



CORPORATE  
FINANCE  
FACULTY

# Private equity demystified

## An explanatory guide

THIRD EDITION

John Gilligan and Mike Wright

# Private Equity Demystified – An Explanatory Guide

## An initiative from the ICAEW Corporate Finance Faculty

*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.

This 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.

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*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.

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This work, which includes a summary of academic studies and references, is also available to download from [icaew.com/cff](http://icaew.com/cff).

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# 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 this 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.

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**

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All errors and omissions are entirely our own responsibility.

In the absence of any tangible reward we offer our sincere thanks to all of these people.

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### 3. EVALUATING, STRUCTURING AND RESTRUCTURING A PRIVATE EQUITY INVESTMENT

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### 4. A WORKED EXAMPLE

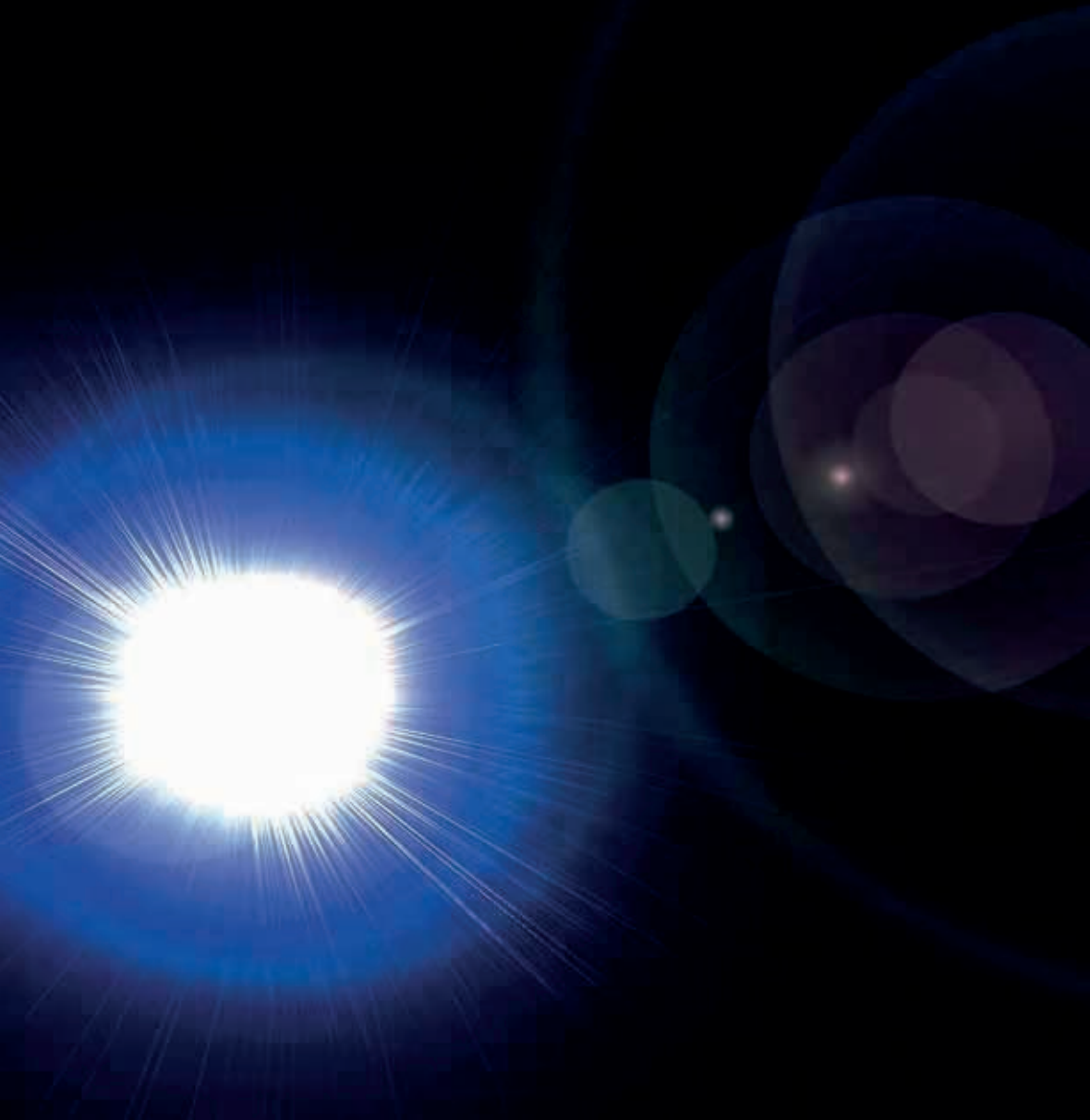
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# 1. The private equity market

In this section we set the scene: we clarify some definitions, describe the origins of the private equity market and examine the data on the size and growth of the private equity industry.



## 1.1 What is private equity?

### 'Private'

Private equity is risk capital provided outside the public markets. It is worth emphasising at this early stage that the word 'private' has nothing to do with secrecy. It simply contrasts with the 'public' quoted markets.

### 'Equity'

Equity is the umbrella term under which you find an array of financial instruments that equitably share in the profits and losses of a business. Traditionally equity was seen as being synonymous with 'ordinary shares'. It is still the convention to refer to an equity percentage meaning the percentage of ordinary shares held. However, as we will expand upon, equity has a broader meaning when used in the phrase 'private equity'. It means the total amount of capital that is both put at risk of loss in a transaction and that, as a financial package, has a share in any capital gain earned. As we elaborate in sections 3 and 4, a private equity investment will often be in the form of both ordinary shares and loans.

#### 1.1.1 What is a private equity fund?

Much, but not all, of the investing done in the private equity market is by private equity funds. A private equity fund is a form of 'investment club' in which the principal investors are institutional investors such as pension funds, investment funds, endowment funds, insurance companies, banks, family offices/high net worth individuals and funds-of-funds, as well as the private equity fund managers themselves. The objective of a private equity fund is to invest equity or risk capital in a portfolio of private companies which are identified and researched by the private equity fund managers. Private equity funds are generally designed to generate capital profits from the sale of investments rather than income from dividends, fees and interest payments.

A private equity fund may take minority or majority stakes in its investments, though generally it will be the latter in the larger buy-outs. At the same time that a private equity fund makes an investment in a private company, there is usually some bank debt or other debt capital raised to meet part of the capital required to fund the acquisition. This debt is the 'leverage' of a leveraged buy-out.

