capitalists who may be more knowledgeable or have better access to a specific company in a more distant location. In this sense, the importance of networking is not decreasing, but the way that VC firms and entrepreneurs network is changing."

What about the practitioner view? How has the pandemic changed the way VC firms invest?

Malcolm Ferguson: "Pre-2020, we had never invested in a company where we hadn't met the founders in person. We were forced to change that during lockdown. Now we have landed somewhere in the middle. We almost always meet the company before investing, but a significant proportion of interactions now happen online.

"I would add, however, that it isn't only about investment decision-making. A venture capitalist also has to consider how they are going to manage the 10-year post-investment period as a supportive partner. For example, a London-based VC firm investing in a San Francisco-based company will have only one or two hours of overlap in the working day. Time zones are always important.

"Even remote-first companies understand that getting together physically is important, and so proximity continues to make sense. Yet the reach of what is acceptable has become broader as a result of more virtual interaction. Historically, if we had invested in a company in the North of England or continental Europe, for example, a board meeting could have taken up a whole day, including travel. Now, half our board meetings may be conducted virtually, which halves the time overhead."

Brian Buenneke: "I certainly think that the aperture has widened. We are seeing top-flight entrepreneurs who may historically have chosen to stay in the San Francisco Bay Area move to Salt Lake City or Miami, for example. There is also a widening of the aperture when it comes to where VC firms are prepared to invest. But VC investing is still a hands-on, labour-intensive investment strategy in the early stages, and so you need frequent in-person interaction. Obviously, that is far easier if you are local, and so I believe hubs will retain their importance, given their benefits in terms of connectivity, networking, and the ability to interact with peers."

If you accept the premise that while hubs remain important, it would be economically and societally beneficial to have more of them, more widely distributed, what proactive steps could make that happen?

Josh Lerner: "Intuitively, we know it is a difficult thing to do. There is such a pronounced virtuous circle in technology hubs. In fact, there is a fascinating study by Berkeley professor Enrico Moretti. He found that inventors who move to Silicon Valley become more prolific. Presumably, that is because they are surrounded by a bunch of creative people, as well as a ready source of capital. So how do you create that magic elsewhere? I certainly think there is a role for the public sector. I am a big believer in efforts to provide matching funds to private investors. Investment in local universities and steps to encourage angel groups would also seem to be promising steps."

Malcolm Ferguson: "Talent is the key ingredient for creating a hub. If you want to spread hubs more evenly, you would have to devise incentives that would act as a magnet for that talent. An interesting example is Switzerland and the crypto industry. Switzerland took a proactive stance to make its regulatory environment encouraging to talent and to businesses in that sphere. That has then become a virtuous circle, with talent attracting more talent."

Brian Buenneke: "The biggest challenge we have seen is in creating critical mass within the ecosystem. It can generally be done only with the support and infrastructure of a large university, as we have seen in Austin, New York and LA. There is no quick fix. The stickiness associated with hubs is tied to the academic communities and their robust connection with the investment world."

THE RESEARCH

The *Silicon Valley Syndrome*, by Doris Kwon (Yale University) and Olav Sorenson (University of California), explores how the evolution of tech hubs, which has led to clusters of technology giants and pockets of wealth, has influenced local economies. Using a rise of VC funding in 359 metropolitan statistical areas between 2003 and 2012 relative to the years 1998 to 2002 as a proxy, the authors analyse the increase in funding's relationship to the number of establishments, employment and average income in various industries in each region for the five years following the funding.

The research finds that the expansion of the high-tech sector has created a new version of the "Dutch Disease" – where the tech sector crowds out other tradeable industries just as natural resource exporting tended to crowd out other exporting industries in the past. Growth in the tech sector in a particular regional area coincides with a decline in other, non-tech tradeable industries, as well as an increase in employment in the local service sectors, such as restaurants, retail, education and health. However, the research also finds that less-skilled and less-specialised employees in lower-wage industries, such as bartenders and shop workers, earn less following infusions of VC, while employees in higher-wage businesses earn more.

Overall, the authors find that income inequality increases as local economies become tech-centric through increased VC funding. This outcome arises not solely from impacts on income levels, but also because most of the jobs created appear on both ends of the distribution curve – either in low-paying local services or high-paying fields like accountancy, medicine and law. The authors conclude, therefore, that tech hubs have created a hollowing out of the middle-income bracket, helping to exacerbate income inequality through this proliferation of both lowered income for low-wage service economy jobs and higher-wage professional services jobs.

The diffusion of disruptive technologies, by Nicholas Bloom (Stanford University), Tarek Alexander Hassan and Aakash Kalyani (both Boston University), Josh H Lerner (Harvard Business School) and Ahmed Tahoun (London Business School), also explores the impact of the tech sector on the broader economy. The authors, however, examine a different question – they explore the extent to which the development of novel technologies affects employment across regions.

Using textual analysis of patents, job postings and earnings calls, the research first finds that the locations where disruptive technologies are born are highly concentrated in a small number of "super-clusters". The research then finds that, as the technology matures and employment relating to it grows, the geographical dispersion of jobs related to it increases. However, while initial hiring is focused on skilled employees, the average skill level needed for jobs associated with the new technologies declines over time, with average earnings associated with job postings falling by 15% in the first decade.

The pioneering tech hub yields long-lasting benefits from the development of disruptive technology. It takes more than 40 years for the related high-skilled jobs to fully disperse from their original locations, versus 20 years for low-skilled jobs.

The final piece of research, *From in-person to online: the new shape of the VC industry*, by Liudmila Alekseeva (IESE Business School), Silvia Dalla Fontana (USI Lugani and Swiss Finance Institute), Caroline Genc (Université Paris Dauphine-PSL) and Hedieh Rashidi Ranjbar (University of Michigan), take an additional approach. The authors question whether tech hubs remain valid in a world dominated by online communication post-pandemic.

