

Private Equity: Where we have been and the road ahead

Mike Wright

Centre for Management Buyout Research
Imperial College Business School,
Exhibition Road
London SW7 2AZ, UK

Sarika Pruthi

School of Global Innovation & Leadership,
Lucas College & Graduate School of Business,
San Jose State University (SJSU),
Business Tower 950, One Washington Square,
San José, CA 95192-0066, USA
Email: Sarika.pruthi@sjsu.edu

Kevin Amess

Centre for Management Buyout Research
And
Nottingham University Business School
Jubilee Campus
Nottingham, NG8 1BB
Email: kevin.amess@nottingham.ac.uk

Yan Alperovych

emlyon business school,
Research Centre for Entrepreneurial Finance
23, Avenue Guy de Collongue, CS 40203
69134 Ecully cedex, Lyon, France
Email: alperovych@em-lyon.com

Authors are listed in reverse alphabetical order; all authors contributed equally

Abstract

We provide an overview of the systematic evidence relating to the impact of private equity backed buyouts over the last two decades. We focus on performance; employment and employee relations; innovation, investment and entrepreneurship; longevity and survival. We also explore a future research agenda in the context of a maturing PE industry.

Introduction

Private Equity (PE) firms acquire a portfolio of firms via a Leveraged Buyout (LBO). Mature businesses (either listed or private/family-owned) and divisions/subsidiaries of large firms are targeted for such deals. PE-backed LBOs first came to prominence in the US during the 1980s when large listed firms, such as Safeway and RJR Nabisco, were acquired. LBOs attracted controversy and created debate concerning the efficacy of both the public limited company (PLC) and the LBO governance structure that was installed after the deal. Jensen (1989) proposed that the LBO governance structure was superior to that of PLCs. He argued that increased management ownership, high leverage, and monitoring by PE firms after an LBO provided management in portfolio firms with incentives to focus on performance. Moreover, the PLC governance structure had demonstrated itself incapable of providing senior management with such powerful incentives. In response, Rappaport (1990) drew attention to the weaknesses of the LBO governance structure. High levels of debt create strategic inflexibility and PE firms have a business model that leads them to focus on short-term performance improvements prior to their exit. This controversy still persists.

Since the 1980s, PE activity has gone through several waves and the LBO governance structure has not superseded the PLC in most large firms in the US or UK. Nevertheless, PE-backed LBOs have become a global phenomenon and are a significant ownership structure in many countries. Propelled by low interest rates on other asset classes and a record \$1.1tn of cash pledged worldwide by investors, buyout volumes in 2017 were up 27 per cent year on year

(Espinoza 2018). Cross-country patterns also witnessed a substantial change. For example, UK dominance of the European market twenty years ago is being eroded as deal value came neck-and-neck with that in Germany (CMBOR 2017).

The importance of PE as a research topic has similarly grown over the last twenty years. Citations to PE journal articles rose to just below 5,000 by 2006, increasing sharply in 2007 and 2008 around the time the market peaked, with subsequent steady growth to top 10,000 in 2012 (Cumming and Johan, 2017). This could be driven by a curiosity to understand more about PE activity and also by the fact that the impact of PE-backed LBOs continues to be contentious with respect to: performance gains; employment and employee relations; longer term effects on innovation and investment; and the longevity and survival of portfolio firms. In this article we first take a retrospective look at the impact of PE-backed buyouts in the two decades since the foundation of this journal, and then set out a vision for future research.

Where have we been? Busting the myths

There is now extensive academic evidence on the impact of PE-backed LBOs. This systematic examination has enabled a number of myths about the effects, both positive and negative, to be debunked. The following sections provide an overview.

Fund level: performance of the asset class

Wealthy individuals and institutions (e.g. pension funds, insurance companies, and endowments) invest in PE funds as Limited Partners (LPs). The PE firm that manages funds is the General Partner (GP). LPs are therefore concerned with how well GPs manage funds and generate performance. There are four main issues concerning the measurement of fund performance: the quality of data available; whether performance is measured gross or net of

fees; how continuing and dead funds are valued; and the choice of benchmark to adjust for risk (Kaplan and Schoar 2005; Phalippou and Gottschalg 2009; Phalippou 2014). Earlier studies tackled these issues to a various extent and reported that PE funds had neutral or superior gross performance compared to investment in public market equivalents (Kaplan and Schoar 2005). More recent studies find that investors in PE funds barely break even after fees and carry (Driessen, Lin and Phalippou 2012; Franzoni, Nowak, and Phalippou 2012; Sørensen, Wang, and Yang 2014; Jegadeesh, Kräussl, and Pollet 2015).

Another related issue is the persistence in performance of top PE firms (Hochberg, Ljungqvist, and Vissing-Jørgensen 2014). Most recent evidence finds that as the industry has become more competitive, performance has either declined (Lerner, Schoar and Wongsunwai 2007; Sensoy, Wang, and Weisbach 2014; Braun, Jenkinson, and Stoff 2017) or ‘noise’ has made it difficult for investors to pick the best performers (Korteweg and Sorensen 2017).