#### 1.1.2 What are the objectives of private equity investment?

Obviously all investors wish to make a return. This can be either an income, from interest or dividends, or a capital gain by selling a particular investment when it has been made more valuable. Private equity is predominantly about generating capital gains. The idea is to buy equity stakes in businesses, actively managing those businesses and then realising the value created by selling or floating the business. The appetite and incentives of most private equity investors are firmly focused on achieving capital gains. They generally aim to achieve capital growth, not income. The objective of private equity is therefore clearly focused on increasing shareholder value.

#### 1.1.3 What is the difference between venture capital, growth capital and private equity?

The businesses invested in by private equity range from early-stage ventures, usually termed venture capital investments, through businesses requiring growth or development capital to the purchase of an established business in a management buy-out or buy-in. In this sense private equity is a generic term that incorporates venture, growth and buy-out capital. However, although all these cases involve private equity, the term is now generally used to refer to later-stage development capital but mostly buy-outs and buy-ins of established businesses. These are generally the focus of our commentary. Private equity therefore usually contrasts with venture capital, which is used to describe early-stage investments.

The term, therefore, has a confusingly loose definition, being both a generic term for 'not quoted equity' and a more precise definition referring specifically to the market for institutional private equity funds that target buy-outs and growth capital. Care is needed to be clear which definition is being used when discussing or researching private equity.

The evolution of the term is perhaps best illustrated by the naming of trade bodies: the BVCA is the UK trade association and EVCA is the European trade body. Both were formed as venture capital associations when many firms did both buy-outs and early stage venture capital investments, but now describe themselves as private equity and venture capital associations.

#### 1.1.4 Are there any theoretical ideas behind the private equity investment model?

There are essentially three classes of argument that are put forward to explain the private equity model of investing.

##### **Seekers of market failure**

The first and simplest is that private equity seeks out and takes advantage of market failures that create mispricing opportunities. This argument encompasses a trading strategy, taking advantage of periodic mispricing, and an active search for financial gain by taking advantage of so-called 'loopholes'.

One particular aspect of this argument that is widely discussed is the question of what impact the tax deductibility of interest has on investment returns. It is worth saying at this early stage that not all interest is deductible against tax and that there are no special exemptions for private equity of any kind. On the contrary, there are in many countries special provisions designed to disallow the deductibility of interest on connected party loans of the type used by private equity firms. We revisit the critics' version of this argument in more detail below.

##### **Solving the principal-agent problem**

The second and more widely accepted economic theory in the academic literature argues that there is a principal-agent problem in many companies. The shareholders are the principals (ie, owners) of any corporation. Managers act as agents of shareholders. Managers are incentivised by whatever their employment contracts motivate. They are not generally incentivised to maximise the realisable value to the shareholders. Furthermore, there is no clear way to hold management to account for their actions. As a consequence shareholders do not try to hold managers to account. If they do not believe the managers are maximising value in publicly traded companies investors simply sell the shares and move on (although efforts are underway to encourage public company-investor engagement). Shareholders in private companies which are managed by agents on their behalf will, under this hypothesis, receive lower returns than they otherwise might have received. It is argued that this lack of accountability of senior managers allows them to pursue projects that are either excessively risky or, conversely, excessively conservative. This represents an inefficiency of the market.

Private equity seeks to address this principal-agent problem by tightly aligning the interests of managers and shareholders to achieve economic efficiencies. This idea of alignment is central to all the economic structures observed in the private equity market. We expand upon how this alignment is created throughout the publication.

Private equity, therefore, seeks to address one of the central problems facing what is known as corporate governance: how do shareholders make managers accountable for their decisions?

Some argue that private equity is an alternative long-term form of corporate governance to traditional public companies. Others see private equity as a type of transitional 'shock therapy' for underperforming companies.

### **Sacrificing liquidity to solve information asymmetries**

You can reduce risk by holding assets that are easier to sell ie, by having more liquidity, or by maximising the information you have before and during the period you hold an investment, enabling you to manage risk effectively. If you can do both, you can achieve consistently superior returns with lower risks than any other market participants. That is one major reason why insider dealing in quoted shares is illegal. In reality you often have to trade liquidity for information rights.

Similarly you can adopt an active investment stance and seek to influence the management of the company or a passive one and simply sell out if you perceive management to be weak or taking the business in the wrong direction. If you have decided to trade liquidity for information you may lose the option to trade out of investments that are not going in the direction you anticipated.

Private equity is not about trading on public markets, or trading in currencies, bonds or any other publicly quoted security or derivatives. These are the realm of other fund managers including hedge funds.

Private equity investments are illiquid and traded only on acquisition or exit (although this is changing). Generally, but not always, private equity managers have good information prior to making their investment through their due diligence processes. During the investment this level of access to information continues both through contractual rights to receive information and close involvement with the investee company at board level.

In contrast, investors in public companies buy liquid assets (shares, bonds and options) and generally use a trading strategy to try and make exceptional returns. Insider dealing laws are designed to prevent anybody from making exceptional returns from private information not available to other participants in the public markets. These types of investors sell out of companies when they think that they are no longer likely to generate good returns. In summary, they have high liquidity and trade on the basis of publicly available information.

There are instances where companies are publicly traded but have low volumes of trades making them effectively illiquid. These types of business have often been the interest of both funds focused on quoted market failure and private equity funds looking to complete public to private (P2P) transactions.

#### **1.1.5 What do private equity fund managers do?**

Private equity fund managers have five principal roles.

##### **1. Raise funds from investors**

These funds are used to make investments, principally in businesses which are, or will become, private companies. Funds are raised from investors, often internationally, such as pension funds banks and insurance companies. These investors will generally invest via a limited partnership, as will the private equity fund managers themselves. In section 2 we expand on the fund management roles of private equity.

## **2. Source investment opportunities**

A private equity fund must source and complete successful transactions to generate profit and support the raising of further funds. A significant amount of effort and resource is invested in prospecting for transactions and relationship management with individuals who may give access to deals. These include investment bankers, accountants and other advisers and senior figures in industry. Increasingly, investment teams are focusing on particular sectors of the economy or geographies.

## **3. Negotiate, structure and make investments**

Having found investment opportunities, private equity fund managers have to negotiate the acquisition and structure the finances of the transaction to achieve the multiple objectives of the various parties. Fund managers therefore need skilled financial engineers and negotiators in their team to create the desired blend of incentives and returns while managing the associated risks. In the early days of private equity, fund managers were usually financial experts rather than sector or operational management specialists. This has changed over the years. It is argued by advocates of private equity that this trend has gradually contributed to and evolved effective management techniques in its investments. In section 3 we explain the basics of deal structuring and provide an illustration in section 4.