The research finds that the distance between VC firms and the location of first-round portfolio companies increased by 43% during the pandemic, and that venture capitalists were 15% less likely to invest in their home state, leading to a higher rate of out-of-state investments made. They were therefore less likely to invest in companies located in hubs than before the pandemic.

To mitigate the risk associated with investing further afield, VC firms were 13% more likely to invest in syndicated deals as a means to increase information symmetry between themselves and the company. Further, the age of portfolio companies increased with distance, suggesting that VCs prefer relatively less-risky companies when investing over greater distances. The research also shows early evidence that increased distance does not appear to affect performance, although the authors stress that these results should be interpreted with caution because of the short observation period.

"WE WERE SURPRISED TO FIND THAT THE PERCENTAGE OF CEO REPLACEMENT AND THE PERCENTAGE OF OUTSIDE APPOINTMENTS WAS SO HIGH. THE STUDY REALLY DOES CONFIRM PE'S MANTRA OF MANAGEMENT, MANAGEMENT, MANAGEMENT"

Paul A Gompers *Harvard Business School*

BUT WHAT ABOUT *THE WORKERS?*

Private equity has historically focused its attention on bringing in and incentivising the best management teams, as a recent academic study details. Yet another piece of research suggests that firms may be less concerned about the wider workforce in the companies they back. Can they afford to do this at a time of labour shortages? By Vicky Meek

For decades, the private equity industry has pursued the Holy Grail of finding the best management teams for its portfolio companies, on the basis that these individuals drive significant value. And it's this philosophy – and the fact that an earlier study on public companies showed that they tended to recruit internally – that led three academics to study where PE firms were looking for their CEOs. In *The Market for CEOs: Evidence From Private Equity*, Paul A Gompers, Steven Kaplan and Vladimir Mukharlyamov studied CEO appointments in larger US buyouts between 2010 and 2016. They found that PE firms go to great lengths to find the CEOs that they think will best fit their portfolio companies, in contrast to what happens at public companies, as Gompers explains. "This paper follows on from a previous study that found 72% of the S&P 500 CEO appointments were internal promotions, and that of those that weren't, 90% were already known to board members," he says. "We thought it was hard to reconcile with the idea that they were finding the best talent. That's why we looked at PE – it is known for being good at improving company operations and generating strong returns for limited partners.

"We wanted to see if the labour market for PE CEOs was the same as for public companies. And it was dramatically different: in the sample, 70% of CEOs were replaced at the time of the deal. This suggests that finding the right talent for the top is an important value creation lever in PE."

The research also suggests that this situation benefits the CEOs themselves, with their average compensation higher than for those in similarly sized public companies.

Overall, the study suggests that management is one of PE's top priorities in deals. "The results were directionally what we expected," says Gompers. "But we were surprised to find that the percentage of CEO replacement and the percentage of outside appointments was so high. The study really does confirm PE's mantra of management, management, management."

THE BROADER PICTURE

So far, so good. Yet for an industry with such a laser-sharp focus on value creation, some are questioning whether PE is missing a trick. "PE has traditionally been far too focused on the C-suite," says Matt Brubaker, CEO of human capital advisory firm FMG Leading. "Yet there are often groups of people who create a disproportionate amount of value – perhaps 10 to 20 times more than others, and yet this isn't always recognised."

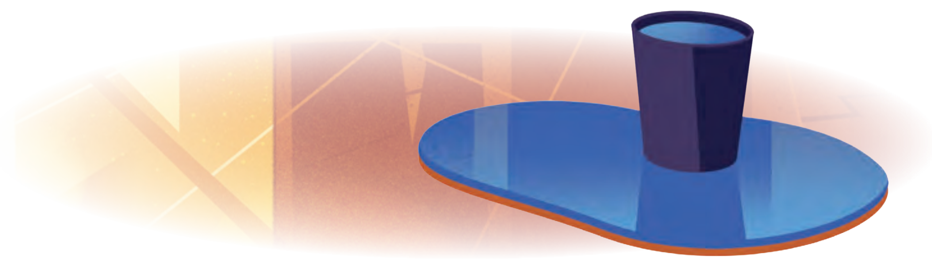
> "EMPLOYEES SEE INCREASED LEVERAGE AS A RISK TRANSFER TO THEM – THERE IS A GREATER PASS-THROUGH OF RETURNS TO EMPLOYEES, SO THAT IF THE COMPANY DOES WORSE, SO DO THE EMPLOYEES"
>
> **Will Gornall** *The University of British Columbia, Sauder School of Business*

He offers the example of a multisite ambulatory healthcare provider. "You might have a site manager who has the ability to personally affect the most crucial performance metrics, such as clinical outcomes, employee engagement, and provider satisfaction," he says. "These are the fulcrum roles that drive disproportionate value."

Indeed, a recent piece of research suggests that PE firms could be doing a better job with the broader employee base in the businesses they back. And this is a particular concern at a time when the labour market is tight and finding workers is both expensive and time-consuming. In their paper, *Do Employees Cheer for Private Equity? The Heterogenous Effects of Buyouts on Job Quality*, Will Gornall, Oleg Gredil, Sabrina Howell, Xing Liu, and Jason Sockin examine employees' satisfaction levels with compensation, culture, senior management and work-life balance following a buyout (see Research box for methodology and detailed findings).

"The broad trend of PE becoming more important in the economy – and in some ways supplanting public equity – makes this an important area of study, given how many employees are now in portfolio companies," explains Gornall. "Many people want to know whether PE is just better at managing companies, or are firms extracting value from others, such as employees?"

The researchers found some interesting – and quite nuanced – results. Employees felt that company culture had been negatively affected by the buyouts and their perceptions of compensation also worsened, but not perhaps for the reasons that might have been expected. "The principal reasons we found for an increase in dissatisfaction were around cost-cutting and pursuing greater efficiencies, rather than, for example, lay-offs," explains Gornall. "What we didn't find was a decrease in overall compensation, which broadly remained the same."