Portfolio firm

Profitability and productivity

PE firms are active investors in their portfolio firms, seeking to implement strategies for performance improvements. Both firm- (Amess 2003) and plant-level studies (Lichtenberg and Siegel 1990) demonstrate improvements in productivity, with buyout plants shifted from under-performing their sector pre-buyout to subsequently outperforming it (Harris, Siegel, and Wright 2005). However, profitability gains in US deals conducted in the 1990s and early 2000s appear to be less than those reported for deals conducted in the 1980s (Guo, Hotchkiss, and Song 2011). European studies have also drawn attention to the growth, cost-cutting and efficiency aspects of buyouts (Boucly, Sraer, and Thesmar 2011; Wilson et al. 2012). Yet, indications are that enhanced profitability has been significantly associated with operating

gains, sector-specific expertise of PE firms, and geographic proximity of lead investors to their target companies (Cumming, Siegel, and Wright 2007; Cressy, Munari, and Malipiero 2007; Scellato and Ughetto 2013; Bernstein and Sheen 2016).

Employment and employee relations

The impact of PE on jobs has been highly contentious. Critics claim PE firms boost profits in portfolio firms by cutting jobs. In contrast, proponents argue that PE creates value by pursuing profitable growth strategies, which in turn creates jobs. Determining the relative merits of these competing arguments has motivated academics to conduct empirical analyses using firm-, plant-, and employee-level data from a variety of national and international sources.

Firm-level evidence is mixed, with some studies reporting that PE involvement in the deal has no statistically significant impact on employment (Bergström, Grubb, and Johnsson 2007; Amess and Wright 2012), and others pointing to positive impact in both the short- and medium-term (Scellato and Ughetto 2013). Data that account for job creation and destruction at establishment levels reveal that PE-backed buyouts are catalysts for a process of creative destruction not captured in firm-level studies (Davis et al. 2014). Findings on this issue are sensitive to the methods employed (Amess, Girma, and Wright 2014).

Types of buyout deals and their sources differentially influence employment. Insider driven deals (Management Buyouts) generally increase employment (Amess and Wright 2007) while outsider driven deals such as Management Buy-Ins (Amess and Wright 2007) are associated with a decline. Meuleman et al. (2009) find that employment growth is higher in divisional buyouts compared to secondary, private, and family buyouts. Boucly, Sraer, and Thesmar

(2011) also report that employment grows in private-to-private deals and secondary buyouts (SBOs).

The impact of PE on jobs depends on the type of job and employee characteristics. Lichtenberg and Siegel (1990) found a reduction in the number of non-production workers employed in US buyouts but no significant effect on production workers. Olsson and Tåg (2017) report that Swedish employees performing routine jobs experience an increase in employment, whereas workers performing off-shorable tasks experience higher unemployment.

Critics of PE-backed LBOs argue that they lead to deterioration in employee work conditions as new owners seek to cut costs to improve profits. Systematic studies, however, find little evidence to support the negative impact of buyouts on employee and industrial relations practices such as training, job discretion, consultation, role of trade unions, etc. (Bacon et al. 2013). Recent work by Cohn et al. (2017) documents large and persistent reductions in post-buyout workplace injury rates for public-to-private buyouts, albeit the effect is absent in private buyouts.

Innovation, investment, entrepreneurship and growth

PE-backed LBOs may enable managers with an entrepreneurial mindset to pursue entrepreneurial opportunities (Bruining and Wright 2002; Wright et al. 2000), resulting in increased new product development (Wright, Thompson and Robbie 1992; Zahra 1995). PE-backed LBOs also reduce financial constraints, potentially leading to increased investment (Bertoni, Ferrer, and Marti 2013; Engel and Stiebale 2014; Ughetto 2016). For R&D expenditure, evidence is mixed (Lichtenberg and Siegel 1990; Long and Ravenscraft 1993). PE and its characteristics have a positive impact on patenting activity (Ughetto 2010; Lerner,

Sorensen, and Stromberg 2011; Amess, Stiebale, and Wright 2015). Increased patenting activity is strongest in private firms (Amess, Stiebale, and Wright 2015), and firm growth is strongest in subsidiaries/divisions and private firms (Boucly, Sraer, and Thesmar 2011; Meuleman et al. 2009), businesses that are most likely to be financially constrained pre-LBO.

Life-cycle/Longevity

There is criticism that the PE business model involves boosting the short-term profit of portfolio firms and exiting within a short time period. However, studies show a heterogeneous time to exit by investors; some portfolio firms indeed assume an LBO governance structure for short periods while others retain it for long periods (Kaplan 1991; Wright et al. 1995). The mean time to investor exit appears to have increased since the financial crash from a little over 5 years in 2007 to over 6 years in 2013 (Wright 2016).

More recently, there has been a rise in follow-on buyouts e.g., secondary buyouts (SBOs), (and also third and fourth time buyouts, and so on), where initial investors exit fully or partially to be replaced by new investors. All or part of the management team may also exit during a follow-on buyout. In recent years, the annual value of SBOs has been close to that for primary deals and in some years has exceeded it, notably in 2017 when SBO deals amounted to £14.8bn compared with £13.4bn for primary deals (CMBOR 2018). Evidence on the overall performance of SBOs is mixed. While Achleitner and Figge (2014) show improved operational performance, Bonini (2015), Zhou, Jelic, and Wright (2014) and Alperovych, Amess and Wright (2013) find that performance deteriorates, Jelic and Wright (2011) find positive and negative effects, and Wang (2012) finds no effect. Using PE firm level data, Degeorge, Martin and Phalippou (2016) find that SBOs underperform when they are made by PE firms under

pressure to spend capital, but perform as well as other buyouts when the buyer is not under pressure to spend funds (Arcot et al. 2015).