Private equity uses debt to amplify investment returns (see below). Fund managers therefore need to be skilled in creating financial packages that generate the required blend of incentives without creating excessive risk.

## **4. Actively manage investments**

Private equity fund managers have become hands-on managers of their investments. While they do not generally exercise day-to-day control, they are actively involved in setting and monitoring the implementation of strategy. This is the basis of the argument that private equity has become an alternative model of corporate governance.

## **5. Realise returns**

Fund managers realise returns primarily through capital gains by selling or floating those investments, but also from income and dividend recapitalisations, which we examine in section 3. The industry generally now talks of a four- to six-year exit horizon, meaning that the investment will be made with the explicit assumption that it will be sold or floated within that timeframe. This exit horizon is the source of the criticism that private equity is a short-term investment strategy.

### **1.1.6 What risks do investors in private equity funds take?**

In any equity investment, whether public or private, there is the risk of losing the capital invested. In private equity, investments are long-term, irrevocable commitments to fund unknown, future investment opportunities. An investor commits to these risks and delegates the investment decision to the fund manager. (See section 2.)

### **1.1.7 What risks do private equity fund managers take themselves?**

To align the interests of investors and fund managers, the fund managers typically invest alongside the investors, on the same terms, in any fund. The fund manager is therefore both an investor, on the same terms as other investors, and the fund manager. If a fund loses money, the fund managers will make the same loss on their investment offset by any income guaranteed from fees not spent on the costs of the fund.

### 1.1.8 What rewards do private equity investors earn?

The fund manager has four sources of reward.

1. They may receive a return as an investor in the fund in the same way as any other investor in the fund.
2. They receive a salary from the fund management company at a normal market rate.
3. They may receive a share in the profits of the fund management company.
4. They may receive something called 'carried interest' which is triggered once a minimum threshold return is achieved.

### 1.1.9 What is carried interest?

If the fund achieves returns above a minimum threshold, the fund manager takes a preferential share of the return in the form of so-called 'carried interest' (or 'carry'). Traditionally the threshold, or hurdle rate, has been 8% per annum over the life of the fund and the share has been 20% of the profits above the hurdle rate. (See section 2.)

### 1.1.10 What is leverage and what role does it play in private equity?

Using borrowed money alongside your own reduces the amount you have to invest and so amplifies the returns or losses on any particular investment. This amplification has various names: in the US it is called leverage, in the UK it was traditionally called gearing. They are the same idea.

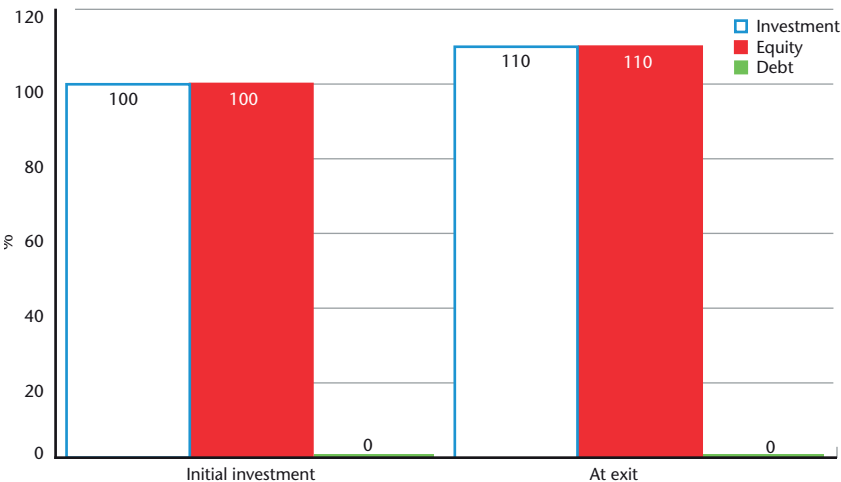
When you use only your own money in an investment, the return on the investment is the same as the return on your equity.

**Figure 1.1: Effects of leverage – no debt**

#### 100% equity: 0% debt

10% increase in total value

10% increase in equity value



Source: Gilligan and Wright.

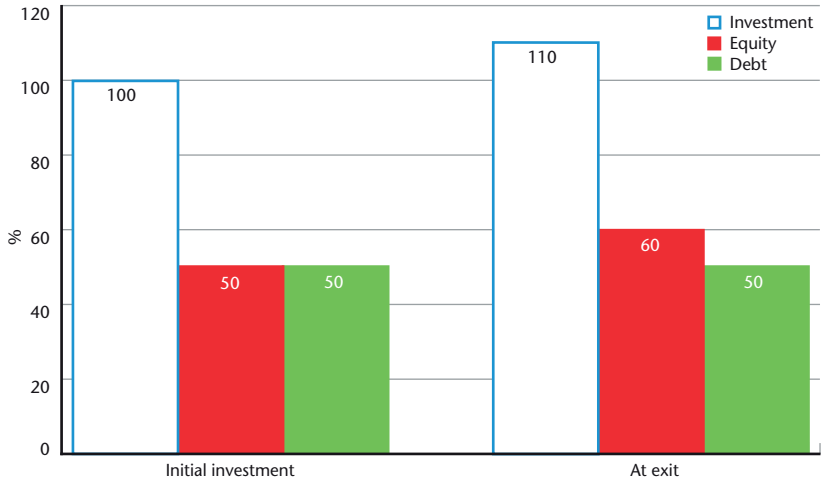
If external debt (which has a fixed return) is used to fund the investment, the prospective returns are increased because the equity is reduced and yet it still captures all of the capital gain (Figure 1.2).

**Figure 1.2: Effects of leverage – 50% debt**

**50% equity: 50% debt**

10% increase in total value

20% increase in equity value



Source: Gilligan and Wright.

