CORPORATE
FINANCE
FACULTY

Private equity demystified

An explanatory guide

THIRD EDITION

ABSTRACT

John Gilligan and Mike Wright

Private Equity Demystified – An Explanatory Guide

An initiative from the ICAEW Corporate Finance Faculty

This is an abstract from the third edition of *Private Equity Demystified – An Explanatory Guide*. *Private Equity Demystified* provides an objective explanation of private equity, recognising that for public scrutiny of this sector to be effective it must be conducted on an informed basis. This is recognised by the work featuring on reading lists of leading business schools.

Since the publication in 2008 of the first edition of *Private Equity Demystified* the major economies have moved from growth to recession to evidence of emergence from recession. We have seen the enactment and subsequent implementation of the European Commission's Alternative Investment Fund Managers Directive which covers private equity funds. In addition, the academic world has applied new techniques to old questions as new data sets have become available. Earlier editions reflected the turmoil of the recession and examined the way in which the banking market changed its approach to private equity investments as well as the dynamics of the restructuring industry.

The third edition picks up as many western economies show signs of a resurgence of growth. It examines further developments in private equity, such as its methodologies, management of funds and relationships with limited partners.

The value of the work will continue to be measured in better-informed debate, in private equity's effective engagement with wider stakeholders, in well thought out public policies and in awareness among business owners of private equity as a potential source of sustainable finance for growth.

ICAEW Corporate Finance Faculty

The Corporate Finance Faculty's professional network includes 6,000 members and more than 70 member organisations.

Its membership is drawn from major professional services groups, specialist advisory firms, companies, banks, private equity, venture capital, law firms, brokers, consultants, policymakers and academic experts. More than 40% of the faculty's membership is from beyond ICAEW.

The faculty is ICAEW's centre of professional excellence in corporate finance. It contributes to policy development and many consultations by international organisations, governments, regulators and other professional bodies. The faculty provides a wide range of services, events and media to its members, including its magazine Corporate Financier.

The faculty initiated the development of the first international Corporate Finance qualification (including the 'CF' designation) for practitioners and launched a Diploma in Corporate Finance with the CISI in 2012.

Private Equity Demystified is issued under *Financing Change*, the thought leadership programme of the faculty. *Financing Change* aims to advance the economic and social contribution of corporate finance activity by promoting better understanding and practice.

For further information on the *Financing Change* programme or to send views and other comments on this work and related themes, please email financingchange@icaew.com or telephone +44 (0)20 7920 8685.

For information on ICAEW's work in funding academic research please contact Gillian Knight, Research Manager on +44 (0)20 7920 8478.

The full third edition, which includes a summary of academic studies and references, is also available to download from icaew.com/cff.

ISBN 978-1-78363-168-1

Private equity demystified

An explanatory guide

THIRD EDITION

ABSTRACT

John Gilligan and Mike Wright

Contents

Preface to the third edition

For over two decades, from the early 1980s, the developing private equity industry largely flew below the radar of public scrutiny. In 2007 the private equity industry came under intense public scrutiny including a House of Commons Select Committee enquiry. We published the first edition of *Private Equity Demystified* in August 2008. There followed a period of unprecedented financial turmoil. The second edition built on the first edition to reflect the effects of the recession and examined the way in which the banking market changed its approach to private equity investments. It also included more discussion of both mid-market buy-outs and the dynamics of the restructuring industry. There was an update to the second edition in 2012 to reflect the developments in private equity as the recession came to an end. This third edition examines further developments in private equity, as many western economies again experience economic growth. The European Commission's Alternative Investment Fund Managers Directive which covers private equity funds is also being implemented. A burgeoning body of academic evidence also continues to provide systematic insights as to the impact of private equity.

In the third edition we have taken the opportunity to make a thorough revision of earlier editions. Two major innovations are particularly notable.

First, as the industry has become increasingly international we have extended the coverage of the trends in private equity beyond the UK;

Second, as the economy and the industry emerge from recession, we have developed a new section revisiting the accusations laid at the feet of private equity by its critics at the height of the last boom in 2007. Drawing on the increasing evidence now available, we show that many of the criticisms of private equity were misplaced. We argue that in contrast to the forecasts of the critics, private equity has acted to contain risk, not disseminate it; has created alignment between managers and shareholders, not a misaligned bonus culture; and provides important models for corporate governance and risk management that have a wider applicability. The new section is reproduced in this Abstract.

Nevertheless, some challenges remain regarding the relationships between private equity firms and their investors, notably regarding fees and the valuation of unrealised investments.

John Gilligan
Mike Wright

November 2014

About the authors

John Gilligan is a Corporate Finance Partner in BDO LLP. He has worked in the private equity and venture capital industry for over 25 years. He started his career in 1988 at 3i Group plc as a financial analyst. Prior to BDO he was a partner of Deloitte. He is a non-executive director of Big Issue Investment Fund Management, one of the largest social impact investors in the UK. He has a degree in economics from Southampton University and an MBA in financial studies from Nottingham University.

Professor Mike Wright is Professor of Entrepreneurship and Head of the Innovation and Entrepreneurship Department at Imperial College Business School. He is Director of The Centre for Management Buy-out Research which he founded in 1986 and has been Associate Director of the Enterprise Research Centre since 2013. He has written over 50 books and more than 400 papers in academic and professional journals on management buy-outs, venture capital, habitual entrepreneurs, corporate governance and related topics. He served two terms as an editor of *Entrepreneurship Theory and Practice* (1994–1999) and of the *Journal of Management Studies* (2003–2009) and is currently a co-editor of *Strategic Entrepreneurship Journal*. He holds a BA (CNAA), MA (Durham), PhD (Nottingham) and honorary doctorates from the Universities of Ghent and Derby. He was the winner of the Academy of Management Entrepreneurship Division Mentor Award in 2009 and was chair of the Division in 2011/12. He is also an Academician of the Academy of Social Sciences.

Contact details

John Gilligan
Partner – Corporate Finance
BDO LLP
55 Baker Street
London W1U 7EU
UK

Email: john.gilligan@bdo.co.uk

Mike Wright
The Centre for Management Buy-out Research
Imperial College Business School
46 Exhibition Road
London SW7 2AZ
UK

Email: mike.wright@imperial.ac.uk

and

Department of Management, Innovation and Entrepreneurship
University of Ghent
Tweekerkenstraat 2
9000 Ghent
Belgium

An assessment of the criticisms of private equity

In the third edition of *Private Equity Demystified*, in the context of resurgence in the private equity market, we draw together the major criticisms levelled at the sector during the boom years of 2006–2008. We clarify some misrepresentations and myths in the light of experience over the last six years to 2014 and the weight of systematic evidence summarised in the publication. Our assessment is presented here.

Several years ago, we published an assessment of the criticisms levelled at the private equity sector in *Private Equity Demystified – An explanatory guid*e. In the third edition of that work, we are able to further evaluate the criticisms using evidence and experience accumulated since then. Our evaluation is presented below.

Is private equity about majority acquisitions of large listed corporations?

While majority acquisitions by private equity firms of listed corporations tend to attract considerable media attention, these deals are only part of the private equity market. Even in the boom years they accounted for only about 4% of deal numbers. This is less than a quarter of deal value across Europe. In 2013, these public company transactions accounted for less than 5% of total deal value in Europe.

In contrast, the largest single source of deal numbers across Europe has traditionally involved buy-outs of private/family firms, followed by divestments and secondary buy-outs. The largest single source of deal value has traditionally been corporate divestments. However, recently secondary buy-outs have taken the top position.

Does private equity create systemic risk?

A long-standing criticism dating back to the first private equity wave in the 1980s is that the higher leverage in private equity deals was likely to have adverse systemic implications. The traditional private equity fund structure operates to limit systemic risk by offering long-term, illiquid, unleveraged investment assets to investors with large diversified portfolios. The private equity industry did generate increased demand for debt during the second private equity wave. However, the contribution of industry to the market failures seen in 2007–2008 arose through failures in the associated acquisition finance banking market, not within the private equity fund structures. In the future, pressure to increase leverage within funds and to provide liquidity to investors may lead to geared private equity funds which would lead to increased systemic risk.

What happened to the 'wall of debt'?

Many commentators forecast that the debt raised by buy-outs in the boom years would precipitate a secondary crisis when it came to be refinanced. This so-called 'wall of debt to be refinanced' has effectively been dealt with. The practice of 'pretend and extend', whereby loans are rolled over despite being behind the original plan, has gone some way to pushing the supposed problem into the future. At the time of writing, an increasing appetite by banks, bond holders and non-bank lenders to grow their business lending books again has led to an increase in debt availability. Furthermore, cov-lite is also re-emerging. We would caution that if this trend were to accelerate, problems may be created for the future in particular where cov-lite does not provide for a syndicate to act as one.

Is there excessive debt and are there gains from leverage?

Critics also argued that many deals were being completed in the boom years with levels of debt that were too high. Using 'excessive' levels of debt to acquire corporations generates risks. The argument is that these risks are borne by the wide stakeholders of the business including both employees and creditors. Neither of these groups benefit from the increased rewards that this risk generates.

Attribution studies show that while some gains derive from the leverage in private equity deals, the largest proportion comes from fundamental improvements to the business. It is not clear whether this reflects good stock picking (ie, the extent to which private equity firms are good at selecting good deals) or good operational management post transaction (ie, whether they add value once they have made an investment) or both.