The explanation for this, adds Gornall, is down to employees' perception of higher risk and lower stability within their organisation, for which they expect to receive higher compensation. "Dissatisfaction levels were correlated with the amount of leverage in a deal, both at the time of the buyout and after refinancings, for example, for dividend recapitalisations," he says. "Overall, this suggests that employees see increased leverage as a risk transferred to them – there is a greater pass-through of returns to employees, so that if the company does worse, so do the employees, because there is a need to cut more deeply and/or more quickly than in public companies."

It also found that incentive-based compensation increased following a buyout, with managers in particular receiving more performance-related pay (although these employees were also more likely to be dissatisfied with work-life balance, according to the study). Perhaps unsurprisingly, employees receiving incentive-based compensation in strongly performing companies were happier than in other PE-backed companies. As Gornall says: "The reverse is true, however, since options or performance-related pay – sharper incentives – also pass through to employees. So if the business does well, the employees benefit."

THE CASE FOR SHARE OWNERSHIP?

This last finding may add some weight to the rise of share ownership schemes for employees across the board in PE-backed portfolio companies. Ardian, for example, has had such a scheme in place for well over a decade, while KKR executive Pete Stavros last year launched a non-profit organisation, Ownership Works, to promote share ownership schemes to companies and their investors. The aim is to create at least US$20bn of wealth for working families by 2030 by making them employee-owners in a move that, the World Economic Forum claims, can "reshape company cultures, boost engagement and drive down absenteeism". Stavros says that broad-based ownership can "build a sense of shared mission".

While not a member of Ownership Works, it's a view that Steve Lebowitz and his fellow founders of deal-by-deal PE firm Brand Velocity Group (BVG) share – up to a point. The firm has launched a scheme called Share the Gains, which has been the subject of a Yale University case study. Lebowitz explains: "Our Share the Gains initiative was born out of the question: senior management receive equity incentives for their efforts in PE deals, but what about everyone else at the company? We decided we wanted to find a way of sharing the wealth with all those who helped to create it."

The firm now commits to employees receiving a share of 10% of the carry the GPs achieve on each deal at exit. "We think this is a meaningful amount and because it comes from carry, it doesn't affect our investors' returns," he says.

BVG has also gone a step further. "In our most recent deal, we asked LPs in our subscription documents whether they wanted to participate, too," says Lebowitz. "More than 20% are participating in some way."

INCOMPLETE ANSWER

Yet even Lebowitz, who is enthusiastic about this approach, is clear that share ownership schemes are far from the whole answer to employee satisfaction – and therefore retention. "Part of the issue is that, broadly speaking, PE subscribes to a scientific management approach – that people are economic machines that respond to economic incentives," he says. "But that doesn't take account of what actually makes people tick, so it's an incomplete response. That's why share ownership is a good first step towards recognising and valuing the people who are helping to generate returns, but it's not the whole solution."

The fact that the research found evidence of a negative impact on culture following a buyout suggests that PE owners might do well to look at the whole picture. "We need to take a holistic view if we want people to feel they belong at a company," Lebowitz says. "That's something that most founders get because they understand how important people and the culture are. Employees want to know that you have their backs. That's in an economic sense, but it's also about whether you are prepared to invest in them, coach them and train them. Employee initiatives need to be sincere, as opposed to providing perks as a bit of window dressing, so they need to align with what makes people tick as human beings."

There is clear room for improvement here. The academics found that dissatisfaction among employees was in large part driven by people who had been at the company longest and by lower-skilled workers. While it may not have mattered to the bottom line too much in the past if these employees left, in today's market, this makes far less economic sense.

"PE HAS TRADITIONALLY BEEN FAR TOO FOCUSED ON THE C-SUITE. YET THERE ARE OFTEN GROUPS OF PEOPLE WHO CREATE A DISPROPORTIONATE AMOUNT OF VALUE – PERHAPS 10 TO 20 TIMES MORE THAN OTHERS, AND YET THIS ISN'T ALWAYS RECOGNISED"

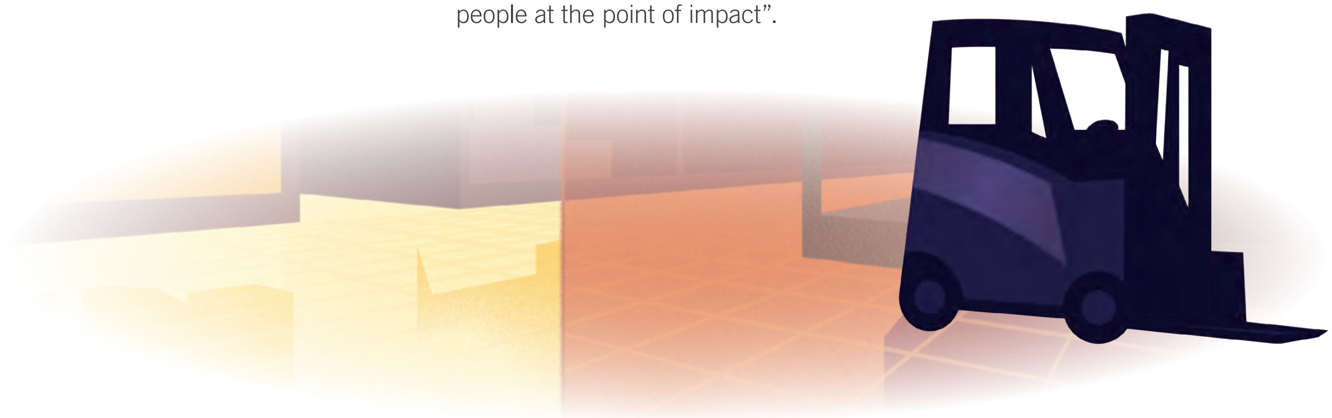
Dr. Matt Brubaker *FMG Leading*

A study by Deloitte found that there may be a shortage of two million US manufacturing workers by 2030. And while automation may partly fill this gap, companies will still need people. Training lower-skilled workers has the potential to create value as well as a sense of loyalty, and if companies can retain long-haulers, they are less likely to lose important institutional knowledge.