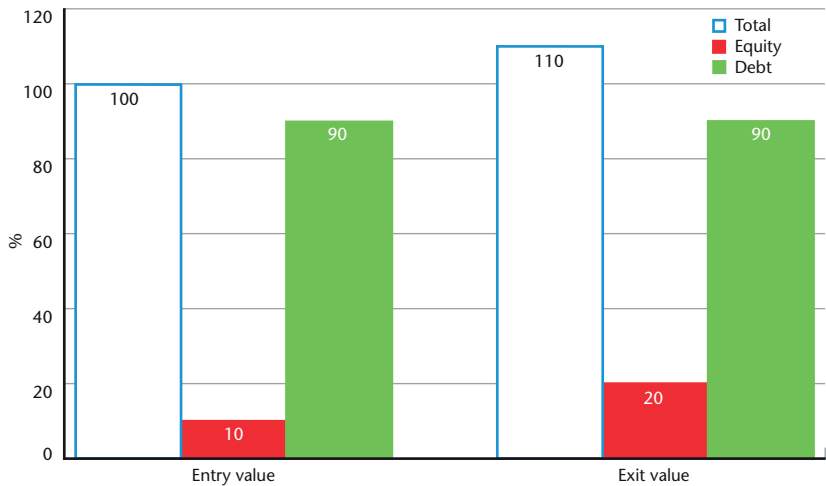
As borrowings rise, this amplification increases with the prospective return on equity increasing in inverse proportion to the gearing ratio (Figure 1.3).

**Figure 1.3: Effects of leverage – 90% debt**

**10% equity: 90% debt**

10% increase in total value

100% increase in equity value



Source: Gilligan and Wright.

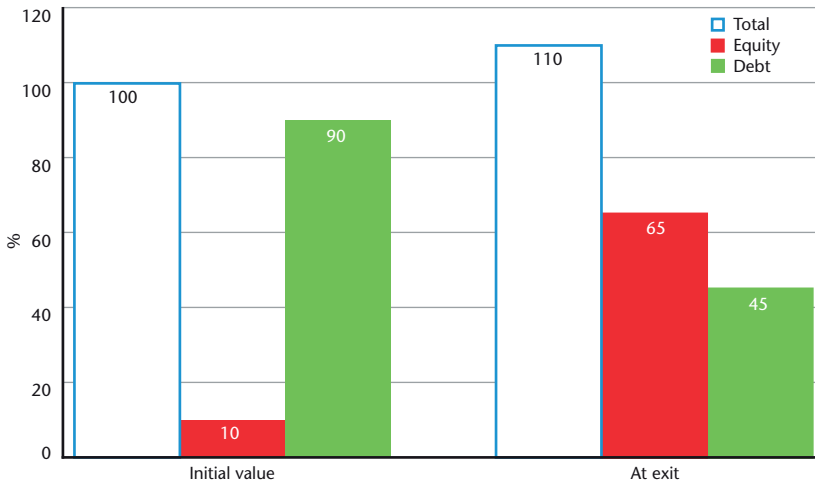
Furthermore as debt is repaid, the value flows to the equity (Figure 1.4). It is worth noting that the cash used to repay debt could have been retained by the company reducing risk.

**Figure 1.4: Effects of leverage – 50% debt, 50% repaid**

**50% equity: 50% debt: half debt repaid at exit**

10% increase in total value

550% increase in equity value



Source: Gilligan and Wright.

Much work has been undertaken by academics and others to try and establish what proportion of the return from a private equity investment comes from:

1. increases in total investment value, or
2. the effect of leverage on equity returns.

This so-called ‘attribution analysis’ is a hot topic in both academic studies and the discussions of returns achieved by funds.

### 1.1.11 What impact does the gearing have on the private equity fund manager’s return?

As we noted above, fund managers are rewarded with salaries and carried interest. In an investment with no debt, the 8% carry trigger requires an 8% growth in the investment. The fund manager would receive 20% of the excess ie, 20% of 2 = 0.4.

As gearing rises, equity returns rise. Carried interest is measured against fund returns. It therefore follows that as gearing rises, prospective carried interest rises. With 50% gearing, the equity hurdle is 108% of 50 = 54.

The excess above this is 6 and the fund manager would receive 20% X 6 = 1.2.

Furthermore, size matters in carried interest. If our examples were in £000 the maximum carry would be 20% of £9,200 or £1,840. If it was in £m, the same amount would be £1.84m.

$$108\% \times 10 = 10.8$$

The excess above this is 9.2 and the fund manager would receive 20% X 9.2 = £1.84.

There are therefore real incentives to maximise debt levels subject to bankruptcy risk.

### 1.1.12 Does size matter?

People are motivated by nominal returns: you can not spend rates of return, you can only spend cash. The larger the units in our above example the more important this becomes as an incentive to the individual: if the units are £000, the incentive increases



from £400 to £1,840, arguably not meaningful. If the units are £m the incentive moves from £400k to £1.84m, an altogether more significant amount of money.

Therefore, there are very clear incentives to grow investment size. Large funds not only generate higher fees and therefore proportionately higher revenues but, as they do bigger deals, the successful ones generate more carried interest. There are big incentives to be big.

### 1.1.13 What impact does leverage have on bankruptcy risk?

The other side of this amplification of return is increased financial risk. We can characterise risk as being crystallised at the point that the value of the project is less than the value of the debt. Equivalently, the project has negative net worth when the equity value has been consumed. As there is less equity in a geared/levered structure, the probability of becoming insolvent is higher than an ungeared/unlevered structure. As gearing/leverage increases, other things being equal, the probability of becoming insolvent rises. This risk of failure by becoming insolvent is generally termed bankruptcy risk.

Private equity investors use debt to consciously create financial risk to amplify the return on equity. We return to this idea frequently. It is vital to appreciate that risk and reward are two sides of the same coin. It is always possible to generate risk without reward, but if you can generate rewards without risk, you have created the economic equivalent of a perpetual motion machine, which is impossible.

### 1.1.14 How do private equity funds control their investments?

The ability to act decisively comes from the fact that a private equity fund manager actively manages and controls each company using:

- board representation;
- contracts which limit certain actions of management without the consent of the investors;
- voting control over all material matters;
- full access to company information and board minutes; and
- a culture and incentive system that rewards success highly and penalises failure.

### 1.1.15 Leverage in funds versus leverage in investments

It is crucially important to understand that leverage can be found at different levels of any financial structure and its impact differs.

Private equity funds use debt in each individual investment, but generally none within the fund. The investments stand or fall on their own two feet, there is no recourse to the fund. Therefore, while there is bankruptcy risk in each investee company, there is generally none in the fund.

In contrast many other types of fund manager use leverage within the fund to amplify returns.

In a similar way a trading company may have some borrowings on its or its subsidiaries' balance sheets, often cross-guaranteed by the other companies in the trading group.

The risks of leverage are most threatening when they are compounded: where a geared fund owns geared investments, returns can appear spectacular, but will be at greater risk. One of the lessons of the banking crisis is the importance of understanding where losses will fall if the risks created by borrowing materialise.