Critics also suggest that PE-backed buyouts are more likely to fail or enter financial distress as a result of leverage. Studies in the US (e.g. Hotchkiss, Smith and Stromberg 2012; Cohn, Mills, and Towery 2014), UK (Wilson and Wright, 2013) and Europe (Tykvova and Borell, 2012) show that PE-backed buyouts are no more likely to enter financial distress or bankruptcy than other comparable companies. This is partly due to selecting targets that have strong cash flow potential to service the debt but also because PE investors are proactive in negotiating the resolution of distress with creditors. Debt recovery rates of PE-backed buyouts that enter bankruptcy proceedings are also greater than for non-buyouts (Wright et al. 2014).

The road ahead

PE firms face challenges as the industry matures beyond its initial beginnings as an emerging and unfamiliar asset class. Below, we outline a research agenda relating to PE firms, portfolio firms, and individuals. We also discuss data challenges in the conduct of future PE research.

PE firms

Financing

The maturity of the PE industry has changed access to funds for PE firms, and altered the relationship between LPs, GPs, and portfolio companies (Sensoy, Wang, and Weisbach 2014). Over the past twenty years many institutional investors have included PE as part of their portfolios, allowing PE funds to raise large amounts of cash; however, the increased number of funds makes it hard to find attractively priced companies to invest in (Espinoza 2018). The massive amounts of existing dry powder, the continuing inflow of funds to the industry, and

the resulting competition between LPs to subscribe to the top PE funds, has also raised questions concerning the scalability of PE (Lopez-de-Silanes, Phalippou, and Gottschalg 2015). Moreover, direct investing by experienced institutional investors apparently produces better returns than co-investing through PE firms (Fang et al., 2015). Many sovereign wealth funds (SWFs) are also directly investing in firms, rather than hiring GPs, to avoid management fees (Wright and Amess 2017). Yet, the literature studying these issues focuses mainly on the returns of financial intermediaries. Research is needed to explore the strategies GPs adopt in a mature market rather than relying on past practices. How do GPs cope with increased competition? How do GPs remain attractive to LPs? How does competition impact PE investment decisions?

As dependence on debt nears record levels, and aggressive and rapid deal making leads to soaring prices for companies, a prospective increase in interest rates might lead to a collapse of highly leveraged PE structures. What is then the impact of a combination of overpricing and high leverage on LPs returns and the consequences for stakeholders, including: employees, customers, and pensioners? An emerging trend seems to be for PE firms to attempt to mitigate these problems by developing proprietary deal flow and concluding so-called ‘bilateral’ deals between themselves and vendors rather than engaging in auctions. Future research might usefully explore the extent and effectiveness of such a strategy.

Earlier evidence of outperformance of different types of LPs is no longer apparent. For example, Lerner et al. (2007) reported the outperformance of endowments as an investor class; however, Sensoy et al. (2014) challenge this conclusion by documenting endowments’ access to the best funds, rather than superior skill at picking funds, as likely driving their performance. Research on investor characteristics suggests that LP size is an influential variable impacting

variation in investor behaviour and investor criteria (Da Rin et al 2017). Further research is needed on the interaction between investor types (e.g. size, location, experience), and their strategy and performance.

Traditionally, syndication has been analysed in terms of co-investments between PE firms. Recent years have seen a marked rise in the entry of debt funds that are fuelling market growth and an increase in leverage in deal structures. What are the implications of increasing leverage for syndication between traditional PE firms and other forms of fund providers such as SWFs and debt funds? Does the relatively large size, and hence potentially higher bargaining power, of SWFs influence PE firm behaviour?

Finally, the evidence reviewed above indicates that overall PE fund performance is not extraordinary. Large amounts of dry powder and favourable debt market conditions are factors responsible for intense competition for deals and their soaring prices. It is therefore unclear whether the PE business model is sustainable. How and from what sources will PE generate further returns if the aggregate supply of profitable deals does not change over time? If operational and financial engineering are not enough to create value, what other channels are available?

Transparency

PE firms have developed a variety of ways to generate revenues. These include management fees imposed on LPs, as well as transaction and monitoring fees imposed on portfolio companies (Phalippou, Rauch, and Umler *forthcoming*). Obscure PE arrangements and compensation structures seem to create room for various agency issues involving excessive risk taking (Magnuson *forthcoming*; Gredil 2017), and misreporting of returns and Net Asset

Values, especially during fundraising periods (Barber and Yasuda 2017; Brown, Gredil and Kaplan *forthcoming*), and overall reduction in the ways LPs can effectively monitor and control GPs. A recent EU MIFID 2 initiative (BVCA 2017) now applicable to PE firms operating in Europe seeks to enhance investor protection, though the consequences of this for LPs, and their relationship with GPs, are yet to be observed and studied.