When we look at the risk element in the equation, our review of the evidence indicates that after taking other factors into account, private equity-backed firms are not significantly more likely to enter formal bankruptcy proceedings (administration) than non-private equity-backed companies. Recent evidence based on the population of UK-limited companies has also found that during the period 2008–2011, and taking into account firm-specific, industry and macroeconomic factors, private equity-backed buy-outs reported significantly higher profitability and cumulative average growth rates than non-private equity-backed private companies. These findings suggest that private equity-backed firms' underlying performance held up better during the recession than that of non-private equity-backed private companies.

Does the industry suffer from short-termism and do private equity buy-outs result in underinvestment?

Major strands of the critique of private equity were that it was about cutting jobs, stripping assets, derecognising unions and exiting the business in a short time horizon. The significant body of systematic evidence now available shows that this view is too simplistic. Rather, private equity deals are varied and heterogeneous in terms of their strategies and timescales. In the figure below we try to simplify this variety contrasting timescales and strategies.

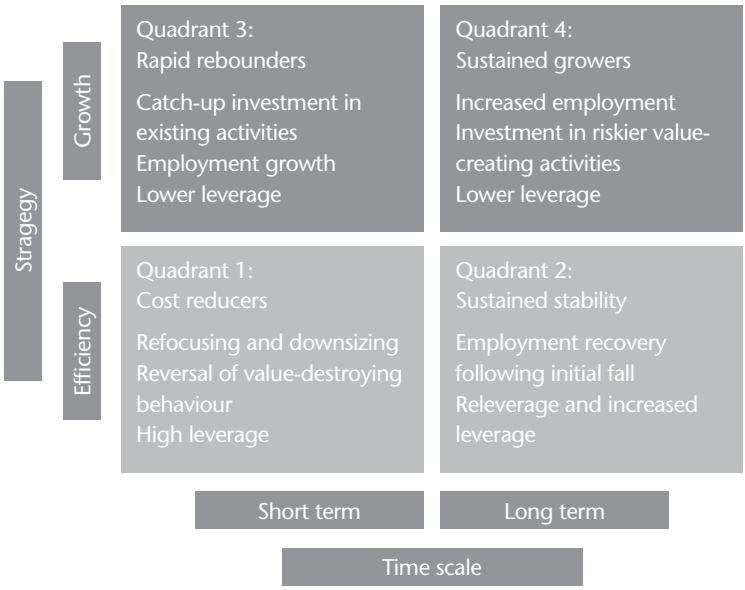
Some investments do involve cost reduction. This may be the reversal of value-destroying behaviour in order to improve efficiency over a short time period (quadrant 1). This type of 'one-off' shock therapy was probably more typical of the first wave of private equity-backed buy-outs. In these types of transaction the management of the company are supported by the private equity firm in introducing financial and governance processes that eliminate waste and improve efficiency.

A secondary category of transaction (quadrant 2) is a longer-term strategic repositioning. We might characterise these as transactions where a company needs to take a step back to take two steps forward. This is notoriously difficult to achieve as a quoted company, or as part of a quoted company, where stable earnings growth is highly valued. These situations often involve initial falls in employment and radical cost reduction in failing business lines alongside investment in the streams that will support future growth. The idea is to rebuild the base for a more stable business over the longer term that can recover employment and profitability and return to a more stable earnings pattern.

The two other categories of transaction involve growth strategies rather than cost cutting and reconstruction. Where businesses have been capital constrained by their owners a private equity-backed buy-out may provide the opportunity for catch-up investment that generates a step change in the business in relatively short order (quadrant 3).

Finally, some investments are made based on longer-term growth strategies (quadrant 4). Clearly this type of investment is constrained if a traditional 10-year fund is the investor, but there are funds that are structured to take a longer-term view, although this is not the norm.

Figure: Buy-out types, strategy and timescale



Is there a lack of employee consultation in private equity-owned firms?

Concerns about lack of consultation with workers relates to both prior to and after a private equity acquisition. Because private equity usually involves both a transaction and a change or refocusing of strategy, there are huge changes in the business, both real and perceived. It may well be good commercial practice to consult with some wider stakeholder groups about these changes, but there is no reason to believe that consulting in and of itself is socially desirable or effective and therefore should be a requirement. It is clear that a change of ownership necessarily entails uncertain times for many people. There is no evidence that we are aware of that the cohort of companies owned by private equity consult more or less than any other business in a similar change of ownership.

Furthermore, we are not aware of any evidence-based consensus that such a consultative process is correlated with the economic and social outcomes of any investment or group of investments.

If we take the consensus from the evidence bases on corporate mergers and acquisitions (M&A) and private equity, we arrive at a very different conclusion. It is widely believed that M&A by corporates tends to be unsuccessful in generating shareholder value. It is also, less strongly, believed that private equity has generated returns that are higher than quoted companies. Therefore, the question for research is not whether private equity style transactions should change their management approach, but rather why are corporations worse at mergers and acquisitions than private equity investors?

Is there tax avoidance and why are tax havens used?

There are two threads to these criticisms. The first revolves around the deductibility of interest paid on loans borrowed to fund buy-outs. While the position varies from country to country, the general position is similar. Whereas in the past most interest was deductible, for many years in most countries this has no longer been the case. All tax authorities acted to stop abuse by using excessive levels of debt. The critics who raise this argument are often unaware that authorities acted to deal with the issue many years ago.

The second, more general criticism is that both investee companies and the private equity funds themselves adopt artificial and convoluted structures to reduce tax in ways that are legal but not available to others and therefore unfairly favour private equity. This is wrong in detail. Many of the apparently artificial structures have nothing to do with tax. They are designed within the confines of countries' laws to manage liabilities as well as taxation.

There are no particular arrangements available to private equity funds that are not available to others. Therefore the debate about offshore and international taxation is a manifestation of a more general debate, outside the scope of this commentary, about the taxation of corporations and individuals generally.

Our only observation is that the critics do not seem to be arguing that any laws are being broken. They appear to be arguing that the laws are wrong or wrongly interpreted. That is surely a matter for politicians and legislators. Businesses are not directly responsible for the regulatory framework and nor should they be.

Is there a culture of secrecy?

There are concerns about a lack of public information on the funds and their investors. If private equity funds intended to be secretive, they have been very poor at achieving it. The number of papers on private equity in academia goes back to the early 1980s and continues to grow.

Similarly, the public commercial data sources are extensive and growing. The level of interest has tracked the growth of the industry, just as it would in any similar growth area with reported high returns. Doubtless some organisations and individuals have raised their profiles and with them that of the industry in general. However, it is our contention that private equity was not secretive but simply not forthcoming with information to a largely disinterested public. This was not due to any strategy to avoid openness, but rather due to the absence of any communication strategy at all with the wider public. In an industry that has grown from a few small transactions in the 1980s to many global fund managers in some 30 plus years, it is not surprising that an information void appeared. This void is being filled.

Is there overpayment of executives?

There are widespread criticisms of the compensation of partners and staff of the funds. The criticism is that people are paid too much and that it cannot reflect the real economic worth of those individuals. There are two separate issues to consider in this criticism. Firstly, there is the return to the founders of the private equity companies. This reflects the reward for establishing and building major global financial institutions in less than a generation. Secondly, and unrelated, is the return to those who joined the firms when the firms had become established and successful.

Is there sufficient permanent capital in private equity funds?

There were concerns regarding the minimum regulatory capital requirement of fund structures. These were largely misplaced as industry norms for 10-year commitments ensure funds are 100% equity backed. The concern was more appropriate for non-private equity funds and indeed once clarity over the difference in fund structures was understood, the regulators incorporated changes to acknowledge the differences between most private equity funds and, say, hedge funds. It was a good example of a problem that now seems to have abated: journalists and commentators now rarely conflate private equity and hedge funds. They are totally different ways of generating returns. They are no more alike than walking and roller-skating are similar ways of making a journey.

Is there a misalignment of incentives?

Not all of the critics are ideologically opposed to the industry. Criticisms concerning misalignment of incentives have arisen from among those actively involved in private equity. The central assumption of private equity is that shareholders' interests should be the primary concern of the management of any company. While it may sound controversial to some, this is simply a restatement of the basic responsibilities of any director of a 'for profit' limited company. The shareholders own the business and management are duty bound to act in the interests of the shareholders, subject to the constraint that they must not trade when insolvent and must observe the various rights of employees, customers and other groups. However, there are a number of circumstances where the interests of the various parties in a leveraged transaction may not be aligned.

Fund level fees

Investors in private equity have been vocal in their concern that the original tightly aligned model of the industry has been materially weakened as funds have become larger and have become multi-fund managers. A small private equity fund relies heavily on sharing in capital gains to generate wealth for its partners. Large multi-fund managers may be more motivated by the fees generated than the outcomes achieved. Fees have become larger as funds have grown, and the excess of fees over fund costs has grown in absolute terms providing a higher guaranteed income to the manager and therefore, probably, higher profit to its partners.

Therefore, there is an incentive to maximise the fund size (consistent with the investment opportunities for the fund) in order to increase the management fee income. Critics have argued that as fund size has grown, the funds' costs have grown less rapidly. Therefore the profit from fee income has become material. It is argued that this income, which is effectively guaranteed, has created a misalignment between the partners in private equity funds and their investors. In essence a new principal–agent problem is said to have been created by the high levels of guaranteed income from fees.

Transaction fees

These are arrangement fees charged by the fund as opposed to fees payable to transaction advisers. They represent inefficiency in the private equity banking market. Investors' money is invested into a transaction and immediately repaid to the fund managers and/or the fund. Increasingly investors are putting pressure on fund managers to direct these fees to the fund not the fund manager.

Zombie funds

As funds have started to 'fail', the incentives of the various parties have diverged and some perverse incentives have emerged. The likelihood of a private equity fund failing is examined in section 2 of the full third edition. Essentially, where a manager will not be able to raise a new fund and the investments will not generate carried interest, the motivation of the manager can be to do as little as possible, for as long as possible.