This amplification works in both directions; you may lose all your money sooner in a geared investment. However, losing money is finite, return is, in principle, infinite.

Furthermore, nobody invests in the belief that they will lose their money. Investment managers need to have the belief that they can make relatively good returns, or they should do something else. There is therefore a mix of incentives leaning towards the use of gearing to amplify returns within any type of fund. The market pressure is to increase borrowings and give investors more liquidity, which if unfettered will lead to increases in risk within the fund structures.

With a few exceptions, private equity puts all the gearing in each individual investment, tailored to that investment's characteristics. Hedge funds and many other quoted investment fund managers put the gearing in the fund itself and hold a diversified portfolio of investments that may, or may not, be individually geared.

#### 1.1.16 What market risks does private equity create?

We believe that this distinction between leverage in a fund and in its investments is important in understanding the market risks created by hedge funds and private equity funds and for informing regulatory responses to the systemic failures seen in the past. We have argued that the traditional private equity fund structure has operated to limit systemic risk by offering long-term, illiquid, unleveraged investment assets mostly to institutional investors with large diversified portfolios. Pressure to increase leverage within funds and to provide liquidity to investors not matched to the liquidity of the underlying assets would lead to increased systemic risk. The debt-free structure of a private equity fund is, in most European jurisdictions, a market-driven norm, not a regulatory requirement. We return to this when we discuss regulation in section 2.

The contribution, if any, of the private equity 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. On this analysis the private equity industry was a wholly willing victim (and beneficiary) of a failure of the banking system, not a cause of the failure.

#### 1.1.17 A financial canary in the coal mine?

One might characterise the private equity industry as a group of early adopters of financial innovation, rather than the creators of that innovation. Because of the amplification caused by the use of leverage, coupled with the early adoption of new techniques and practices, if private equity is suffering or booming it may be a sign of things to come in the wider financial markets and economy. Certainly the rise of mega buy-outs and the loosening of bank terms leading up to the financial crisis was symptomatic of structural issues that heralded problems elsewhere. As such, private equity is potentially an early warning system; a financial canary in the coal mine.

### 1.2 A summary of the core ideas. The 4As: amplification, alignment, active management and attention to detail

Private equity firms are strategic investors generally seeking to create and realise value. To achieve this they follow a series of strategies that can be crudely characterised under the following alliterative headings.

**Amplification:** Private equity uses debt to consciously create a level of financial risk that exaggerates the returns on equity.

**Alignment:** Equity incentives are used to create potentially unlimited incentives to motivate people to generate (predominantly) capital gains.

**Active management:** The body of research on investment performance generally shows that a passive trading strategy of 'stock picking' does not generate materially higher long-run returns than simply choosing to buy indices of stock markets. This has been reinforced by the imposition of insider trading laws that prohibit the use of

private information to achieve superior returns. Those who have generated long-term outperformance since the imposition of the insider trading laws are those who have actively intervened to improve the performance and management of businesses. This appears to be as true of a few public investors, such as Berkshire Hathaway, as it is of private investors, such as the private equity firms. The form of this active management has evolved over the years, but it remains a key feature in explaining the performance of private equity investments.

**Attention to detail:** Private equity is transactional, whole companies are bought and sold. In consequence a great deal of due diligence is done on each deal and the transaction structure. Great emphasis is placed on measuring and managing every relevant aspect of a business's performance, including, for example, tax structuring.

We expand on each of these themes throughout this work.

### 1.3 A brief history of private equity

While there have always been equity investments made outside the public markets, private equity as we understand the term today, emerged in the 1980s from, broadly, two pre-existing pools of funds: venture capital and development capital. Venture capital (VC) provides equity capital to early and emerging businesses. Development capital provides equity capital to expand existing businesses. The term private equity was adopted from the late 1980s. Before then it was more common to hear institutions refer to themselves as venture capitalists in the UK and leveraged buy-out (LBO) firms in the US.

#### 1.3.1 Asset stripping and financial assistance

In the 1970s in many developed countries it became illegal to use the assets of a target company to give security to a lender to a bidder for that company. Essentially you could not promise to give security on assets you did not own. This was specifically designed to stop the asset stripping that had been seen in the late 1960s. In the 1960s corporate raiders sought out companies with undervalued assets, bought the businesses and then closed the business down and sold the assets. This left the unsecured creditors and employees to suffer a loss. The financial assistance prohibition aimed to prevent this by making it a criminal offence to asset strip in most countries.

However, an unintended consequence of this legislation was that it prevented the rescue of viable companies many of which were subsidiaries of larger failing businesses. These subsidiaries could not provide security to a purchaser's bank that wished to lend money to help acquire and rescue a business. To reverse this unintended prohibition, and to encourage the rescue of viable businesses, a change was made to the law in a number of countries. In the UK it was made in the Companies Act 1981 which allowed UK companies to give financial assistance under certain tightly controlled circumstances. The law on financial assistance broadly required the directors to make a statutory declaration that as far as they knew at the completion date of the transaction, the company would be solvent for the next 12 months. If they made the declaration knowing it to be untrue, it was a criminal offence.

#### 1.3.2 1980s first buy-out boom

Following the legal change on financial assistance in most jurisdictions, the number of buy-outs grew rapidly. Initially growth was seen in the US whereas in Europe the market was overwhelmingly dominated by the UK. By the mid-1980s, 3i, which at that time was jointly owned by the Bank of England and the major clearing banks, had an overwhelmingly strong position in Britain. Other early UK participants were subsidiaries of banks that had historically focused on development capital and other financial investors with a background in venture capital.

### 1.3.3 1980s 'hands-off, eyes-on'

Virtually all early UK funds were generalist investors who had skills in financial engineering and transactions but had little hands-on management input. Investors closely monitored their investments, but the underlying philosophy was passively to back management to manage.

### 1.3.4 Mid-1980s: new entrants

The returns earned by the early buy-out investors were perceived to be very good. This led to a growth in the funds committed by existing investors and to the emergence of new funds raised by groups of investors who wished to enter the market. In the UK many of these funds' founder managers were from the relatively small pool of experienced investors, often they were ex-3i executives. In the US they tended to be from consultancy and investment banking backgrounds.

### 1.3.5 1989: mega deals V1.0

In the US two factors enabled the market to expand rapidly: firstly a market for sub-prime 'junk' bonds was created. This enabled investors to issue high yield debt to fund acquisitions. Secondly, the early funds generated returns that were widely held to be outperforming the market. This led to ever larger funds, capable of doing ever larger deals. The peak of the market was the iconic buy-out of RJR Nabisco in 1988 for approximately \$23bn.