Greater transparency is necessary to facilitate new investigations of the agency between LPs and GPs. Such inquiries can shed light on various contractual issues between different kinds of investors and PE firms. What terms and provisions are still necessary and which ones are outdated? Are the contracts ensuring that LPs, who lock their investments for extended periods, sufficiently protected from the moral hazard of PE managers? Better transparency can also stimulate the liquidity of secondary PE markets. Is this liquidity valuable to investors, as Bollen and Sensoy (2016) seem to suggest?

Regional distribution of funding and deals

Regional imbalances in finance provision have been a policy concern because firms with growth potential can lack investment (Martin et al. 2015; Mason and Harrison 2003; Mason and Pierrakis 2013). Although much attention has focused on the initial equity gap for small early-stage firms, there is growing recognition of an equity gap for older firms (Wilson, Wright and Kacer 2018). PE-backed buyouts contribute to regional growth and regeneration but evidence is needed on the extent of the gap in provision in different regions. We know that business angel (Harrison, Mason, and Robson 2010) and venture capital (Mueller, Westhead, and Wright 2012) investors are prepared to cross regional borders, but analysis is also needed of the extent to which buyout funding needs to be physically located within a particular region. Such analysis needs also to explore the role of intermediaries rather than simply finance

providers themselves. For example, advisors may often take deals directly to national financial centres – does this undermine regional financial centres or is it a reflection of the inability of these centres to fund deals?

Portfolio firms

Deal sources

As we have seen above, the performance evidence on SBOs is mixed but studies typically say little about the impact of incoming and outgoing board members' expertise on deal performance. Do primary (outgoing) PE sponsors sell too early or do follow-on (incoming) PE sponsors have different skills from those of primary sponsors? This is an important area where deal-level board evidence is needed since a shift from financial (monitoring) expertise in the primary buyout to entrepreneurial (value-adding) expertise in the SBO may be required for further gains to be achieved. Many so-called SBOs are in fact third or fourth time around deals, but little is known about them. To what extent do consecutive deals simply involve a continuation of previous strategies, or efforts to be more entrepreneurial, or perhaps turnarounds of struggling firms?

While private family-owned firms are often viewed as a vendor source with potential for growth in LBO activity, the volume and value of this potential vendor source generally remains rather flat. Further, there are instances where founders have bought back for nominal sums the companies they sold as buyouts because the companies got into trading difficulties. Analysis is needed of the extent and drivers of this phenomenon. For example, to what extent are trading difficulties due to the loss of the specific human capital expertise once founders have exited, or their failure to develop a competent managerial team before selling the business? Is their

desire to buyback the company related to altruistic and reputational reasons, which means that they do not want the business they have been associated with to fail?

Innovation and entrepreneurship

Prior research has found that PE has a positive impact on patenting activity. We have little evidence on whether this is a result of an increase in R&D expenditure, more productive use of R&D expenditure, or a more active patenting strategy. An understanding of these issues would aid interpretation of PE's contribution to better resource utilisation and/or increased investment. Increased market size and maturity in the sector will lead to increased PE firm specialisation with respect to portfolio management. Thus, we could expect to observe specific PE firm types targeting innovative firms and deals in more innovative sectors.

Sources of post-buyout productivity gains are still unclear. To what extent are they the result of cost-cutting or improved innovative practices? Research examining a direct link between innovation and productivity would be useful. In such analysis, distinguishing between product and process innovation would help identify a potential driver of productivity gains. A link with process innovation could increase productivity while also cutting production costs. More informal and managerial innovations beyond formal patenting activity have received limited research attention.

Internationalization by PE and PE-backed firms

There is an increasing trend of cross-border investing by PE firms, more recently involving PE firms from developed markets targeting new industry sectors in emerging markets (Wright, Pruthi, and Lockett 2005; Groh and Liechtenstein 2009). Strategic alliances through co-investment or joint ventures can help PE firms to strategically position themselves and

maximize value in an increasingly competitive global landscape (Roy 2015). Research on both the historical and forecasted impact of strategic alliances on PE could offer insights into the industry as a whole, where it is headed, and where it should perhaps be headed. How PE firms use strategic alliances, especially in a scenario of new regulations in emerging economies such as restrictions on foreign investors' equity participation in strategic sectors, or foreign investment through 'portfolio investments' traded on stock, futures or commodities exchanges, OTC markets, or via clearing and custody systems duly registered with and recognized by local authorities (Binnie 2013), is a fertile research area. Studies should consider the effect of different institutional contexts on the types of PE investors that dominate, and the consequent implications for longevity of investment and performance (Cumming, Siegel, and Wright 2007).