Late fund stuffing

As funds approach the end of their investment period, there is a strong incentive to invest committed capital rather than cancel it. This is particularly intense where the fund is poorly performing or the likelihood of raising a new fund is low. There is research to suggest that secondary transactions completed late in the investment life of funds show significantly lower returns than the overall population of private equity-backed investments. This would be consistent with the 'late stuffing' conjecture.

Equity illusion

Management of investee companies may suffer from 'equity illusion'. They may hold a significant proportion of the equity of the business (a large 'equity percentage'). However, they may have so much investment ranking ahead of them that has to be repaid before any value is shared by the equity that they cannot realistically accrue any value in their apparent equity stake. In this scenario management are no longer aligned with the private equity sponsors. This misalignment arises where investors take a priority yield that may effectively appropriate equity value to the private equity fund.

Time value of money

Management teams are typically interested in the absolute amount of capital gain whereas private equity funds may target a return on their investment. This can create differences in exit strategy between shareholders and managers due to the time value of money.

Funding acquisitions

Acquisitions often require further equity funding. Where this dilutes management equity or puts instruments that have a priority return to equity into the capital structure, incentives may change.

Credit default swaps

Hedging techniques have created potentially perverse incentives for purchasers or holders of debt in distressed companies. Where loans are publicly traded, purchasers of loans that are 'guaranteed' using credit default swaps may be incentivised to bring about a loan default rather than avoid one. They may therefore be incentivised to induce failure.

Valuation of unrealised investments

Private equity managers are fund managers who seek to raise a series of funds. Due to the long-term nature of the funds and the unquoted nature of the investments made, the ultimate returns on any fund are not known until the fund is fully realised. This will fall outside the usual six-year investment horizon. Therefore, the valuation of the unrealised investments in any existing fund will be an important influence on the decision of existing and new investors looking to invest in any new fund. There is a material incentive to flatter the returns of unrealised fund investments when fund-raising. There is some evidence that this occurs.

Do the conclusions to be reached about private equity depend on the evidence base?

What becomes clear from our review of the claims and counterclaims about private equity is that it is critical to be careful about the evidence base being used. The evidence base may be flawed or may apply to only a particular part of the private equity market.

The use of specific cases to draw general conclusions about the effects of private equity on employment and employee relations is self-evidently discredited. Additionally, some of the cases either did not demonstrate the problem being claimed or took a short-term perspective. For example, in some cases it was unclear what would have happened in the absence of the buy-out.

With respect to more quantitative analyses, problems have arisen because in many jurisdictions performance data is not readily available for private companies. Where such data is used it may be biased if it either refers to higher-performing companies coming to market and hence is disclosing data on their performance as a private firm in the flotation prospectus or relates to the larger end of the market which uses public debt.

Because of the difficulties in obtaining data on the performance of private equity funds and portfolio companies, many studies have made use of proprietary databases. While these do provide rich access to data otherwise unavailable, it has recently become clear that some of these are quite flawed, for example in terms of measures used and whether or not data has been updated. This is an important issue because the impact is not simply a question of minor differences in the same direction of findings but directionally in terms of whether private equity funds have under- or overperformed.

Some other quantitative studies have sought to draw general conclusions about the performance of private equity-backed portfolio companies when they are only referring to a part of the private equity market, such as larger deals or majority private equity owned MBIs/IBOs.

For the future, studies can do more to be clear about the limitations and boundaries of their datasets. Replication studies can also help build up a reliable picture but questions still remain if significant parts of the market are still systematically omitted. In general, there is a greater need for representative studies covering the whole private equity-backed buy-out population that allows comparison with non-private equity-backed companies after controlling for other factors as far as possible. Compared to the US, for example, the UK offers an important context where such studies are feasible since accounting data is available on private companies generally and non-private equity-backed buy-outs can be identified.

What are the areas for further research?

Despite the extensive body of systematic evidence now available, further areas for research remain. The following represent a non-exhaustive list of areas warranting further examination:

- What are the most effective board compositions for different types of private equity buy-out?
- What are the relative performance effects of buy-outs and buy-ins involving private equity firms that are more or less actively involved in their portfolio firms?
- What have been the effects on employee relations and human resource management in private equity-backed buy-outs during and subsequent to the post-2008 recession?

- What are the relative contributions of different forms of innovation versus cost restructurings to the growth of private equity-backed buy-outs?
- To what extent do private equity firms learn from their experience over time to enhance the effectiveness of their involvement in portfolio firms?
- How are private equity firms adapting their exit plans as resurgence of economic growth reopens opportunities that were constrained during the recession? To the extent that there are now more attractive opportunities to secondary buy-outs, what are the implications of these developments for the availability of new investment opportunities?
- To what extent and how are private equity firms adapting their approaches to secondary buy-outs in the light of evidence regarding their performance effects?
- What are the outcomes from secondary fund purchases at both the fund and underlying portfolio company levels? How do these outcomes compare with those associated with primary funds?'

Summaries of studies of buy-outs and private equity

Complete references are included in the full work, *Private equity demystified – An explanatory guide* (third edition).

Light shading indicates material added since *Private Equity Demystified: 2012 update*.

Table 1: Pre-buy-out governance in P2Ps

Authors	Country	Nature of transactions	Findings
Maupin (1987)	US	P2P MBOs	Ownership concentration, price/book value ratio, cash flow to net worth, cash flow to assets, P/E ratio, dividend yield and book value of assets to original costs distinguish P2Ps from comparable non-P2Ps.
Singh (1990)	US	P2P MBOs, LBOs	Prior takeover attempt, cash flow to sales and net assets to receivables predict likelihood of buy-out.
Eddey, Lee and Taylor (1996)	Australia	MBOs	Takeover threat strongly associated with going private.
Weir, Laing and Wright (2005a)	UK	MBO, MBIs listed corporations	Firms going private have higher CEO ownership, higher institutional block-holder ownership, more duality of CEO and board chair but no difference in outside directors or takeover threats compared to firms remaining listed.
Evans, Poa and Rath (2005)	Australia	MBOs, acquisitions of listed corporations	Firms going private have higher liquidity, lower growth rates, lower leverage pre-buy-out, and lower R&D. Free cash flow (FCF) is not significantly different. Takeover threat less likely to be associated with going private.
Boulton, Lehn, Segal (2006)	US	Management and non-management-led P2Ps	Firms going private underperformed but had more cash assets than industry peers, and had higher relative costs of compliance with Sarbanes-Oxley.
Weir and Wright (2006)	UK	MBO, MBI, acquisitions of listed corporations	Firms going private have higher CEO ownership, higher institutional block-holder ownership, more duality of CEO and board chair but no difference in outside directors or takeover threats compared to firms subject to traditional takeovers.
Andres, Betzer and Weir (2007)	Europe	P2Ps	Companies with a high pre-LBO free float and weak monitoring by shareholders show high abnormal returns.
Wright, Weir and Burrows (2007)	UK	P2Ps	Irrevocable commitments for P2Ps depend on extent of takeover speculation, value of the bid and level of board shareholding, the premium offered to other shareholders and how active the private equity-bidder provider was in this market, especially in MBOs, less so in MBIs.
Cornelli and Karakas (2008)	UK	All P2Ps	Decrease in board size from pre- to post-P2P, especially for LBOs funded by experienced private equity firms.

Table 2: Financial returns to private equity and leveraged and management buy-outs

Authors	Country	Nature of transactions	Findings
Kaplan (1989)	US	LBOs	Investors in post-buy-out capital earn a median market-adjusted return of 37%.
Ljungqvist and Richardson (2002)	US	VC and LBO funds	Mature funds started 1981–1993 generate IRRs in excess of S&P 500 returns net of fees; returns robust to assumptions about timing of investment and portfolio company risk; buy-out funds generally outperform venture funds, these differences partially reflect differences in leverage used in investments; sample from one LP with disproportionate share of larger buy-out funds.
Jones and Rhodes-Kropf (2003)	US	VC and LBO funds	LBO funds have a value-weighted IRR of 4.6% and VC funds have a value-weighted IRR of 19.3%, commensurate with factor risks borne by investors; considerable variation in fund returns.
Cumming and Walz (2004)	US, UK, continental Europe, (39 countries)	MBO/MBI, LBO and VC	Private returns to investors in relation to law quality, fund characteristics and corporate governance mechanisms.
Kaplan and Schoar (2005)	US	VC and buy-out funds	LBO fund returns gross of fees earn returns in excess of S&P 500 but net of fees slightly less than S&P 500; unlike mutual funds is persistence in returns among top performing funds; higher returns for funds raised in 1980s; acknowledge that average returns potentially biased as do not control for differences in market risk and possible sample selection bias towards larger and first-time funds; funds raised in boom times less likely to raise follow-on funds and thus appear to perform less well.
Groh and Gottschalg (2006)	US and non-US	MBOs	Risk-adjusted performance of US buy-outs significantly greater than S&P index.
Knigge, Nowak and Schmidt (2006)	Multi-country	VC and buy-out funds	In contrast to VC funds, the performance of buy-out funds is largely driven by the experience of the fund managers regardless of market timing.
Driessen, Lin and Phalippou (2007)	US	VC and buy-out funds	Data from 797 mature private funds over 24 years shows high market beta for venture capital funds and low beta for buy-out funds, and evidence that private equity risk-adjusted returns are surprisingly low. Higher returns larger and more experienced funds mainly caused by higher risk exposures, not abnormal performance.
Froud, Johal, Leaver and Williams (2007); Froud and Williams (2007)	UK	Mid- and large-size funds	General partners in successful mid-sized funds can expect carried interest to generate £5–£15m on top of their salaries while general partners in large, successful funds can expect $50–150m.
Lerner, Schoar and Wongsunwai (2007)	US	VC and LBO funds	Early- and later-stage funds have higher returns than buy-out funds in funds raised 1991-1998; considerable variation in returns by type of institution; presence of unsophisticated performance-insensitive LPs allows poorly performing GPs to raise new funds.