Due to the relatively small size of the European funds, the capacity of the European buy-out market was severely limited and in consequence many transactions were syndicated between equity investors. To put the scale of the industry in context, a large European buy-out during this period was generally defined as one in excess of £10m, in the current market it might be defined as perhaps £0.5bn–£1bn or thereabouts. At the end of the 1980s the largest deal in Europe was the 1989 Isosceles buy-out of Gateway Supermarkets for £2.2bn.

### 1.3.6 Captives versus independents

By the end of the first wave of buy-outs in the 1980s the industry was characterised by a split between so-called 'captive funds' that were owned by a large corporate parent and independent firms that had taken the partnership form that we see as the commonest structure today, plus, in Europe, 3i.

### 1.3.7 Yield versus capital gain

Some smaller captive funds and 3i tended to be longer-term holders of an investment (compared to current structures – see section 2) without an explicit exit policy. They demanded a higher yield from their investments. Independent firms were generally structured as 10-year funds (as we see today) and therefore were more focused on generating capital gains with a defined exit policy and had lower yield requirements.

### 1.3.8 1990s blow up and buy-outs of captive funds

Following the impact of the recession of the early 1990s, and high interest rates, many leveraged investments struggled or failed. Appetite to support in-house private equity declined leading many of the captive funds themselves to be bought out from their parent companies by their partners. Virtually all rebranded themselves as private equity or buy-out firms and abandoned any pretension to venture capital activities (Table 1.1). In this limited sense the partners of many private equity fund managers have taken the risks and earned the rewards of a manager in a buy-out.

**Table 1.1: Selected large UK buy-out firms and their predecessors**

| Name of firm         | Predecessor firm                               | Type of predecessor                |
|----------------------|--|------------------------------------|
| Permira              | Schroder Ventures                              | UK parent captive                  |
| Apax Partners        | Alan Patricoff Associates (Europe)             | US affiliate independent           |
| CVC Capital Partners | Citicorp Venture Capital (Europe)              | US parent captive                  |
| Cinven               | Coal Board Investment Managers Venture Capital | Public sector pension fund manager |
| 3i Group             | Industrial and Commercial Finance Corporation  | Bank and public joint venture      |
| Terra Firma          | Nomura Principal Finance Group                 | Japanese parent captive            |
| Charterhouse Capital | Charterhouse Development Capital               | UK parent captive                  |

Source: Gilligan and Wright.

### 1.3.9 Hands-on investors and sector specialisation

As competition for transactions increased, the need to generate value in individual investments increased. This led to a variety of strategies aimed at increasing the success rate and the value of each success to funds. Investors generally became much more active in the management of each individual investment. Many investors began to focus on specific industries and sectors to gain an advantage over the generalist investors. Today most firms have a sector bias and an active investment style.

### 1.3.10 Globalisation and the growth of global mega-funds

In the late 1990s and after the turn of the century the market split in two: the largest private equity funds have become increasingly international in their outlook, while in the mid-market the businesses have become more focused on specific sectors or types of business. The trend in globalisation has led to a growth in the number of non-UK investors based in London seeking UK and European transactions.

### 1.3.11 2005–2007: boom

The prolonged period of economic growth with low inflation from the mid-1990s to the 2008 financial crisis was characterised by: ever larger funds, larger deals, greater complexity in structures, greater leverage and an explosion in the size of private equity as a global industry. It was still a poorly understood, little reported industry and operated from a number of unregulated jurisdictions.

The debt markets also metamorphosed and banks that had previously held loans on their own balance sheets, sold them into the wholesale market. They ceased to earn the majority of their income from net interest payments and became fee earning businesses that parcelled up loans to be sold on to other financial institutions.

Innovation in the debt markets led to the emergence of markets in new forms of derivatives. Most of these instruments were designed to allow risk to be traded. This has always been one of the functions of derivatives, but when they were stripped from their underlying loans, they became tradable assets creating some perverse, unintended incentives (see section 2).

New businesses emerged that mimicked the use of leverage seen in private equity financial structures in individual investments but without certain controls that operate in the traditional fund structures: they created leveraged funds to make leveraged investments, doubling up the risks and apparent rewards.

#### 1.3.12 2007–2008: bust

By 2007 the wholesale debt markets were opaque and poorly understood by most. There was an implicit assumption that there was an available appetite for debt in the global market that was effectively infinite or unlimited. This allowed banking institutions to fund themselves using facilities that were renewed continuously in the highly liquid debt markets. When the default rates on US mortgages turned out to be higher than expected, it was unclear who was holding the associated risk. In the absence of any clear information about who was going to be making losses, banks and institutions started to hold on to all the cash that was available to them and reduced or stopped lending to the wholesale markets. This meant that wholesale credit dried up and banks reliant on renewing facilities were unable to refinance and became insolvent. Initially smaller banks struggled and failed, but as the scale of the confusion spread, the world's largest institutions turned to governments to provide capital and guarantees. In the case of Lehman Brothers, the US government declined to rescue them and the investment bank failed.

The impact on the private equity market was abrupt and precipitous. Banks needed to hold cash rather than to generate lending. Deal volumes, which are reliant on leverage, collapsed. The largest deals were the worst affected. Those who had used debt within their fund structures rapidly faced insolvency as there was a mismatch between the dates they were expecting to realise their investments and the date that their borrowings were repayable.

#### 1.3.13 2009–2012: hangover

The aftermath of the financial crisis showed both the strengths and weaknesses in the private equity model. On the positive side of the balance, the traditional 'ten plus two' fund (see section 2) was bankrupt remote, it could not spread risk because the whole risk fell on its partners. This is an important and little publicised fact: private equity fund structures in a limited way stopped the creation of systemic risk.

However, perverse situations arose between fund managers and their partners. Many funds had raised billions of dollars prior to the crash on the assumption that leverage would be available to support deals. They found themselves charging fees on capital that would be unlikely to be deployed. Investors were understandably unhappy.

As we will illustrate below, the period of extremely low interest rates that has followed the crisis has prevented the feared collapse of many companies with high levels of borrowings, including buy-outs and other private equity investments. Had the recession been accompanied by high interest rates, the failure rate would certainly have been materially higher, in all types of business.