Although there is an extensive literature on exporting propensity and intensity by entrepreneurial firms (Wright, Westhead, and Ucbasaran 2007), there is limited analysis of such internationalization behaviour by PE-backed buyouts and whether PE-backed buyouts differ from other firms in this respect. In principle, a buyout provides incentives for new owner-managers to be more entrepreneurial in seeking out new revenue sources from international markets. PE firm involvement may include monitoring to bring financial discipline over the costs of internationalization as well as expertise and contacts that can facilitate exporting for the first time or increase the intensity of exporting. Evidence suggests that monitoring, rather than value-adding inputs, by PE firms is significantly more important for buyouts than for early stage VC-backed firms in helping internationalize the firm (Lockett et al. 2008). Further research is necessary to explore pre- and post-buyout dynamics of internationalization. Studies are also needed to examine the direction and modes of internationalization, and provide insights

into the relationship between the type of PE firm investor, as well as the international experience of portfolio company board members on internationalization.

Individual level

Board, and TMT composition and cognition

Also imperative in the context of a maturing PE industry is an understanding of individual-level factors differentiating the performance of various PE funds. Future research is needed to explore aspects of prior entrepreneurial or PE investing experience of individual partners in PE firms and their role in the exit potential of their portfolio companies.

As portfolio firm founder characteristics influence PE strategies (Gompers et al. 2016), a related research issue is the nature of portfolio firms' top management teams (TMTs), and role of their size and composition on PE firms' strategies. Additionally, career trajectories of managers post-exit require examination. There is research on entrepreneurial exit relating to its drivers and what happens to entrepreneurs after exit (Wennberg et al. 2010). For example, acquisitions trigger a process of 'entrepreneurial re-cycling' in which entrepreneurs use their newly acquired wealth, allied to the experience they have accumulated, to engage in other entrepreneurial activities, notably starting new business ventures and investing in other businesses as business angels or venture capitalists (Mason and Harrison 2006). Beyond limited indirect evidence that some managers of buyout firms may become serial entrepreneurs by buying into other businesses post-exit (Wright, Robbie, and Ennew 1997), we have little analysis of post-exit behaviour of buyout firm managers, either in circumstances of success or failure.

Data challenges

A major problem for PE research concerns the availability of data (Cumming and Johan 2017). Many studies analysing funds use proprietary private data, making it difficult to verify findings, as well as possibly being success biased. Analysis of the impact on portfolio firms typically involves combining at least two datasets, one that identifies deals and the other containing data (e.g. profitability, employment, and patents) to analyse outcomes from PE-backed deals. Combining datasets sometimes involves merging on name, which can introduce error unless other data such as post/zip codes are available. Available datasets may also be biased because of their reliance on publicly available data; even if they are compiled from thoroughly scraping the web, non-publicised deals are not captured. These databases are also more likely to identify larger deals than smaller ones, which introduces further bias.

Government databases can be connected to PE databases, subject to strict confidentiality conditions. Governments collect a variety of data on firms through comprehensive surveys and submission of company reports. Detailed survey questions or a requirement in company filings to provide information on the nature of ownership or organisational change would help research, which often informs policy. Although many papers have increasingly used worldwide datasets, exploration of the contextual differences between different countries has been limited. Most PE studies focus on mature Anglo-Saxon markets and on relatively large transactions. To some extent this may be down to the coverage of worldwide datasets. Sourcing quality data from developing countries can be problematic. Further, idiosyncrasies in some countries will make some research impossible. For instance, Indian firms have no requirement to report employment data.

Conclusions

In this article we have taken stock of the systematic evidence relating to PE-backed buyouts over the last two decades. We use evidence to debunk myths and explore opportunities for future research. The PE market has demonstrated considerable resilience and adaptability over the past twenty years. The now substantial body of evidence relating to the impact of leveraged buyouts and PE has provided considerable support for both agency-theoretic and entrepreneurial explanations. The market has matured, and increased competition brings challenges to fund raisers and value creation in portfolio firms. Nevertheless, the last 20 years have shown that the PE industry is robust to financial shocks and the business model continues to evolve, which provides a basis to extend the buyout and PE research programme.

References

- Achleitner, A. K. and C. Figge 2014. "Private Equity Lemons? Evidence on Value Creation in Secondary Buyouts." *European Financial Management* 20: 406-433.
- Alperovych, Y., K. Amess, and M. Wright. 2013. "Private Equity Firm Experience and Buy-out Vendor Source: What is their Impact on Efficiency?" *European Journal of Operational Research* 228: 601-611.
- Amess, K. 2003. "The Effect of Management Buyouts on Firm-level Technical Efficiency: Evidence from a Panel of UK Machinery and Equipment Manufacturers." *Journal of Industrial Economics* 51(1): 35-44.
- Amess, K. and M. Wright. 2007. "The Wage and Employment Effects of Leveraged Buyouts in the UK." *International Journal of the Economics of Business* 14(2): 179-95.
- Amess, K. and M. Wright. 2012. "Leveraged Buyouts, Private Equity and Jobs." *Small Business Economics* 38: 419-430.
- Amess, K., S. Girma, and Wright, M. 2014. "The Wage and Employment Consequences of Ownership Change." *Managerial and Decision Economics* 35(2): 161-171.
- Amess, K., J. Stiebale, and M. Wright. 2015. "The Impact of Private Equity on Firms' Patenting Activity." *European Economic Review* 86: 147-160.
- Arcot, S., Fluck, Z., Gaspar, J.-M., and Hege, U. 2015. "Fund managers under pressure: rationale and determinants of secondary buyouts." *Journal of Financial Economics* 115(1): 102-135.
- Bacon, N., M. Wright, R. Ball, and M. Meuleman. 2013. "Private Equity, HRM and Employment." *Academy of Management Perspectives* 27: 7-21.
- Barber, B. M., and A. Yasuda, A. 2017. "Interim Fund Performance and Fundraising in Private Equity." *Journal of Financial Economics* 124:172-194.
- Bergström, C., M. Grubb, and Jonsson, S. 2007. "The Operating Impact of Buyouts in Sweden: a Study of Value Creation." *Journal of Private Equity* 11 (1): 22-39.
- Bernstein, S. and A. Sheen. 2016. "The operational consequences of private equity buyouts: Evidence from the restaurant industry." *Review of Financial Studies* 29: 2387–2418.
- Bertoni, F., M. A.Ferrer, and J. Martí. 2013. "The Different Roles Played by Venture Capital and Private Equity Investors on the investment activity of their portfolio firms." *Small Business Economics* 40: 607-633.
- Binnie, R. 2013. "Private Equity Market in Brazil: Key Legal Issues in Fund Formation." *Journal of Private Equity* 16 (4): 67-68.
- Bollen, N. P. B. A. and Sensoy. 2016. "How Much for a Haircut? Illiquidity, Secondary Markets, and the Value of Private Equity." Fisher College of Business Working Paper No. 2015-03-08. <http://dx.doi.org/10.2139/ssrn.2608549>