Table 2: Financial returns to private equity and leveraged and management buy-outs (continued)

Authors	Country	Nature of transactions	Findings
Ljungqvist, Richardson and Wolfenzon (2007)	US	LBO funds	Established funds accelerate investments and earn higher returns when opportunities improve, competition eases and credit conditions loosen; first-time funds less sensitive to market conditions but invest in riskier deals; following periods of good performance funds become more conservative.
Metrick and Yasuda (2007)	US	VC and LBO funds	Buy-out fund managers earn lower revenue per managed dollar than managers of VC funds; buy-out managers have substantially higher present values for revenue per partner and revenue per professional than VC managers; buy-out fund managers generate more from fees than from carried interest. buy-out managers build on prior experience by raising larger funds, which leads to significantly higher revenue per partner despite funds having lower revenue per dollar; buy-out managers build on prior experience by raising larger funds, which leads to significantly higher revenue per partner despite funds have lower revenue per dollar.
Nikoskelainen and Wright (2007)	UK	MBOs	Private returns to investors enhanced by context-dependent corporate governance mechanisms.
Diller and Kaserer (2008)	Europe	VC and MBO funds	Highly significant impact of total fund inflows on fund returns. Private equity funds' returns driven by GP's skills as well as stand-alone investment risk.
Philappou and Gottschalg (2009)	US and non-US	LBO funds	After adjusting for sample bias and overstated accounting values for non-exited investments, average fund performance changes from slight overperformance to underperformance of 3% pa with respect to S&P 500; gross of fees, funds outperform by 3% pa; venture funds underperform more than buy-out funds; previous past performance most important in explaining fund performance; funds raised 1980–2003.
Lopez di Silanes, Phalippou and Gottschalg (2011)	Worldwide	Private equity investments	Median investment IRR (PME) 21% (1.3), gross of fees; one in 10 investments goes bankrupt but one in four has an IRR above 50%; one in eight investments held for less than two years, but have highest returns; scale of private equity firm investors is influential: investments held at times of a high number of simultaneous investments underperform substantially, with diseconomies of scale highest for independent firms, less hierarchical firms, and those with managers of similar professional backgrounds.
Maula, Nikoskelainen and Wright (2011)	UK	MBOs	Industry growth drives exited buy-out returns and is particularly high in MBOs, divisional buy-outs and top-quartile deals.

Table 2: Financial returns to private equity and leveraged and management buy-outs (continued)

Authors	Country	Nature of transactions	Findings
Robinson and Sensoy (2011)	US	Buy-out funds	Using data from a single LP, buy-out fund returns outperform public market benchmark.
Stucke (2011)	US	VC and buy-out funds	Previous studies' findings may be biased downwards due to data source used; severe anomalies in underlying data result from ceasing data updates. Many empirical results established using these databases may not be replicable with correct data; the claim that private equity has not outperformed public equity is unlikely to hold with true numbers.
Franzoni, Nowak and Phalippou (2012)	Worldwide	Liquidated buy-out investments	The unconditional liquidity risk premium on private equity is close to 3% annually and, the inclusion of this liquidity risk premium reduces alpha to zero.
Harris, Jenkinson and Kaplan (2012)	US	VC and buy-out funds	US buy-out fund net of fee returns have exceeded those of public markets for most vintages since 1984 using various benchmarks (eg, 3% pa using S&P 500) and various data sources from multiple LPs; but some data sources biased downwards in fund returns; both absolute performance and performance relative to public markets are negatively related to aggregate capital commitment.
Higson and Stucke (2012)	US	Buy-out funds	For almost all vintage years since 1980, US buy-out funds significantly outperformed S&P 500. Liquidated funds 1980–2000 delivered excess returns 450 basis points per year. of funds do better than the S&P; excess returns driven by top-decile funds; higher returns for funds set up in the first half of each of the past three decades; significant downward trend in absolute returns over all 29 vintage years; results robust to measuring excess returns via money multiples instead of IRRs.
Kleymenova, Talmor and Vasvari (2012)	Worldwide	Secondary buy-out funds	A PE fund interest is more liquid if the fund is larger, has a buy-out-focused strategy, less undrawn capital, has made fewer distributions and is managed by a manager whose funds were previously sold in the secondaries market; private equity funds' liquidity improves if more non-traditional buyers, as opposed to dedicated secondary funds, provide bids and overall market conditions are favourable.
Phalippou (2012)	US	Buy-out funds	Adjusting for size premium as buy-out funds mainly invest in small companies, average buy-out fund return is in line with small-cap listed equity.

Table 2: Financial returns to private equity and leveraged and management buy-outs (continued)

Authors	Country	Nature of transactions	Findings
Axelson, Sorensen, and Stromberg (2013)	Worldwide	Buy-out deals from a large fund-of-funds	Gross of fee betas of 2.2%–2.4% and alphas of 8.3%–8.6% annually.
Castellaneta, Gottschalg and Wright (2013)	Europe and US	Private equity-backed buy-outs	Completeness of feedback on performance of past deals has a positive impact on the IRR of subsequent deals; this positive impact is moderated by the proportion of feedbacks on past deals showing negative returns.
Cornelli, Lichtner, Perembetov, Simintzi and Vig (2013)	Worldwide	Private equity funds	Private equity firms experiencing the highest turnover of executives between funds (or those in the top turnover tercile) outperformed those experiencing the lowest turnover (or those in the bottom turnover tercile) by 13.5%; funds that replenished with operational expertise demonstrated improved performance, especially during recessions; turnover of professionals with financial backgrounds did not impact performance; turnover of professionals with private equity experience negatively impacted performance.
Fang, Ivashina and Lerner (2013)	International	Direct investments by institutions in private equity	Solo investments by institutions outperform co-investments; outperformance driven by deals where informational problem not severe [proximity; late stage] and in peak years; poor performance of co-investment due to selective offering by fund managers of large deals.
Harris, Jenkinson, Kaplan and Stucke (2013)	US	VC and buy-out funds	Sustained significance for pre-2000 funds for buy-out funds and particularly for venture funds. Post-2000, mixed evidence of persistence in buy-out funds. Sorting by quartile of performance of previous funds, performance of the current fund is statistically indistinguishable regardless of quartile; performance-size relationship absent. Post-2000, performance in venture capital funds remains as persistent as pre-2000.
Sensoy, Wang and Weisbach (2013)	US	Investments by LPs in buy-out and venture funds	Superior performance of endowments in 1991–1998 due to greater access to top-performing VC funds; in 1999–2006 endowments do not outperform as as no longer have greater access to funds that are likely to restrict access, and do not make better investment selections than other types of institutional investors.
Valkama, Maula, Nikoskelainen and Wright (2013)	UK	MBOs	Governance variables have limited role in driving value creation but use of a ratchet is positively related to both equity and enterprise value returns; leverage has a positive impact on median and top-quartile equity returns; returns are driven by buy-out size and acquisitions made during holding period; the effect of industry growth is strong in insider-driven, divisional buy-outs, and top quartile transactions.

Table 3: Employment, wage and HRM effects

Authors	Country	Unit of analysis	Nature of transactions	Findings
Panel A: Employment effects				
Wright and Coyne (1985)	UK	Firm	MBOs	Forty-four per cent of firms shed employees on buy-out; 18% of pre-buy-out jobs lost subsequent re-employment but below pre-MBO levels.
Kaplan (1989)	US	Firm	LBOs	Small increase in employment post-buy-out but falls after adjusting for industry effects.
Lichtenberg and Siegel (1990)	US	Plant	LBOs, MBOs	Eight-and-a-half per cent fall in non-production workers over three-year period; production employment unchanged.
Muscarella and Vetsuypens (1990)	US	Firm	Reverse LBOs	Median number of employees fell between LBO and IPO but those LBOs without asset divestment reported median employment growth in line with top 15% of control sample; divisional LBOs more likely to increase employment than full LBOs.
Smith (1990)	US	Firm	LBOs	Small increase in employment post-buy-out but falls after adjusting for industry effects.
Wright, et al. (1990a)	UK	Firm	MBOs	Twenty-five per cent of firms shed employment on buy-out.
Opler (1992)	US	Firm	LBOs	Small increase in employment post-buy-out.
Wright, Thompson and Robbie (1992)	UK	Firm	MBOs, MBIs	Average 6.3% fall in employment on MBO but subsequent 1.9% improvement by time of study.
Robbie, Wright and Thompson (1992); Robbie and Wright (1995)	UK	Firm	MBIs	Thirty-eight per cent reduced employment.
Robbie, Wright and Ennew (1993)	UK	Firm	MBOs in receivership	Over three-fifths did not affect redundancies on buy-outs, a sixth made more than 20% redundant and the median level of employment fell from 75 to 58.
Amess and Wright (2007a)	UK	Firm	MBOs and MBIs	Employment growth is 0.51% higher for MBOs after the change in ownership and 0.81% lower for MBIs.
Amess and Wright (2007b)	UK	Firm	MBOs, MBIs, private equity- and non-private equity-backed	After controlling for endogeneity in selection of buy-outs, difference between employment effects of private equity- versus non-private equity-backed buy-outs not significant.