#### 1.3.14 2014: where we are today

As we emerge, blinking into the light of a period of economic growth, the private equity industry is still going through its process of slow adjustment to the crisis that started over half a decade ago. Some funds are in terminal decline, unable to raise new funds and managing out their portfolios motivated by a mix of maintaining fee income and hoping for carried interest to move into positive territories. Others who fared better are seeking to take advantage of downward pressure on asset prices to buy at the bottom

of the cycle, hoping to profit on the upturn, although this may be too late as prices have already begun to rise. Models are emerging that embed active management methodologies into a fund's organisation, moving ever further away from the old model of backing incumbent management to buy the businesses they run.

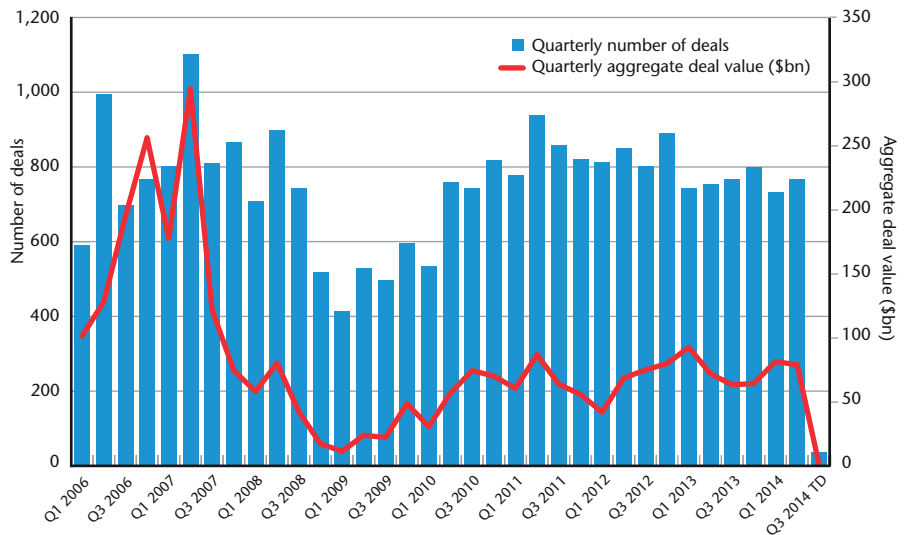
Furthermore, some fund managers that started life as pure private equity investors are now in reality diversified alternative asset managers, with an array of different funds under management, moving to a model that could be characterised as a financial conglomerate model.

In academia there has been a reappraisal of the past assumptions and analyses. Some old accepted wisdom (for instance, regarding persistence of returns) has been swept aside, some given new, more rigorous underpinning as new data sets have become available and new techniques applied to old questions. Some 252 papers have been added to Social Science Research Network with the phrase 'private equity' in their title between 2011 and 2014.

### 1.4 How big is the private equity market?

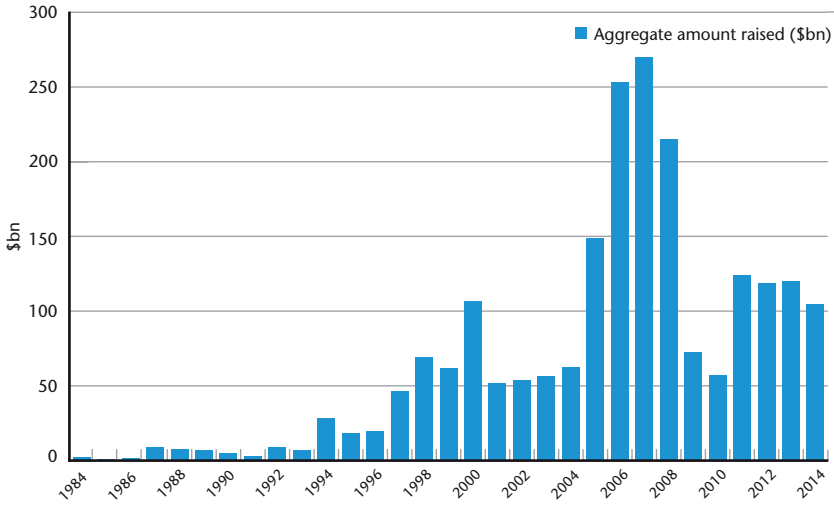
There are two important measures of the size of the buy-out market: the amount invested in (Figure 1.5) and the amount of new funds raised or committed to (Figure 1.6) private equity.

**Figure 1.5: Global private equity investments, global number and aggregate value of private equity-backed buy-out deals, Q1 2006–Q3 2014 TD (July 2014)**



Source: Preqin.

**Figure 1.6: Global private equity funds raised (\$bn) 1984–2014 TD (July 2014)**



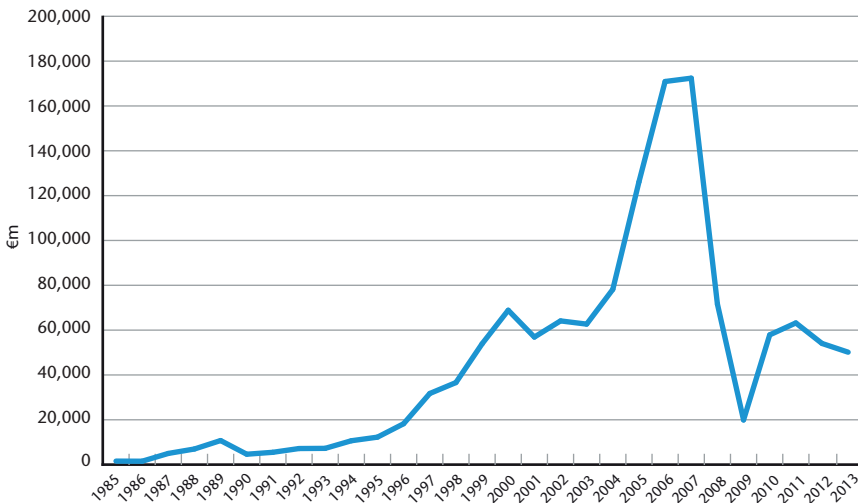
Source: Preqin.

The figures illustrate both the overall growth in the private equity market and its cyclicity. Following the dotcom boom the level of new funds raised declined. From 2005 onwards fund raisings grew dramatically, peaking in 2007.

After the financial crisis the volume of funds raised fell sharply. This reflected a number of factors. Firstly there were fewer larger deals to do, so the existing capital commitments were not drawn down as rapidly as had been expected. Secondly the financial crisis damaged the balance sheets of all investors and in consequence there was less ability to invest in alternative assets. Thirdly, even if there had been deals to do, the banking market was severely affected by the crash and there was therefore no debt availability to fund leveraged deals.