- Bonini, S. 2015. "Secondary Buyouts: Operating Performance and Investment Determinants." *Financial Management* 44: 431-470.
- Boucly, Q., D. Sraer, and D. Thesmar. 2011. "Growth LBOs." *Journal of Financial Economics* 102: 432-453.
- Brown, G. W., O. R. Gredil, and S. N. Kaplan. *Forthcoming*. "Do Private Equity Funds Manipulate Reported Returns?" *Journal of Financial Economics*.
- Braun, R., T. Jenkinson, and I. Stoff, I. 2017. "How Persistent is Private Equity Performance? Evidence from Deal-level Data." *Journal of Financial Economics* 123: 193-205.
- Bruining, H., and M. Wright. 2002. "Entrepreneurial Orientation in Management Buy-outs and the Contribution of Venture Capital." *Venture Capital* 4: 147-168.
- BVCA. 2017. Markets in Financial Instruments Directive and Capital Requirements Directive, <https://www.bvca.co.uk/Policy/Tax-Legal-and-Regulatory/Matters-on-our-agenda/Other-financial-markets-regulation/MiFID-and-CRD>, accessed on Jan. 25, 2018.
- CMBOR. 2017. *European Management Buyouts*. Imperial College London: Center for Management Buyout Research, Autumn.
- CMBOR. 2018. *UK Management Buyouts*. Imperial College London: Center for Management Buyout Research, Summer.
- Cohn, J. B., L. F. Mills, and E. M. Towery. 2014. "The Evolution of Capital Structure and Operating Performance after Leveraged Buyouts: Evidence from US Corporate Tax Returns." *Journal of Financial Economics* 111: 469-494.
- Cohn, J., Nestoriak, N., and Wardlaw, M. 2017. "Private equity buyouts and workplace safety." Working paper.
- Cressy, R., F. Munari, and A. Malipiero. 2007. "Playing to their Strengths? Evidence that Specialization in the Private Equity Industry Confers competitive advantage." *Journal of Corporate Finance* 13: 647-669.
- Cumming, D. and S. Johan. 2017. "The Problems with and Promise of Entrepreneurial Finance." *Strategic Entrepreneurship Journal* 11: 357-370.
- Cumming, D., D. S. Siegel, and M. Wright. 2007. "Private Equity, Leveraged Buyouts and Governance." *Journal of Corporate Finance* 13: 439-460.
- Da Rin, M and L. Phalippou. 2017. "The importance of size in private equity: Evidence from a survey of limited partners." *Journal of Financial Intermediation* 31: 64-76.
- Davis, S. J., J. Haltiwanger, K. Handley, R. Jarmin, J. Lerner, and J. Miranda. 2014. "Private Equity, Jobs, and Productivity." *American Economic Review* 104: 3956-3990.
- Degeorge, F., J. Martin. and L. Phalippou. 2016. "On Secondary Buyouts." *Journal of Financial Economics* 120: 124-145.
- Driessen, J., T.-C. Lin, and L. Phalippou. 2012. "A New Method to Estimate Risk and Return of Nontraded Assets from Cash Flows: The Case of Private Equity Funds." *Journal of Financial and Quantitative Analysis* 47: 511-535.