Table 3: Employment, wage and HRM effects (continued)

Authors	Country	Unit of analysis	Nature of transactions	Findings
Panel A: Employment effects				
Cressy, Munari and Malipiero (2007)	UK	Firm	Private equity-backed and non-private equity-backed companies	Employment in buy-outs falls relative to control group for first four years but rises in fifth; initial rationalisation creates basis for more viable job creation.
Work Foundation (2007)	UK	Firm	MBIs, MBOs	Based on same data as Wright, et al. (2007) and Amess and Wright (2007a), MBOs increased employment. MBIs tended to cut it. Remaining workers often experienced significantly less job security. Employment cuts may have been planned pre-buy-out.
Wright, et al. (2007)	UK	Firm	MBOs, MBIs	On average, employment initially falls but then grows above pre-buy-out level in MBOs; in MBIs, employment falls after buy-out; majority of MBOs and MBIs experience growth in employment.
Amess, Girma and Wright (2008)	UK	Firms	LBOs, MBOs, MBIs, acquisitions, private equity-backed and non-private equity-backed	Private equity-backed LBOs have no significant effect on employment. Both non-private equity backed LBOs and acquisitions have negative employment consequences
Davis, and et al. (2008)	US	Firm & establish-ment	Matched Private equity-backed and non-Private equity-backed firms and establishments	Employment grows more slowly in private equity cases than in control pre-buy-out and declines more rapidly post-buy-out but in 4–5th year employment mirrors control group; buy-outs create similar amounts of jobs to control and more greenfield jobs.
Weir, Jones and Wright (2009)	UK	Firms	P2Ps	Private equity-backed deals experienced job losses in years immediately after going private but employment increased subsequently, non-private equity-backed buy-outs increased employment after the first year post deal.
Jelic (2008)	UK	Firms	MBOs, MBIs	More reputable private quity firms associated with increases in employment in both post buy-out and post exit phases.
Goergen, O'Sullivan and Wood (2011)	UK	Firms	IBOs/MBIs of listed companies	Employment falls in the year immediately after the completion of the IBO compared with non-acquired firms; no parallel or subsequent increase in productivity or profitability.
Panel B: Wages				
Lichtenberg and Siegel (1990)	US	Plant	MBOs, LBOs	Decline in relative compensation of non-production workers.
Amess and Wright (2007)	UK	Firm	MBOs, MBIs	Average wages in both MBOs and MBIs are lower than their non-buy-out industry counterparts.

Table 3: Employment, wage and HRM effects (continued)

Authors	Country	Unit of analysis	Nature of transactions	Findings
Panel B: Wages				
Wright, et al. (2007)	UK	Firm	MBOs, MBIs	Wages grow post-buy-out compared to pre-buy-out year; the majority of MBOs and MBIs showed growth in wages.
Amess, Girma and Wright (2008)	UK	Firms	LBOs, MBOs, MBIs, acquisitions, private equity-backed and non-private equity-backed	Employees gain higher wages after acquisitions but lower after LBO.
Panel C: HRM effects				
Wright et al. (1984)	UK	Firm	MBOs	Sixty-five per cent of firms recognised unions before buy-out, falling to 60% afterwards; 40% of firms recognised one union; 8% of firms involved wider employee share ownership after buy-out.
Bradley and Nejad (1989)	UK	Division	NFC MEBO	Employee share ownership had greater effect on 'cooperation' than on performance but did improve employee cost consciousness.
Wright, et al. (1990a)	UK	Firm	MBOs	Fifty-eight per cent of firms recognised unions before buy-out, 51% afterwards; 52% of firms recognised one union; 14.3% of firms involved wider employees in shareholding; 6% had share option scheme pre-buy-out, 10.4% afterwards.
Pendleton, Wilson, Wright (1998)	UK	Firm and employees	Privatised MEBOs	Shareholding and participation in decision making associated with feelings of ownership; perceptions of employee ownership significantly associated with higher levels of commitment and satisfaction.
Bacon, Wright, Demina (2004)	UK	Firm	MBOs, MBIs	Buy-outs resulted in increased employment, adoption of new reward systems and expanded employee involvement; 'insider' buy-outs and growth-oriented buy-outs had more commitment-oriented employment policies.
Bruining, Boselie, Wright and Bacon (2005)	UK and Holland	Firm	MBOs	MBOs lead to increases in training and employee empowerment. These effects were stronger in the UK than in the Netherlands.
Amess, Brown and Thompson (2006)	UK	Firm	MBOs	Employees in MBO firms have more discretion over their work practices.
Work Foundation (2007)	UK	Firm	MBOs, MBIs	Based on data in Wright, et al. (2007) and Amess and Wright (2007), in the case of MBIs, significant cuts in wages generally took place.

Table 3: Employment, wage and HRM effects (continued)

Authors	Country	Unit of analysis	Nature of transactions	Findings
Panel C: HRM effects				
Bacon, Wright, Demina, Bruining and Boselie (2008)	UK and Holland	Firm	MBOs, MBIs, private equity-backed and non-private equity-backed	Insider buy-outs show greater increase in high commitment practices; buy-outs backed by private equity firms report fewer increases in high-commitment management practices.
Bacon, Wright, Scholes and Meuleman (2009)	Pan-European	Firm	All private equity-backed buy-outs above €5m transaction value	Negligible changes to union recognition, membership density and attitudes to trade union membership; absence of reductions in terms and conditions subject to joint regulation; more firms report consultative committees, which are more influential on their decisions, and increased consultation over firm performance and future plans; private equity firms adapt their approaches to different social models and traditional national industrial relations differences persist.
Boselie and Koene (2009)	Netherlands	Firm	Single firm private equity-backed buy-out negotiation	In private equity-backed buy-out negotiations, aloof top management can have negative effect on employee commitment and trust, exacerbating uncertainty and rendering HR-change initiatives powerless; binding effect of informal management practices undermined by financial pressures that dominated senior management decision making; divisional HR managers focused on divisional responsibilities in context of increasingly politicised relationships between division and centre; important for top management to engage with the organisation and introduce realistic people management initiatives; HR acting as a business partner with line management led to tension between corporate and divisional HR levels, limiting ability of local HR to engage with proactive corporate people management initiatives.
Bacon, Wright, Meuleman and Scholes (2011)	Europe	Firm	All private equity-backed buy-outs above €5m transaction value	Impact of private equity on high-performance work practices (HPWP) affected more by length of investment relationship than by countries where private equity is going to or is coming from; buy-outs backed by Anglo-Saxon private equity firms as likely to introduce new HPWP as those backed by non-Anglo-Saxon private equity firms.
Gospel, Pendleton, Vitols and Wilke (2011)	UK, Germany, Spain	Firm	Case of LBOs, hedge fund and SWF investments	Employment reductions in each case, though to varying extent; few changes in work organisation developments in employee voice and representation. National systems of labour regulation affect the extent to which worker representatives receive information after, though not during, the acquisition.

Table 4: Effects on debt-holders, taxation

Authors	Country	Nature of transactions	Findings
Effects on debt holders			
Marais, et al. (1989)	US	LBOs	No evidence of wealth transfer from pre-buy-out bondholders.
Asquith and Wizman (1990)	US	LBOs	Small average loss of 2.8% of market value to pre-buy-out bondholders. Bonds with protective covenants had a positive effect, those without experience negative reaction.
Cook, et al. (1992)	US	Division LBOs	Bondholders with covenants offering low protection against corporate restructuring lose some percentage of their investment.
Warga and Welch (1993)	US	LBOs	Bondholders with covenants offering low protection against corporate restructuring lose some percentage of their investment.
Taxation effects			
Schipper and Smith (1988)	US	LBOs	Tax savings account for small fraction of value gains in LBOs; significant correlation between estimated tax savings and buy-out bid premium.
Jensen, Kaplan and Stiglin (1989)	US	LBOs	Total amount of taxes collected by government does not decrease as a result of LBOs.
Kaplan (1989b)	US	LBOs	Tax savings account for small fraction of value gains in LBOs; significant correlation between estimated tax savings and buy-out bid premium.
Muscarella and Vetsuypens (1990)	US	Reverse LBOs	Few control sample firms had lower tax rates than buy-outs.
Newbould, Chatfield and Anderson (1992)	US	LBOs	LBOs would have paid significantly more tax depending on tax structure; Significant proportion of premia paid on LBO appears to be caused by reduction in taxes due to additional tax shields from debt; after Tax Reform Act 1986 less than 50% of premium paid on LBO can be attributed to reduction in taxes.
Renneboog, Simons and Wright (2007)	UK	P2Ps	No significant relationship between pre-P2P tax-to-sales ratio and shareholder wealth gains (premia) on announcement of P2P but bidders willing to pay higher premia for firms with lower debt-to-equity ratios which proxies for the tax advantage of additional interest deductibility and for the ease of financing the takeover operation.
Weir, Jones and Wright (2009)	UK	P2Ps	Tax paid is significantly below the industry average in each year post going private but is not statistically different in the year prior to going private, but lower tax may be a function of lower profitability reported post P2P rather than from the tax shield element of going private.