DO VALUED WORKERS CREATE VALUE?

Gary Hoover, vice president of the global PE practice at consulting group TBM, knows this only too well. He advises PE firms on operational due diligence, leadership and excellence in manufacturing businesses, many of which tend to be employers of lower-skilled and longer-tenure workers. He says that the firm's work "touches people at the point of impact".

"If you empower people, train them to solve problems as they occur, and give them some decision-making authority and autonomy, you'll see results in employee engagement and productivity," says Hoover. "While share ownership is a great tool, it's not the whole answer – it's transactional and doesn't necessarily connect employees to what you are trying to do. They may feel that there's this investment thesis someone has come up with, but how are they connected to that? And are their interests aligned with those of investors?"



Instead, he advocates a root-and-branch approach to understanding employees and their daily experience of working in a business – only then can improvements be made. He explains: "To me, the first question should always be: what's the engagement level with employees? That takes in all sorts of areas, such as the shop-floor environment, whether it is safe, whether people can be successful every day, whether working conditions are reasonable, whether they have the resources to perform well, whether they are listened to – and I don't mean a mysterious suggestions box in the corner of the room that gets opened once a month. We are referring to real and lasting change through meaningful engagement."

Further, he adds that this approach is essential in an industry that focuses these days on operational improvements. "If you are truly seeking to make operational capability a competitive advantage, you have no choice but to engage with the workforce," says Hoover. "PE firms really should care, because they need their employees to work with them for growth."

CULTURAL SHIFT

And there is evidence that PE is starting to take more notice following Covid-19 disruption and as worker shortages bite. "A growing segment of investors are becoming more sophisticated over their human capital strategies," says FMG Leading's Brubaker. "The pandemic definitely accelerated this trend. PE sponsors recognised that their portfolio companies needed to keep employees happy during Covid because they would need the staff to be there once the lights went back on. By definition they have a flexibility to do things that public companies couldn't do – and they were more able to keep their staff."

He adds: "The Great Resignation is reinforcing the idea that if you keep employees happy, you can stay two steps ahead of the competition."

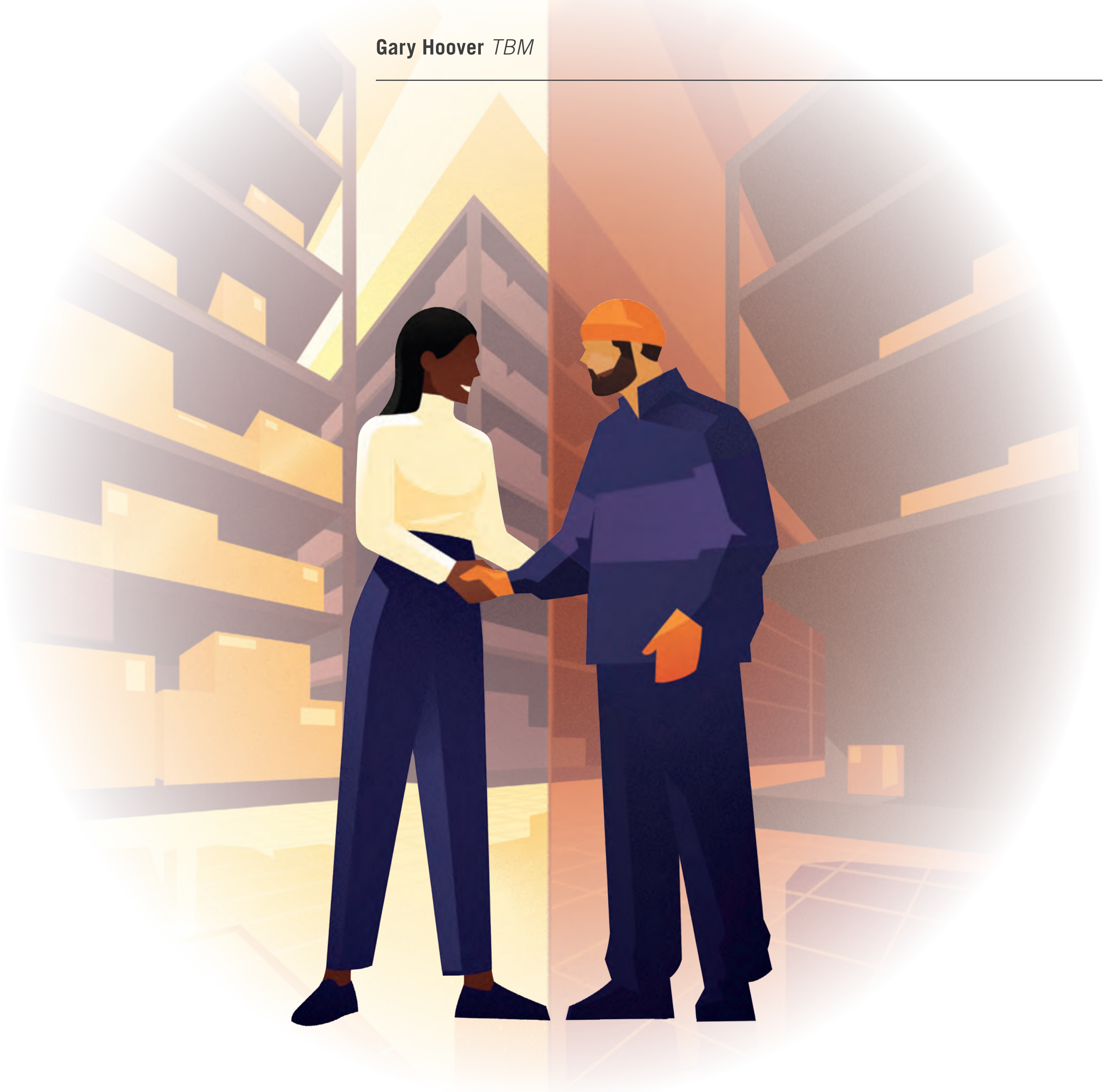
Given the need today for PE to focus more on retaining people and for a greater appreciation of the value the broader workforce can create in a business, perhaps if the Gornal et al study were to be repeated in a few years' time, the results could be very different. It's a change Lebowitz would be keen to see happen. "Currently, when PE comes into a business, there can be a lot of concern among employees over what the new ownership will mean for them, whether benefits will be cut and whether leverage will increase," he says. "It would be great if PE was not associated with ruthless efficiency, but instead regarded as a means to support the growth of the company – and by extension, its people."