- Engel, D. and J. Stiebale. 2014. "Private Equity, Investment and Financial Constraints: Firm-level Evidence for France and the United Kingdom." *Small Business Economics* 43: 197–212.
- Espinoza, J. 2018. "Private Equity: Flood of Cash Triggers Buyout Bubble Fears." *Financial Times*, 23 January 2018.
- Fang, L., V. Ivashina, and J. Lerner. 2015. "The disintermediation of financial markets: Direct investing in private equity." *Journal of Financial Economics* 116: 160-178.
- Franzoni, F., E. Nowak, and L. Phalippou. 2012. "Private Equity Performance and Liquidity Risk." *Journal of Finance* 67: 2341-2373.
- Gompers, P., W. Gornall, S. N. Kaplan, I. A. and Strebulaev. 2016. "How do Venture Capitalists make Decisions?" NBER Working Paper No. 22587.
- Gredil, O. R. 2017. "Do private equity managers have superior information on public markets." Available at SSRN: <https://ssrn.com/abstract=2802640>
- Groh, A. P. and H. Liechtenstein 2009. "How Attractive is Central Eastern Europe for Risk Capital Investors?" *Journal of International Money and Finance* 28: 625–647.
- Guo, S., E. S. Hotchkiss, and Song, W. 2011. "Do Buyouts (Still) Create Value?" *Journal of Finance* 66: 479–517.
- Harris, R., D. S. Siegel, and M. Wright. 2005. "Assessing the Impact of Management Buyouts on Economic Efficiency: Plant-level Evidence from the United Kingdom." *Review of Economics and Statistics* 87: 148-153.
- Harrison, R., C. Mason, and P. Robson. 2010. "Determinants of Long-Distance Investing by Business Angels in the UK." *Entrepreneurship and Regional Development* 22 (2): 113-137.
- Hochberg, Y., A. Ljungqvist, and A. Vissing-Jørgensen. 2014. "Informational Holdup and Performance Persistence in Venture Capital." *Review of Financial Studies* 27: 102-152.
- Hotchkiss E., D. C. Smith, and P. Stromberg. 2012. "Private Equity and the Resolution of Financial Distress." Research Note 3 in Market Institutions and Financial Market Risk. NBER.
- Jegadeesh, N., R. Kräussl, and J. M. Pollet. 2015. "Risk and Expected Returns of Private Equity Investments: Evidence Based on Market Prices." *Review of Financial Studies* 28: 3269-3302.
- Jelic, R. and M. Wright. 2011. "Exits, Performance, and Late Stage Private Equity: the Case of UK Management Buy-outs." *European Financial Management* 17: 560-593.
- Jensen, M. C. 1989. "Eclipse of the Public Corporation." *Harvard Business Review* 67(5): 61-74.
- Kaplan, S. 1991. "The Staying Power of Leveraged Buyouts." *Journal of Financial Economics* 29: 287-314.

- Kaplan S. and A. Schoar. 2005. "Private Equity Performance: Returns, Persistence, and Capital Flows." *Journal of Finance* 60: 1791–1822.
- Korteweg, A. and M. Sorensen. 2017. "Skill and luck in private equity performance". *Journal of Financial Economics*, 124(3): 535-562.
- Lerner, J, A. Schoar, and W. Wongsunwai. 2007. "Smart Institutions, Foolish Choices: The Limited Partner Performance Puzzle." *Journal of Finance* 62: 731-764.
- Lerner, J., M. Sorensen, and P. Stromberg. 2011. "Private Equity and Long-Run Investment: The Case of Innovation." *Journal of Finance* 66, 445-477.
- Lichtenberg, F. R. and D. Siegel. 1990. "The Effects of Leveraged Buyouts on Productivity and Related Aspects of Firm Behaviour." *Journal of Financial Economics* 27: 165-194.
- Lockett, A., M. Wright, A. Burrows, L. M. Scholes, D. and Paton. 2008. "The Export Intensity of Venture Backed Companies." *Small Business Economics* 31: 39-58.
- Long, W. F. and D. J. Ravenscraft. 1993. "LBOs, Debt and R&D Intensity." *Strategic Management Journal* 14 (S1): 119-135.
- Lopez-de-Silanes, F., L. Phalippou, and O. Gottschalg. 2015. "Giants at the Gate: Investment Returns and Diseconomies of Scale in Private Equity." *Journal of Financial and Quantitative Analysis* 50: 377–411.
- Magnuson, W. J. Forthcoming. "The Public Cost of Private Equity." *Minnesota Law Review* 102.
- Martin, R.L., A. Pike, P. Tyler, and B Gardiner. 2015. *Spatial Rebalancing the UK Economy: the Need for a New Policy Model*, *Regional Studies*, doi.org/10.1080/00343404.2015.1118450
- Mason, C. and R. Harrison. 2003. "Closing the Regional Equity Gap? A Critique of the Department of Trade and Industry's Regional Venture Capital Funds Initiative." *Regional Studies* 37: 855-868.
- Mason, C. and R. Harrison. 2006. "After the Exit: Acquisitions, Entrepreneurial Re-Cycling and Regional Economic Development." *Regional Studies* 40: 55-73.
- Mason, C. and Y. Pierrakis. 2013. "Venture Capital, the Regions and Public Policy: The United Kingdom Since the post-2000 Technology Crash." *Regional Studies* 47: 1156-1171
- Meuleman, M., K. Amess, M. Wright, and L. Scholes. 2009. "Agency, Strategic Entrepreneurship, and the Performance of Private Equity-Backed Buyouts." *Entrepreneurship: Theory & Practice* 33: 213-239.
- Mueller, C., P. Westhead, and M. Wright. 2012. "Formal Venture Capital Acquisition: Can Entrepreneurs Compensate for the Spatial Proximity Benefits of South East England and 'Star' Golden-Triangle Universities?" *Environment and Planning A* 44: 281-296.
- Olsson, M. and J. Tåg. 2017. "Private Equity, Lay offs and Job Polarization." *Journal of Labor Economics* 35: 697-754.