Table 5: Longevity

Authors	Country	Nature of transactions	Findings
Kaplan (1991)	US	LBOs	Heterogeneous longevity. LBOs remain private for median 6.8 years. Fifty-six per cent still privately owned after year 7. LBOs funded by leading private equity firms no more likely to stay private than other buy-outs; no difference in longevity of divisional or full LBOs.
Wright, et al. (1993)	UK, France, Sweden, Holland	MBOs	State of development of asset and stock markets, legal infrastructures affecting the nature of private equity firms' structures and the differing roles and objectives of management and private equity firms influence timing and nature of exits from buy-outs.
Wright, et al. (1994)	UK	MBOs	Heterogeneity of longevity influenced by managerial objectives, fund characteristics and market characteristics; larger buy-outs and divisional buy-outs significantly more likely to exit more quickly.
Wright, et al. (1995)	UK	MBOs, MBIs	Heterogeneous longevity. Greatest exit rate in years 3–5; 71% still privately owned after year 7. MBIs greater rate of exit than MBOs in short term consistent with higher failure rate of MBIs. Exit rate influenced by year of deal [ie economic conditions]. To achieve timely exit, private equity firms are more likely to engage in closer (hands on) monitoring and to use exit-related equity ratchets on management's equity stakes.
Gottschalg (2007)	Worldwide	Private equity-backed buy-outs	Average longevity of private equity investment five years; average length of private equity investment compares favourably with that of blockholders in public firms.
Strömberg (2008)	Worldwide	Private equity-backed buy-outs	Fifty-eight per cent of deals exited more than five years after initial transaction; exits within two years account for 12% and have been decreasing.
Caselli, Garcia-Appendini and Ippolito (2009)	Italy	Early and late stage private equity	Duration of investment shorter than in US and UK; exit primarily by trade sale; IRR positively related to initial undervaluation, target firm risk, private equity firm experience; fund size, lock-up clauses, puttable securities and exit ratchets.
Jelic (2011)	UK	Private equity-backed and non-private equity-backed MBOs and MBIs	Average time to exit 46 months; smaller private equity-backed deals take longer to exit; private equity-backed MBOs exit sooner, have higher exit rates but fewer liquidations; syndicated private equity-backed MBOs exit sooner; backing by more reputable private equity firms increases likelihood of IPO exit.
De Prijcker, Manigart, Maesseneire and Wright (2013)	Europe	Private equity-backed buy-outs	More efficient and high-growth buy-outs more likely to exit successfully, particularly through an IPO or secondary buy-out, but not through a trade sale; having a cross-border lead private equity investor further increases the likelihood of a successful exit, especially for secondary buy-outs; cross-border syndicate investors are more important in trade sale exits.

Table 6: Asset sales and disposals

Authors	Country	Nature of transactions	Findings
Bhagat, et al. (1990)	US	LBOs	Forty-three per cent of assets in hostile LBOs sold within three years.
Muscarella and Vetsuypens (1990)	US	Reverse LBOs	Forty-three per cent of reverse LBOs divested or reorganised facilities; 25% made acquisitions; divestment activity greater among full LBOs.
Kaplan (1991)	US	LBOs	Thirty-four per cent of assets sold within six years of buy-out.
Liebeskind, et al. (1992)	US	LBOs	LBOs show significantly greater reduction in number of plants than control sample of matched public corporations and divested significantly more businesses in terms of mean employees, revenues and plants but not in terms of median revenue and plants; LBO managers downsized more lines of businesses than in the control group.
Wright, Thompson and Robbie (1992)	UK	MBOs	Eighteen per cent sold surplus land and buildings; 21% sold surplus equipment.
Seth and Easterwood (1993)	US	Large LBOs	Five out of 32 firms were complete bust ups, all involving buy-out (private equity) specialists; 14 out of 32 firms refocused by divesting unrelated lines; 21 out of 32 firms engaged in business focus by divesting related lines and 9 out of 32 in market focus.
Easterwood (1998)	US	LBOs	The average abnormal returns to publicly listed bonds of LBOs around asset sales depends on whether firm experiences financial distress; distressed firms experience negative and significant wealth effects, no distressed firms experience positive and significant returns; evidence is consistent with returns being determined by whether divestment price exceeds, equals or is below expected price for the anticipated divestment.
Wright, et al. (2007)	UK and Europe	MBOs, MBIs	Partial sales of subsidiaries or divisions of buy-outs accounted for a third of total realised in the UK in 2001 but accounted for a quarter in 2005; number of partial sales generally ranges between 70 and 100 per annum; €9 bn was raised through partial sales in UK in 2005; in continental Europe partial sales accounted for less than a twentieth of total exit value in 2005.
Hege, Lovo, Slovin and Sushka (2010)	US	Divestments to private equity and corporate acquirers	Private equity deals generate greater seller returns relative to sales to strategic buyers and gains to firms that sell assets to private equity are related to type of exit transaction and the subsequent increase in the asset's enterprise value, which exceeds that of benchmark firms; sellers earn a significantly greater gain for assets that exit by IPOs or a sale to a strategic buyer rather than by a secondary buy-out.

Table 7: Post-exit effects

Authors	Country	Nature of transactions	Findings
Holthausen and Larcker (1996)	US	Reverse LBOs	Leverage and management equity fall in reverse buy-outs but remain high relative to comparable listed corporations that have not undergone a buy-out. Pre-IPO accounting performance significantly higher than the median for the buy-outs' sector. Following IPO, accounting performance remains significantly above the firms' sector for four years but declines during this period. Change is positively related to changes in insider ownership but not to leverage.
Bruton, et al. (2002)	US	Reverse LBOs	Agency cost problems did not reappear immediately following a reverse buy-out but took several years to re-emerge.
Jelic, Saadouni and Wright (2005)	UK	Reverse MBOs, MBIs	Private equity-backed MBOs more underpriced than MBOs without venture capital backing but perform better than their non-VC-backed counterparts in the long run. Reverse MBOs backed by more reputable VCs exit earlier and perform better than those backed by less-prestigious VCs.
Cao and Lemer (2007, 2009)	US	Reverse LBOs	For a sample of 526 RLBOs between 1981 and 2003, three- and five-year stock performance appears to be as good as or better than other IPOs and the stock market as a whole, depending on the specification. There is evidence of a deterioration of returns over the time.
Von Drathen and Faleiro (2008)	UK	LBO-backed and non-LBO-backed IPOs	For a sample of 128 LBO-backed IPOs and 1,121 non-LBO backed IPOs during 1990–2006 LBO-backed IPOs outperform non-LBO-backed IPOs and a stock market index; percentage of equity retained by buy-out group post offering drives outperformance.
Jelic and Wright (2011)	UK	MBOs, MBIs	Improvements in employment, leverage, sales efficiency and sales up to five years post-IPO, especially for more reputable private equity firms; no significant change in employment and efficiency following non-float exit.

Table 8: Distress, failure and recovery

Authors	Country	Nature of transactions	Findings
Bruner and Eades (1992)	US	LBOs	Given REVCO's debt and preference dividend obligations and its context, low probability could have survived the first three years.
Kaplan and Stein (1993)	US	LBOs	Overpayment major cause of distress.
Wright, et al. (1996)	UK	MBOs, MBIs	Failed buy-outs more likely than non-failed buy-outs to be more highly leveraged, have lower liquidity ratios, be smaller and have lower labour productivity.
Andrade and Kaplan (1998)	US	LBOs	Net effect of high leverage and distress creates value after adjusting for market returns.
Citron, Wright, Rippington and Ball (2003)	UK	MBOs, MBIs	Secured creditors recover on average 62% of loans in failed buy-outs.
Citron and Wright (2008)	UK	MBOs, MBIs	Multiple secured creditors do not lead to inefficiency in the distress process but lead secured creditors obtained significantly higher recovery rates than other secured lenders.
Strömberg (2008)	Worldwide	Private equity-backed buy-outs	No significant relationship between bankruptcy and deal size; divisional buy-outs significantly less likely to end in distress; private-equity backed deals somewhat more likely to go bankrupt; no major difference in probability of bankruptcy across time periods; buy-outs of distressed firms significantly more likely to fail.
Demiroglu and James (2009)	US	P2P LBOs	Buy-outs sponsored by high-reputation private equity firms are less likely to experience financial distress or bankruptcy ex-post.
Sudarsanam, Wright and Huang (2011)	UK	P2P LBOs	P2Ps significantly higher default probability than non-acquired firms that remain public; high bankruptcy risk at going private increases chance of subsequent bankruptcy; post-P2P bankruptcy likelihood less when P2P is an MBO and with independent board pre-P2P.
Hotchkiss, Smith and Stromberg (2011)	US	Private equity-backed and non-PE-backed firms obtaining leveraged loan financing	Fifty per cent of defaults involve private equity-backed firms; private equity-backed firms not more likely to default than other firms with similar leverage characteristics; recovery rates for junior creditors lower for private equity-backed firms; private equity-backed firms in distress more likely to survive as an independent reorganised company.
Borell and Tykvova (2012)	Europe	LBOs, non-LBOs	Private equity investors select companies which are less financially constrained than comparable companies and financial constraints tighten after buy-out, especially for stand-alone transactions and in times of cheap debt; private equity-backed companies do not suffer from higher mortality rates, unless backed by inexperienced private equity funds.
Wilson and Wright (2013)	UK	MBOs, MBIs, private equity-backed buy-outs, non-buy-outs	Buyouts have a higher failure rate (entering administration) than non-buy-outs with MBIs having a higher failure rate than MBOs which in turn have a higher failure rate than private equity-backed buy-outs-buyins.