"IT WOULD BE GREAT IF PE WAS NOT ASSOCIATED WITH RUTHLESS EFFICIENCY, BUT INSTEAD REGARDED AS A MEANS TO SUPPORT THE GROWTH OF THE COMPANY – AND BY EXTENSION, ITS PEOPLE"

Steve Lebowitz *Brand Velocity Group*

"IF YOU ARE TRULY SEEKING TO MAKE OPERATIONAL CAPABILITY A COMPETITIVE ADVANTAGE, YOU HAVE NO CHOICE BUT TO ENGAGE WITH THE WORKFORCE. PE FIRMS REALLY SHOULD CARE, BECAUSE THEY NEED THEIR EMPLOYEES TO WORK WITH THEM FOR GROWTH"

Gary Hoover *TBM*



THE RESEARCH

The Market for CEOs: Evidence From Private Equity, by Paul A Gompers (Harvard Business School), Steven N Kaplan (The University of Chicago Booth School of Business) and Vladimir Mukharlyamov (Georgetown University, McDonough School of Business), focuses on the extent to which PE firms replace CEOs and where they source them from.

The authors find that in US PE deals valued at more than $1bn between 2010 and 2016, the CEO was replaced in 71% of cases, and among these, 75% came from outside the portfolio company. Of the external appointments, 67% were from public companies (including 32% from the S&P 500) and most had experience of an industry relevant to the portfolio company. The authors then estimate the compensation of the CEOs using deal-level performance and other evidence on equity incentives and compensation. They find that the average buyout earns 2.5x equity investment and that, with an average realised pay of US$9.4m to US$17.3m per year, private equity CEOs earn more than CEOs in similarly sized public companies and a similar but somewhat lower amount as S&P 500 CEOs on average.

Taking a wider perspective, *Do Employees Cheer for Private Equity? The Heterogenous Effects of Buyouts on Job Quality*, by Will Gornall and Xing Liu (both The University of British Columbia, Sauder School of Business), Oleg Gredil (Tulane University, AB Freeman School of Business), Sabrina T Howell (New York University, Leonard N Stern School of Business) and Jason Sockin (University of Pennsylvania), examines whether PE buyouts reduce perceived job quality among targets' employees.

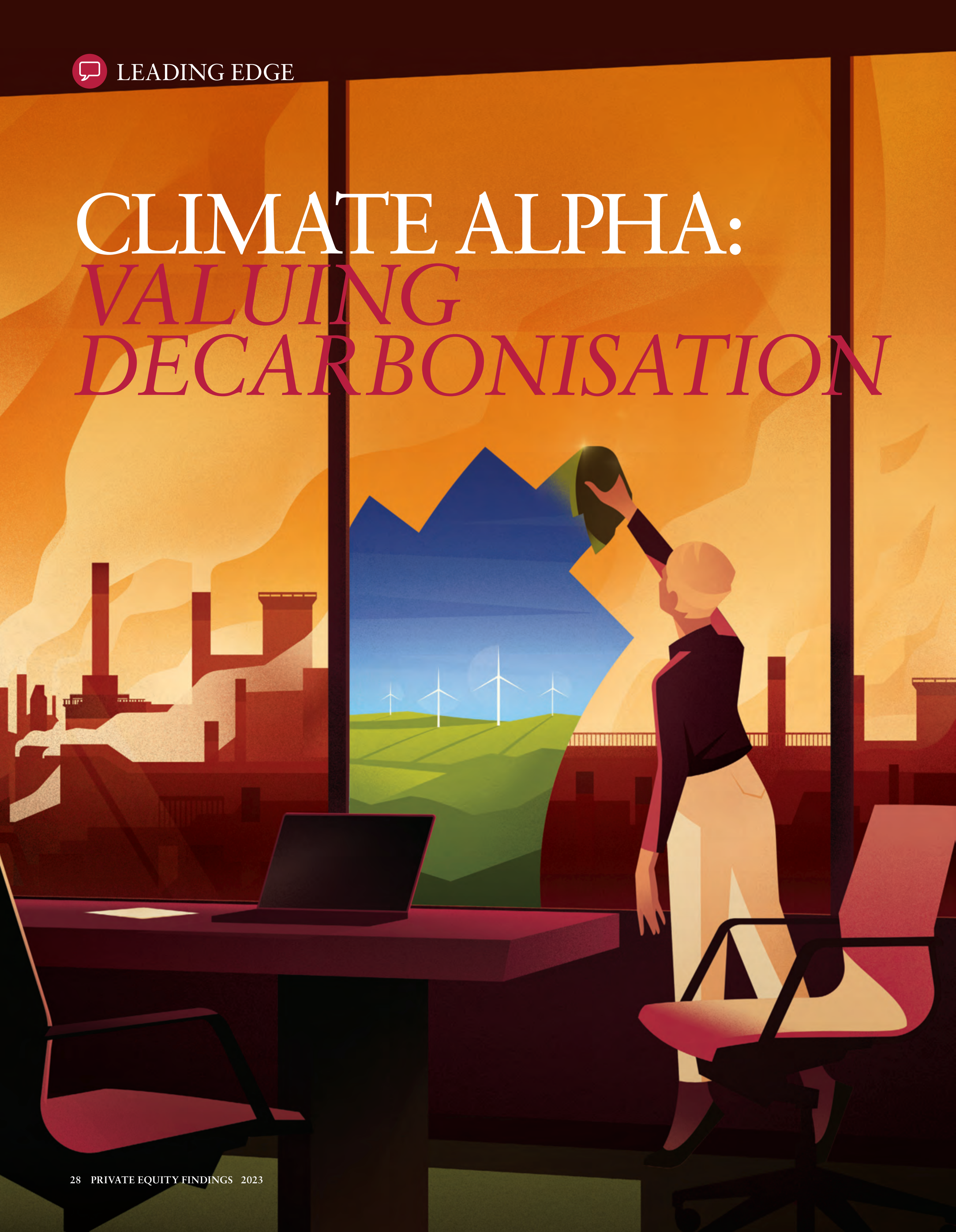
Analysing more than three million job reviews on Glassdoor from employees of 271,000 companies between 2008 and 2019 and matching these with PitchBook and Capital IQ data on PE deals, the researchers find that post-buyout, employee satisfaction with compensation declines by an "economically significant" 0.083 points on a one-to-five scale (despite no evidence of a fall in average pay), with a larger negative effect on company culture and a slightly smaller negative effect on satisfaction with work-life balance and senior management. They find the use of terms such as "cost-cutting" and "uncertainty" increase in these deals. The effects are compared with control data from companies that are not backed by PE.