- Phalippou, L. 2014. "Performance of Buyout Funds Revisited?" *Review of Finance* 18: 189-218.
- Phalippou, L. and O. Gottschalg. 2009. "The Performance of Private Equity Funds." *Review of Financial Studies* 22: 1747-1776.
- Phalippou, L., C. Rauch, and M. Ueber. Forthcoming. "Transaction Fees and Monitoring Fees in Private Equity." *Journal of Financial Economics*.
- Rappaport, A. 1990. "The Staying Power of the Public Corporation." *Harvard Business Review* 68(1): 96-104.
- Roy, P. 2015. "Maximizing Value in the Real Estate Private Equity Space: Expansion, Competition, and Alliance." *Journal of Private Equity*, 18 (2): 59-70.
- Scellato, G and E. Ughetto. 2013. "Real Effects of Private Equity Investments: Evidence from European Buyouts." *Journal of Business Research* 66: 2642-2649.
- Sensoy, B. A., Y. Wang, and M. S. Weisbach. 2014. "Limited Partner Performance and the Maturing of the Private Equity Industry." *Journal of Financial Economics* 112: 320-343.
- Sørensen, M., N. Wang, and J. Yang. 2014. "Valuing private equity". *Review of Financial Studies*, 27(7): 1977-2021.
- Tykvova, T. and M. Borell. 2012. "Do Private Equity Owners Increase the Risk of Financial Distress and Bankruptcy?" *Journal of Corporate Finance* 18: 138-150.
- Ughetto, E. 2016. "Investments, Financing Constraints and Buyouts: the Effect of Private Equity Investors on the Sensitivity of Investments to Cash Flow." *The Manchester School* 84: 25-54.
- Ughetto, E. 2010. "Assessing the Contribution to Innovation of Private Equity Investors: A Study on European Buyouts." *Research Policy* 39: 126-140.
- Wang, Y. 2012. "Secondary Buyouts: What Buy and at What Price?" *Journal of Corporate Finance*, 18: 1306-1325.
- Wennberg, K., J. Wiklund, D. DeTienne, and M. Cardon. 2010. "Reconceptualizing Entrepreneurial Exit: Divergent Exit Routes and their Drivers." *Journal of Business Venturing*, 25: 361-375.
- Wilson, N., M. Wright, D. S. Siegel, and L. Scholes. 2012. "Private Equity Portfolio Performance during the Global Recession." *Journal of Corporate Finance* 18: 193-205.
- Wilson N. and M. Wright. 2013. "Private Equity and Insolvency Risk." *Journal of Business Finance and Accounting* 40: 949-900.
- Wilson, N., M. Wright, and M. Kacer. 2018. "The Equity Gap and Knowledge-Based Firms." *Journal of Corporate Finance* 50: 626-649.
- Wright, M. 2016 "Entrepreneurial Sustainability and Ownership Mobility". Keynote Paper presented at the Entrepreneurial Finance Conference, Lyon, July 7.

- Wright, M. and K. Amess. 2017 Sovereign Wealth Funds and Private Equity, in Cumming, D., G. Wood, I. Filatotchev and J. Reinecke, *The Oxford Handbook of Sovereign Wealth Funds*, Oxford: OUP.
- Wright, M., R. Hoskisson, L. Busenitz, and J. Dial. 2000. "Entrepreneurial Growth through Privatization: The Upside of Management Buyouts." *Academy of Management Review* 25: 591-601.
- Wright, M., S. Pruthi and A. Lockett. 2005. "Internationalisation of Venture Capital." *International Journal of Management Reviews* 7: 135-166.
- Wright, M., S. Thompson, and K. Robbie. 1992. "Venture Capital and Management-Led Leveraged Buy-Outs." *Journal of Business Venturing* 7: 47-71.
- Wright, M., P. Westhead, and D. Ucbasaran. 2007. "Internationalisation by SMEs: A Critique and Policy Implications." *Regional Studies* 41: 1013-1030.
- Wright, M., S. Thompson, K. Robbie and P. Wong. 1995. "Management Buy-Outs in the Short and Long Term." *Journal of Business Finance and Accounting* 22: 461-482.
- Wright, M., K. Robbie, and C. Ennew. 1997. "Venture Capitalists and Serial Entrepreneurs." *Journal of Business Venturing*, 12: 227-249.
- Wright M., R. Cressy, N. Wilson, and H. Farag. 2014. "Financial Restructuring and Recovery in Private Equity Buyouts: The UK Evidence." *Venture Capital: An International Journal* 6:109-129.
- Zahra, S. 1995. "Corporate Entrepreneurship and Financial Performance: the Case of Management Leveraged Buy-Outs." *Journal of Business Venturing* 10: 225- 247.
- Zhou, D., R. Jelic and M. Wright. 2014. "SMBOs: Buying Time or Improving Performance?" *Managerial and Decision Economics* 35: 88-102.