Table 9: Operating performance changes post-buy-out

Authors	Country	Nature of transactions	Findings
Kaplan (1989)	US	LBOs	Profits and cash flows increase post-buy-out; operating income/assets up to 36% higher for LBOs compared to industry median.
Muscarella and Vetsuypens (1990)	US	Reverse LBOs	Operating income/sales increases by more than all of control sample firms; improvements in operating performance compared to control sample mainly due to cost reductions rather than revenue or asset turnover improvements.
Singh (1990)	US	Reverse LBOs	Revenue growth post-buy-out, working capital management and operating income better than industry comparators, especially for divisional LBOs.
Smith (1990)	US	LBOs	Operating cash flow per employee and per dollar of operating assets improves post-buy-out; working capital improves post-buy-out; changes not due to lay-offs or capex, marketing etc, expenditures; cash flow to employees 71% higher than industry median.
Opler (1992)	US	LBOs	Operating cash flow/sales ratio increased by 16.5% on average three years post-buy-out.
Bruining (1992)	Holland	MBOs	Buy-outs display significantly higher than industry average cash flow and return on investment.
Wright, Thompson and Robbie (1992)	UK	MBOs, MBIs	Sixty-eight per cent showed improvements in profitability; 17% showed a fall; 43% reduced debt days and 31% increased creditor days.
Smart and Waldfogel (1994)	US	LBOs	Median shock effect of buy-out [correcting for forecast performance] of 30% improvement in operating income/sales ratio between pre-LBO year and second post-LBO year.
Chevalier (1995)	US	LBOs	Consumers may face higher prices in supermarkets subject to LBO.
Wright, Wilson and Robbie (1996)	UK	Matched MBOs and non-MBOs	Profitability higher for MBOs than comparable non-MBOs for up to five years.
Desbrieres and Schatt (2002)	France	MBOs, MBIs	Accounting performance changes depend on vendor source of deal.
Cressy, Munari and Malipero (2007)	UK	MBOs, MBIs	Operating profitability of private-equity backed buy-outs greater than for comparable non-buy-outs by 4.5% over first three buy-out years.
Boucly, Thesmar and Sraer (2009)	France	LBOs	Post-LBO growth in sales, assets, productivity and jobs higher in industries that have insufficient internal capital.

Table 9: Operating performance changes post-buy-out (continued)

Authors	Country	Nature of transactions	Findings
Gaspar (2009)	France	LBOs	LBOs exhibit significantly higher operating returns of 2%-3% relative to matched control group, due to increase in gross margins, productivity gains and improved working capital utilisation.
Meuleman, Amess, Wright and Scholes (2009)	UK	Divisional, family and secondary buy-outs	Higher growth in divisional buy-outs.
Weir, Jones and Wright (2009)	UK	P2Ps	Performance deteriorates relative to the pre-buy-out situation but firms do not perform worse than firms that remain public and there is some evidence that performance improves; private equity-backed deals have a negative effect on profitability relative to pre-buy-out; private equity-backed deals performed better than the industry average; non-private equity-backed buy-outs' expenses lower after going private and profit per employee higher, z-scores improved.
Guo, Hotchkiss and Song (2011)	US	P2Ps	Returns to pre- or post-buy-out capital significantly positive except for firms ending in distressed restructuring. Returns to post-buy-out capital greater when deal financed with a greater proportion of bank financing, or when there is more than one private equity sponsor.
Jelic and Wright (2011)	UK	MBOs, MBIs, private equity-backed	Significant improvements in output for private equity-backed buy-outs exiting by IPO; performance of secondary MBOs declines during first buy-out but performance in second buy-out stabilises until year 3.
Wilson, Wright, Siegel and Scholes (2011)	UK	MBOs, MBIs, private equity-backed, non-private equity Companies	Private equity-backed buy-outs show stronger economic performance before and during recession than comparable private and listed companies; with up to 4.8% higher ROA.
Bernstein and Sheen (2013)	US	Private equity-backed restaurant establishments	Health and sanitation violations decline post private equity buy-out and correlate with increases in customer satisfaction and declines in menu prices and workers per outlet.
Wilson and Wright (2013)	UK	Private equity-backed and non-PE-backed buy-outs	For 1998–2011, private equity-backed buy-outs have significant and positive associations with cumulative average growth rates for three- and five-year periods. For 2008–2011, private equity-backed buy-outs are significant and positively associated with growth in all variables for both CAGR three- and five-year periods, indicating their growth has held up better than non-private equity-backed private companies.
Zhou, Jelic and Wright (2013)	UK	SBOs	Strong evidence of a deterioration in long run abnormal returns following SBO deals; SBOs also perform worse than primary buy-outs in terms of profitability, labour productivity and growth.

Table 10: Productivity changes in buy-outs and private equity

Authors	Country	Unit of analysis	Nature of transactions	Findings
Lichtenberg and Siegel (1990a)	US	Plant	Divisional and full-firm LBOs and MBOs of public and private companies	Plants involved in LBOs and MBOs are 2% more productive than comparable plants before the buy-out; LBOs and especially MBO plants experience a substantial increase in productivity after a buy-out to 8.3% above; employment and wages of non-production workers at plants (but not production workers) declines after an LBO or MBO; no decline in R&D investment.
Arness (2002)	UK	Firm	MBOs	MBOs enhance productivity; marginal value added productivity of labour is significantly higher than in comparable non-buy-outs.
Amess (2003)	UK	Firm	MBOs	MBOs have higher technical efficiency two years pre-MBO and lower technical efficiency three or more years before than comparable non-buy-outs; MBOs have higher technical efficiency in each of four years after buy-out but not beyond four years than comparable non-buy-outs.
Harris, Siegel and Wright (2005)	UK	Plant	Divisional and full-firm LBOs and MBOs of public and private companies	Plants involved in MBOs are less productive than comparable plants before the buy-out; they experience a substantial increase in productivity after a buy-out; plants involved in an MBO experience a substantial reduction in employment.
Davis, et al. (2009)	US	Firm/ establish-ment	Matched private equity backed and non-private equity backed firms and establishments	Private equity-backed firms increase productivity in two years post transaction on average by 2% more than controls; 72% of increase due to more effective management; private equity firms more likely to close underperforming establishments; as measured by labour productivity, private-equity backed firms outperformed control firms before buyout.
Wilson, Wright, Siegel and Scholes (2011)	UK	Firm	MBOs, MBIs, private equity-backed, non-private equity companies	Private equity-backed buy-outs show stronger economic performance before and during recession than comparable private and listed companies with up to 11% productivity differential.
Alperovych, Amess and Wright (2013)	UK	Firm	Private equity-backed LBOs	Post-buy-out efficiency increases in three years post-deal but mainly in first two years; divisional buy-outs show higher efficiency improvements than private and secondary buy-outs; there is a positive and significant effect of private equity firm experience on post-buy-out efficiency.

Table 11: Strategy, investment, R&D and control system changes in buy-outs

Authors	Country	Unit of analysis	Nature of transactions	Findings
Wright (1986)	UK	Firm	MBOs	Divisional MBOs reduce dependence on trading activity with former parent.
Bull (1989)	US	Firm	MBOs, LBOs	Evidence of both cost reduction but greater managerial alertness to opportunities for wealth creation more important.
Kaplan (1989)	US	Firm	LBOs	Capex falls immediately following LBO.
Malone (1989)	US	Firm	Smaller LBOs	Major changes in marketing and NPD; cost control given greater importance.
Lichtenberg and Siegel (1990)	US	Plant	LBOs, MBOs	LBOs typically in low R&D industries. R&D fall both pre- and post-buy-out not statistically significant; R&D fall may be accounted for by divestment of more R&D-intensive divisions.
Muscarella and Vetsuypens (1990)	US	Firm	Reverse LBOs	Capex declines compared to pre-LBO.
Smith (1990)	US	Firm	LBOs	Capex and R&D fall immediately following LBO.
Wright, et al. (1990b)	UK	Firm	MBOs, MBIs	Divisional buy-outs reduce trading dependence on former parent by introducing new products previously prevented from introducing.
Green (1992)	UK	Firm	MBOs	Buy-out ownership allowed managers to perform tasks more effectively through greater independence to take decisions. Managers had sought to take entrepreneurial actions prior to buy-out but had been prevented from doing so because of the constraints imposed by parent's control.
Jones (1992)	UK	Firm	MBOs	Buy-outs result in better match between accounting control systems and context, with increased reliance on management control systems influenced by pressure to meet targets.
Wright, Thompson and Robbie (1992)	UK	Firm	Divisional, and full-firm MBOs of private companies	MBOs enhance new product development; 44% acquired new equipment and plant that would not otherwise have occurred.
Long and Ravenscraft (1993)	US	Division	LBOs and MBOs	LBOs result in a reduction in R&D expenditure but LBOs typically in low R&D industries; R&D intensive buy-outs outperform non-buy-out industry peers and other buy-outs without R&D expenditure.
Seth and Easterwood (1993)	US	Firm	LBOs	Buy-outs focus strategic activities towards more related businesses.

Table 11: Strategy, investment, R&D and control system changes in buy-outs (continued)

Authors	Country	Unit of analysis	Nature of transactions	Findings
Lei and Hitt (1995)	N/a	N/a	N/a	A theory paper. LBOs may lead to a reduced resource base for organisational learning and technology development.
Phan and Hill (1995)	US	Firm	LBOs	Buy-outs focus strategic activities and reduce diversification.
Robbie and Wright (1995)	UK	Firm	MBIs	Ability of management to effect strategic changes adversely affected by asymmetric information, need to attend to operational problems and market timing.
Wiersema and Liebeskind (1995)	US	Firm	Large LBOs	Large LBOs reduce lines of business and diversification.
Zahra (1995)	US	Firm	MBOs	MBOs result in more effective use of R&D expenditure and new product development.
Bruining and Wright (2002)	Holland	Firm	Divisional MBOs	MBOs result in more entrepreneurial activities such as new product and market development.
Bruining, Bonnet and Wright (2004)	Holland	Firm	MBOs	MBOs result in introduction of more strategic control systems that allow for entrepreneurial growth.
Brown, Fee and Thomas (2007)	US	Firm	Suppliers to LBOs and leveraged recapita-lisations	Suppliers to LBO firms experience significantly negative abnormal returns at announcements of downstream LBOs but not the case for leveraged recapitalisations. Suppliers who have made substantial relationship-specific investments are more negatively affected. This suggests increased leverage without accompanying change in organisational form does not lead to improved bargaining power.
Gottschalg (2007)	International	Firms	Private equity-backed LBOs	Pure restructuring deals less frequent than growth-oriented deals; combination of growth-oriented (acquisitions, new marketing and markets, new products, JVs etc) and restructuring-oriented (divestments, layoffs, cost-cutting, closure of non-core units etc) changes common; 43% had complete/partial replacement of management.
Lerner, Strömberg and Sørensen (2008)	Worldwide	Firm	Private equity-backed buy-outs	Buy-outs increase patent citations after private equity investment but quantity of patenting unchanged, maintain comparable levels of cutting-edge research, patent portfolios become more focused after private equity investment.