The academics also find a strong relationship between the amount of leverage in a deal and job satisfaction levels, yet that immediate post-deal lay-offs have a far less negative effect. This relationship holds not just for leverage secured at the time of the deal, but also in cases where debt increases following a PE owner's dividend recapitalisation.

Using StepStone data on deal-level returns, the paper also explores the degree to which company success is passed on to employees. It finds that the best-performing PE deals are associated with happier employees and that a 1% higher IRR on the deal maps to 0.7% more incentive pay. They suggest, therefore, that risk is transferred to employees post-buyout and that staff are "dramatically more exposed" to a company's fortunes.

Finally, the researchers conclude that employees view the loss of stability as a real cost and therefore expect greater compensation, and that those with a longer tenure at the company (those with the most to lose) and/or those working in industries where unemployment is high are the drivers of lower satisfaction ratings post-buyout.

CLIMATE ALPHA: *VALUING DECARBONISATION*



Putting a number on how much value an investment in decarbonisation will create is extremely challenging, especially given the uncertainty over the timing and nature of policy changes and technological developments. We explore a new methodology put forward by a group of academics, researchers and policymakers to tackle the problem.

ALEXANDER GOLUB

Alexander Golub is adjunct professor in the Department of Environmental Science at American University. He has 25 years of experience in environmental and natural resource economics, including 20 years in energy and climate change with particular focus on climate economics and environmental finance. He has worked in academia, non-governmental organisations and in investment banking.

As the world attempts to shift to net-zero carbon emissions, determining the return on investment (ROI) in technologies, processes and companies that aid the transition, versus committing capital to more traditional areas, remains difficult. Many traditional methodologies fail to capture the inherent uncertainties of changing regulations and incentives, and the prospect for scientific and technological breakthroughs, for example.

And it's a subject of increasing relevance to private equity firms and their investors, given many limited partners' net-zero pledges and general partners' growing focus on environmental, social and governance (ESG) issues, and their attempts to find new value-creation opportunities by investing in decarbonisation strategies.

Yet a new paper, *Climate alpha and the global capital market*, by Alexander Golub, Jon Anda, Anil Markandya, Michael Brody, Aldin Celovic and Angele Kedaitiene (see Research box for details), outlines a novel approach that encompasses the issues linking climate change, climate policy and the economy in ROI calculations. We spoke to one of the authors, American University adjunct professor Alexander Golub, to discuss the authors' ideas, how the model works and how the PE industry could use it.

Why did you decide to explore this area?

"It's an area I've been looking at for a long time. A decade ago, when I was working for an investment bank with co-author of the paper Jon Anda, we attempted to bring the concept forward, but it didn't gain any traction at that point. However, now is a good time for us to release the paper for a number of reasons: it is now clear that we need around US$5trn of investment annually to meet net-zero targets, and the whole economy is rapidly shifting away from its dependency on fossil fuels; we have proven technologies to help us get there that are competitive against traditional energy generation technology and that also help to address the growing issue of energy security; and there is an increased focus on ESG issues among investors and companies.

"However, we are also seeing a backlash in some quarters against ESG – and that's often directed at, or because of, the tools used. Yet these weren't developed to capture climate policy changes and future damage from climate change on ROI. At the same time, if we are to shift capital towards decarbonisation, investors need tools that will help them to understand their ROI, because they have to make the financial case for doing so. Existing tools and methodologies are inadequate in this regard."

Why do you believe current methodologies are inadequate?

"Current methodologies largely rely on historical information. As a result, they typically suggest that carbon-intensive investment opportunities will offer higher returns than carbon-reducing investments. That's because there's a much longer history of carbon-intensive investments than decarbonising investments. Historical data used to analyse decarbonisation opportunities also fails to account for possible future structural changes associated with the transition to a more carbon-neutral global economy that could lead to higher returns for decarbonising investments – even though some of these structural changes are already under way.

"We need to understand the impact of investments, and their returns, over longer horizons than, say, five years. That is why we developed a methodology that is forward-looking and not heavily reliant on historical data.

"The difficulty in creating forward-looking models is that the transition to a less carbon-intensive economy will likely not be smooth. For instance, policy changes can create shocks that cause significant uncertainty among investors and companies.

"That's why it's important to have a framework that can incorporate the impact of policy shocks and other future possibilities. Not only can models like this help companies and investors understand how to respond to possible policy shocks, but they also help to show the extent to which investing earlier than peers might offer competitive advantages in the wake of these shocks taking place.

"Our model enables investors to understand this. Essentially, we frame decision-making around decarbonisation investment as real options, and each option is assigned a value – just like with stocks and stock options. This enables us to calculate a dollar value for different climate-related decisions, which then allows investors to make apples-to-apples comparisons between, let's say, carbon-intensive and less carbon-intensive investments. We call this model climate alpha."

So what do you mean by climate alpha and how is it different from other methodologies?

"We see climate alpha as hidden value in companies that are well positioned to benefit from emerging climate policy – it's the future abnormal return on capital invested in real assets. Traditional alpha tends to be based on an abnormal return on equity that is calculated by exploiting historical data and assuming a relatively short holding period; climate alpha is about understanding the future.

"Our model makes sense, because the zero-carbon transition may take many different pathways. This means that any model needs to be able to take this uncertainty into account. To do this, our model incorporates all the varying pathways that the transition could take and generates probabilities for outcomes. Then, when we layer on real options analysis, we're able to translate all these possibilities into a single number. The power of this approach is that it's based on the shape of the probability distribution – that is, all the possible outcomes and their likelihoods – rather than just giving a simple mean or median number."

How could this be applied in a PE context?

"Overall, it can help to answer several questions. What is the stranded asset risk of this investment? How much of a competitive advantage could this company have if, or rather when, policies shift? And, importantly, how can value be best placed on this company in the context of a decarbonising world?

"For existing investments, PE firms could use the tool to calculate the carbon and the climate alpha that may be embedded in their portfolios. That is useful, particularly when making capital expenditure decisions in portfolio companies, but it could also help to demonstrate the future value of a business to buyers when it comes to exit. It can be used during due diligence to determine the value of an investment and to assist with building a case for value-creation plans during, and possibly beyond, ownership.

"Yet we don't advocate using this methodology in isolation. We would expect investors and business decision-makers to use this among a range of more traditional tools. It's an addition that helps investors to see a way forward with a higher degree of accuracy in what is an incredibly complex and uncertain field."

What future developments do you expect in this field?

"We need new analytical instruments to help investors and companies make their allocation decisions. We also need to remain open-minded about the information that is currently available and what will become available. A tool may emerge that is more powerful than climate alpha at some point – and that can only be a good thing."

"CLIMATE ALPHA CAN HELP TO ANSWER SEVERAL QUESTIONS. WHAT IS THE STRANDED ASSET RISK OF THIS INVESTMENT? HOW MUCH OF A COMPETITIVE ADVANTAGE COULD THIS COMPANY HAVE IF, OR RATHER WHEN, POLICIES SHIFT? AND, IMPORTANTLY, HOW CAN VALUE BE BEST PLACED ON THIS COMPANY IN THE CONTEXT OF A DECARBONISING WORLD?"

THE RESEARCH

Climate alpha and the global capital market, by Alexander Golub (American University), Jon Anda (Climate Equity Research), Anil Markandya (Basque Centre for Climate Change), Michael Brody (George Mason University), Aldin Celovic (SA Consulting GmbH) and Angele Kedaitiene (Lithuanian Environment Agency), outlines a new valuation methodology to help investors calculate the risk-reward profile of investments in decarbonisation.

In contrast to financial valuation tools that rely on historical data, the climate alpha model developed by the authors is a forward-looking valuation methodology that uses a mark-to-model approach and real options analysis to value decarbonisation and climate-friendly assets. The novel model translates climate value into terms that are understood and usable by the investment community. It considers the fact that the transition to a net-zero emissions economy and its associated economic and financial market impacts will be neither linear nor deterministic. The gap between current emissions and what is necessary to meet net-zero targets will create policy shocks that lead to a surge in demand for investment in decarbonisation, but the timing, nature and extent of new policies is uncertain. This calls, say the authors, for a probabilistic approach that provides a distribution of possible future returns on investment in green assets made now.

The model computes the probability distribution of valuations estimated by discounted cash flow models (DCFs) that use a range of inputs, such as carbon prices, the cost of capital for the company, shifts in market share and prices of other goods and services affected by the carbon price. It integrates climate, computer general equilibrium modelling, bottom-up price-earnings and DCF models to create a valuation framework that is "superior to any existing [climate value] modelling approaches", say the authors.

RELATIONSHIPS *OR REPUTATION?*

Securing optimal financing is clearly an important determinant of private equity returns. But how much of this has to do with relationships between sponsors and lenders, and how much with their reputation? We examine the findings of a recent research paper that explores these issues and ask a seasoned adviser how debt providers are assessing deals in today's more constrained market. By Marc Mullen

SOPHIE SHIVE
Sophie Shive is associate professor of finance at the University of Notre Dame in Indiana, where she has taught courses in introductory finance, investment theory and PE. She has also taught capital markets and portfolio management at the University of Michigan.

The price and quantum of debt that a PE backer is able to obtain for a buyout, both at acquisition and when it comes to refinancing, are clearly critical to delivering the returns investors expect and, ultimately, shaping the PE firm's reputation. But what affects the terms that PE sponsors can achieve when refinancing deals? To what extent are relationships important? Or could the perception of skill – including how other deals in a firm's portfolio have performed – be the defining factor for lenders? This is what academics Sophie Shive and Margaret Forster test in their recent research paper, *Sponsor reputation and capital structure dynamics in leveraged buyouts*.

The two professors from the University of Notre Dame examine the refinancing terms of leveraged buyouts (LBOs) and find that, since nearly half of these new debt packages were secured on better terms for the borrower than the acquisition finance deal, they have the potential to boost a deal's returns by around 0.33% a year – a not insignificant amount.

They then look at the impact of any recent defaults within a PE backer's portfolio on those terms. "There has always been an underlying background risk for an LBO company to default on the terms of its debt in any time period," says Shive. "And it's logical that systemic economic shocks will increase overall default rates." The academics therefore control for "time-fixed effects" in their analysis to reduce the noise in their results associated with systemic shocks.

What they find is that PE firms with defaults elsewhere in their portfolio are less able to secure attractive refinancing terms for a business than those that have no defaults. "When we look at times when banks are tightening rates on average, we find that most of the effect is concentrated when times are good," says Shive. "It may simply be that there are far fewer financing data points when times are bad. However, at the very least, general partners with recent failures within their portfolios miss out on lucrative refinancing opportunities when times are good."