Table 11: Strategy, investment, R&D and control system changes in buy-outs (continued)

Authors	Country	Unit of analysis	Nature of transactions	Findings
Acharya, Hahn and Kehoe (2008)	UK	Firms	Private equity-backed LBOs	Significant replacement of CEOs and CFOs either at the time of the deal or afterwards and leveraging of external support important especially related to investee outperformance.
Cornelli and Karakas (2008)	UK	Firms	Private equity-backed P2Ps (LBOs and MBOs)	High CEO and board turnover during post-P2P restructuring.
Bloom, van Reenen and Sadun (2009)	Asia, Europe, US	Firms	Private equity-owned and other firms	Private equity management practices better than in other firms in terms of operational management, people-based management practices and evaluation practices.
Ughetto (2010)	Europe	Firm	Private equity-backed buy-outs	An increase in patenting post-buy-out.
Bruining, Wervaal and Wright (2011)	Holland	Firms	Private equity and non-private equity-backed buy-outs	Majority private equity-backed buy-outs significantly increase entrepreneurial management practices but increased debt negatively affects entrepreneurial management; entrepreneurial management positively affects exploration and exploitation, but the latter does not impact firm performance.
Cumming and Zambelli (2011)	Italy	Firms	Private equity-backed buy-outs	Following legislative changes, private equity investors become more involved in the management and governance of the target firm by increasing ownership stake, the use of convertible debt, adopting more control rights especially right to CEO and the right to take majority board position.
Gong and Wu (2011)	US	Firm	LBO	CEO turnover rate of 51% within two years of LBO; boards replace CEOs in companies with high agency costs, low pre-LBO ROA and entrenched CEOs.

Table 12: Drivers of post-buy-out changes

Authors	Country	Nature of transactions	Findings
Malone (1989)	US	Smaller private equity-backed LBOs	Management equity stake important driver of post-buy-out changes.
Thompson, Wright and Robbie (1992)	UK	MBOs, MBIs returning to market	Management team equity stake by far larger impact on relative performance of returns to equity investors from buy-out to exit than leverage, equity ratchets etc.
Denis (1994)	US	LBO and leveraged recapitalisation	Gains in LBO greater than in leveraged recapitalisation attributed to more important role of equity ownership and active investors in LBOs.
Phan and Hill (1995)	US	LBOs of listed corporations	Managerial equity stakes had a much stronger effect on performance than debt levels for periods of three and five years following the buy-out.
Robbie and Wright (1995)	UK	Smaller MBIs	Private equity firms less closely involved; debt commitment and covenants important trigger for corrective action.
Cotter and Peck (2001)	US	LBOs	Active monitoring by a buy-out specialist substitutes for tighter debt terms in monitoring and motivating managers of LBOs. Buy-out specialists that control a majority of the post-LBO equity use less debt in transactions. Buy-out specialists that closely monitor managers through stronger representation on the board also use less debt.
Cressy, Munari and Malipero (2007)	UK	MBOs, MBIs	Industry specialisation, but not buy-out stage specialisation, of private equity firm adds significantly to increase in operating profitability of private equity-backed buy-outs over first three buy-out years.
Cornelli and Karakas (2008)	UK	Private equity-backed P2Ps (LBOs and MBOs)	Board representation and active involvement by private equity firms changes according to private equity firm style and anticipated challenges of the investment; board size falls less and private equity firm representation higher when there is CEO turnover and for deals that take longer to exit.
Acharya, Hahn and Kehoe (2008)	UK	Private equity-backed LBOs	High levels of private equity firm interaction with executives during the initial 100-day value creation plan, creating an active board.
Acharya, Kehoe and Reyner (2009)	UK	Board members of large private equity portfolio firms and PLCs	Value creation focus of private equity boards versus governance compliance and risk management focus of PLC boards. private equity boards lead strategy through intense engagement with top management, PLC boards accompany strategy of top management. Almost complete alignment in objectives between executive and non-executive directors only in private equity boards. Private equity board members receive information primarily cash-focused and intensive induction during due diligence; PLC board members collect more diverse information and undergo a more structured (formal) induction.

Table 12: Drivers of post-buy-out changes (continued)

Authors	Country	Nature of transactions	Findings
Meuleman, Amess, Wright and Scholes (2009)	UK	Divisional, family and secondary buy-outs	Private equity firms' experience significant driver of higher growth in divisional buy-outs; private equity experience important influence on growth but not profitability or efficiency; intensity of private equity involvement associated with higher profitability and growth; amount of management investment insignificant or negative relationship with profitability or productivity change.
Demiroglu and James (2009)	US	P2P LBOs	Buy-outs sponsored by high-reputation private equities pay narrower loan spreads, have fewer and less restrictive financial loan covenants, use less traditional bank debt, borrow more and at a lower cost from institutional loan markets, and have higher leverage; no direct effect of private equity firm reputation on buy-out valuations.
Leslie and Oyer (2009)	US	P2Ps that IPO'd	Private equity-owned companies use much stronger incentives for top executives and have substantially higher debt levels. Little evidence that private equity-owned firms outperform public firms in profitability or operational efficiency; compensation and debt differences between private equity-owned companies and public companies disappear over a very short period (one to two years) after the private equity-owned firm goes public.
Pe'er and Gottschalg (2011)	US	LBOs	Positive association between a more aligned institutional context (US states dominated by Republican party) and volume of buy-out activity and different measures of performance for these buy-outs.
Alperovych, Amess and Wright (2013)	UK	Private equity-backed SBOs and non-SBOs	Private equity firm experience significantly increases efficiency post-buy-out.
Wilson and Wright (2013)	UK	Private equity-backed buy-outs and non-buy-outs	Extent of UK experience of private equity firms is significant and positively associated with growth in value added, assets, sales, equity and employment; foreign private equity firms are significant and positively associated with growth in asset and equity, but significant and negatively associated with employment growth; board size and director sector experience positively associated with growth; director age and number of directorships negatively associated with growth.
Zhou, Jelic and Wright (2013)	UK	SBOs	Private equity firm's reputation and change in management are important determinants of improvements in profitability and labour productivity, respectively; high debt and high percentage of management equity associated with poor performance measured by profitability and labour productivity; none of the buy-out mechanisms (ie, financial, governance, operating) generate growth during the secondary buy-out phase.

Table 13: Secondary buy-outs

Authors	Country	Nature of transactions	Findings
Achleitner and Figge (2012); Achleitner, et al. (2012)	Europe and North America	SBOs	No difference in performance of primary and secondary deals.
Bonini (2012)	Europe	SBOs and primary deals	SBOs underperform compared to primary deals in terms of operating income.
Jenkinson and SoUS (2012)	Europe	SBOs and primary deals	SBOs underperform compared to primary deals in terms of operating income.
Wang (2012)	UK	SBOs	The positive effects of secondary buy-outs on firms' operating cash flows seem to be achieved through expansions, not by running the firms more efficiently.
Alperovych, Amess and Wright (2013)	UK	SBOs and private equity-backed non-SBOs	Secondary buy-outs remain below the average in terms of performance.
Arcot, Fluck, Gaspar and Hege (2013)	US and 12 European countries	SBOs	SBOs more likely if buyer fund under pressure to invest or seller fund under pressure to exit; buyers under pressure may pay relatively more and sellers under pressure accept lower prices; sellers under pressure have more bargaining power than buyers under pressure.
Degeorge, Martin and Phalippou (2013)	Worldwide	SBOs	SBOs underperform primary buy-outs in terms of cash multiples and IRR while their risk is similar; SBOs between specialised private equity firms perform better.
Zhou, Jelic and Wright (2013)	UK	SBOs and primary buy-outs	Strong evidence of a deterioration in long-run abnormal returns following SBO deals; SBOs also perform worse than primary buy-outs in terms of profitability, labour productivity and growth.

ICAEW is a world leading professional membership organisation that promotes, develops and supports over 142,000 chartered accountants worldwide. We provide qualifications and professional development, share our knowledge, insight and technical expertise, and protect the quality and integrity of the accountancy and finance profession.

As leaders in accountancy, finance and business our members have the knowledge, skills and commitment to maintain the highest professional standards and integrity. Together we contribute to the success of individuals, organisations, communities and economies around the world.

Because of us, people can do business with confidence.

ICAEW is a founder member of Chartered Accountants Worldwide and the Global Accounting Alliance.

www.charteredaccountantsworldwide.com
www.globalaccountingalliance.com

ICAEW
Chartered Accountants' Hall Moorgate Place London EC2R 6EA UK

T +44 (0)20 7920 8685
E financingchange@icaew.com
icaew.com/financingchange

linkedin.com – ICAEW
twitter.com/@ICAEW_CORP_FIN
facebook.com/icaew

TECPLM13425 11/14