Shive and Forster's measure of recent failures is what they term SponsorFailure – the proportion of a sponsor's exited deals over the previous two years that resulted in a restructuring, bankruptcy or reorganisation. They find that a one-standard-deviation increase in SponsorFailure is associated with an 8.37-basis-point rise in the weighted average cost of a new debt deal – driven mainly by a 15-basis-point increase in the cost of term loans.

Over the whole sample period, the probability of undertaking new financing is not statistically different for sponsors with or without recent failures, although the latter are 16.7% less likely to undertake financing that involves issuing dividends.

"We found that while there is no evidence that sponsors with recent failures will be shut out by banks, the costs of their new debt will be higher than if they had not recently failed," explains Shive.

Overall, the study suggests that, while relationships may matter, a GP's broader recent performance affects the pricing of debt for an individual company, and it seems that a default in one part of a portfolio has ripple effects elsewhere. The authors note, therefore, that "a sponsor should take into account the effects of a potential default on the near-term financing opportunities of other companies in their portfolios".

THE RESEARCH

In *Sponsor reputation and capital structure dynamics in leveraged buyouts,* Sophie Shive and Margaret Forster (both University of Notre Dame) test whether financing activity during an LBO hold period adds incremental value to deals, and the extent to which performance in other parts of a GP's portfolio affects lending terms. They seek to determine whether relationships or the perception of skill are more important in securing attractive pricing.

Examining 489 US LBOs completed between 1988 and 2020, the research finds that almost half of the post-LBO financing deals present a clear loosening of lending terms relative to the previous debt package. Only 6.7% show a tightening of terms.

Their findings imply that refinancing during a hold period would increase returns by 0.33% annually, which, the researchers say, "may represent a non-negligible return for private equity fund investors". However, the study also finds a relationship between performance in the wider portfolios and the terms secured. A one-standard-deviation increase in the measure of recent sponsor failures (where a GP has had a bankruptcy, recapitalisation or restructuring in the previous two years) is associated with an 8.37-basis-point rise in total annual debt cost. This increase is primarily driven by term loans, where the rise is 15 basis points.

ROMAIN CATTET

Romain Cattet is a founding partner at specialist capital structure advisory firm Marlborough Partners, where he advises on various mandates for financial sponsors and their portfolio companies.

When it comes to negotiating terms, relationships and reputation – or the perception of skill – both play a big part in the outcome, says Romain Cattet, a founding partner of Marlborough Partners. This is particularly the case in today's market conditions, which are a moving feast. "In the current market, relationships are important," says Cattet. "For example, we work with a few newly setup funds and notice that longevity and the track record have a strong impact on lenders' appetite to engage in a financing process."

New funds, therefore, may struggle to gain traction with lenders, he says. "If the relationship is not core to banks or debt funds, they may simply refuse to look at the transaction. There's bias in terms of effort, dependent on whether a lender already has a relationship with a fund or not."

Yet Cattet says lenders do also look at the wider portfolio, as the research suggests. Here, reputation comes into play, with some lenders analysing a fund according to how well it is doing, whether the deals in the portfolio are good and how long the sponsor has been in the market, says Cattet.

And when it comes to the research findings around defaults, the reality is often more nuanced than the study might suggest. "There are many different types of default," says Cattet. "A lender's approach will really depend on the nature of the default and how it was dealt with. Every sponsor at some time will have a default, and lenders will analyse the circumstances around a default before lending."

But does this have an impact on pricing? "Lenders will take the default and its circumstances into account in pricing," says Cattet, "but really when it comes to pricing, they will look at what they are in competition with. What really matters to them is how transparent the sponsor was with the lender on the default, and whether they had a plan and treated the lender with respect – the relationship that way around is important."

Any lender will also consider the wider commercial relationship with a fund in a default situation. "It's a commercial decision," says Cattet. "Debt funds are paid to deploy capital, and it's just a risk-reward decision. If you can be happy with the terms of a negotiation to save a relationship and help the next mandate, a lot of lenders will do that."

They are also likely to continue supporting sponsors and their portfolio companies in difficult situations if the sponsor has a robust and long track record. "Sponsors with a good name and reputation, a lot of history and strong relationships will find that lenders will, within reason, take a commercial decision – they are not going to enforce or accelerate a situation," says Cattet.

The debt market is changing all the time, he says. In early 2023, it looked as though capital markets were coming back, in contrast to the difficult past six months of 2022. However, Cattet warns: "There's a desperate need for more liquidity, both for large and mid-cap financings. A market like that in the second half of 2022 is not sustainable for the PE industry."

"WHAT REALLY MATTERS TO LENDERS IS HOW TRANSPARENT THE SPONSOR WAS WITH THE LENDER ON A DEFAULT, AND WHETHER THEY HAD A PLAN AND TREATED THE LENDER WITH RESPECT"

Romain Cattet *Marlborough Partners*

PRIVATE EQUITY FINDINGS

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

CONTRIBUTIONS FROM:

American University
Harvard Business School
IESE Business School
The University of British Columbia, Sauder School of Business
The University of Chicago Booth School of Business
University of California
University of Notre Dame

www.collercapital.com
www.bellaprivatemarkets.com
www.bladonmore.com

Coller Capital

COLLER RESEARCH INSTITUTE

Park House, 116 Park Street, London, W1K 6AF, UK
+44 20 7631 8500

950 3rd Ave, New York, NY 10022, USA
+1 212 644 8500

Level 14, Two Exchange Square, 8 Connaught Place, Central, Hong Kong
+852 3619 1300

506, 5F, North Tower, Kerry Centre,
No.1 Guanghua Road, Chaoyang District, Beijing 100020
+86 10 5387 6235

Level 21, Seoul Finance Center, 136 Sejongdae-ro, Jung-gu, Seoul 04520
+82 2 3782 6890

www.collercapital.com
pefindings@collercapital.com

Coller Capital

COLLER RESEARCH INSTITUTE

FSC
www.fsc.org
MIX
Paper from responsible sources
FSC® C001785