Looking at the buy-out data for Europe over a longer period gives a clearer picture of the cyclicity of the market and the importance of private equity in the overall market for control of corporations.

**Figure 1.7: Value of European buy-outs (€m) 1985–2013**



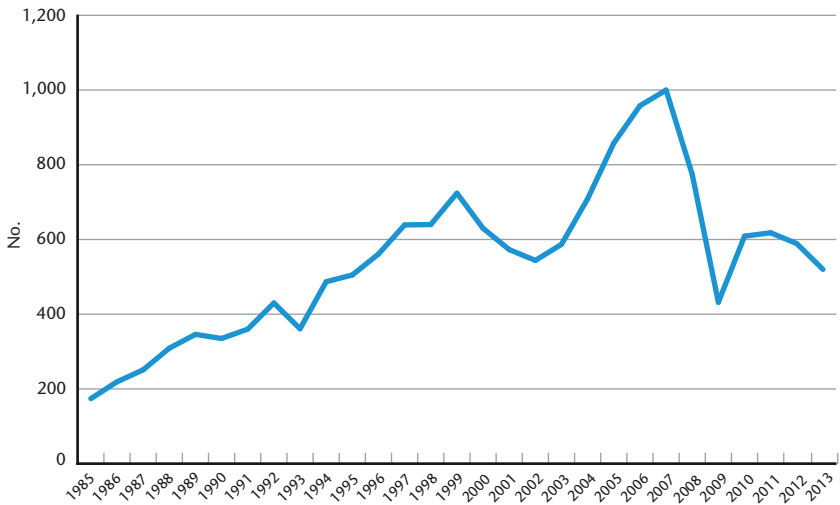
Source: CMBOR/EY/Equistone Partners Europe.



As illustrated in Figure 1.7, the market for buy-outs was cyclical up to the 2004–2008 boom. During and following the financial crisis the market fell back to levels not seen since the mid-1990s. Factors contributing to this were concentrated in the debt markets. Neither banks nor the bond markets had the appetite for buying the debt of buy-outs.

The data on number of transactions also shows a cyclical market around a growing trend up to the crisis (Figure 1.8). Thereafter volumes fell by an unprecedented amount before staging a bounce-back in 2010. Between 2011 and 2014 the market has remained essentially flat.

**Figure 1.8: European buy-out market by number of transactions 1985–2013**

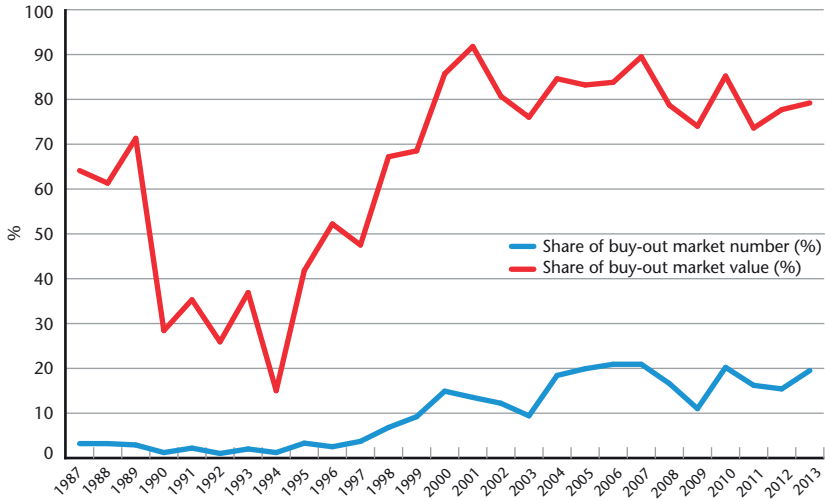


Source: CMBOR/EY/Equistone Partners Europe.

#### 1.4.1 How significant are larger deals in the private equity market?

Most public interest is focused on the large buy-out market. However, the data shows that buy-outs with a deal value of £100m or more represented only a tenth of total buy-outs by number, despite representing almost nine-tenths by value (Figure 1.9). Buy-outs are therefore a very important feature of the UK mid-market but large buy-outs are a small fraction of the UK private equity market by number.

**Figure 1.9: £100m buy-outs as a percentage of the market by number and value (UK) 1985–2013**



Source: CMBOR/EY/Equistone Partners Europe.

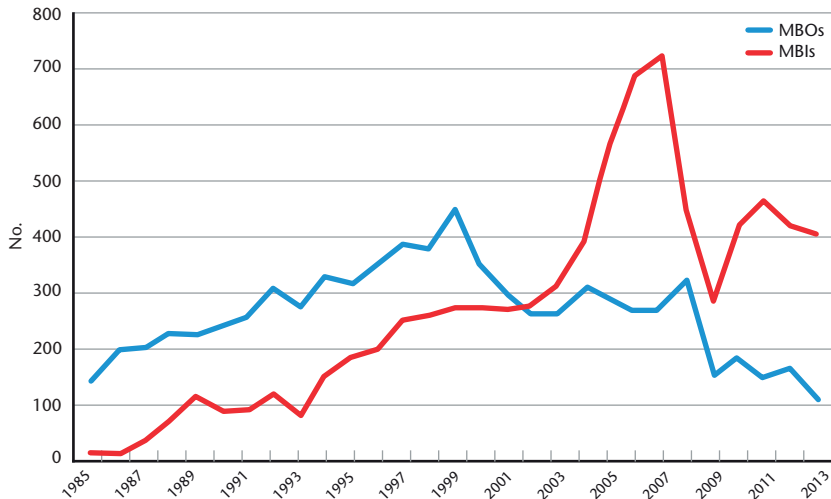
#### 1.4.2 The death of the management buy-out?

Buy-outs come in a variety of flavours, but the two simple definitions relate to where the management team are prior to the deal. If the management are incumbent in the company, it is a management buy-out or MBO. If they are a new team brought into the company as part of the deal, it is a management buy-in or MBI.

Breaking the data down by MBO and MBI reveals two underlying trends:

First, there is a long-term trend against MBOs led by incumbent management teams. Although deal numbers for both MBOs and MBIs rose steadily up to 2000, since then their trends have diverged with MBIs now more common than MBOs (Figure 1.10). MBIs have shown signs of some recovery since the financial crisis, but this is not the case for MBOs.

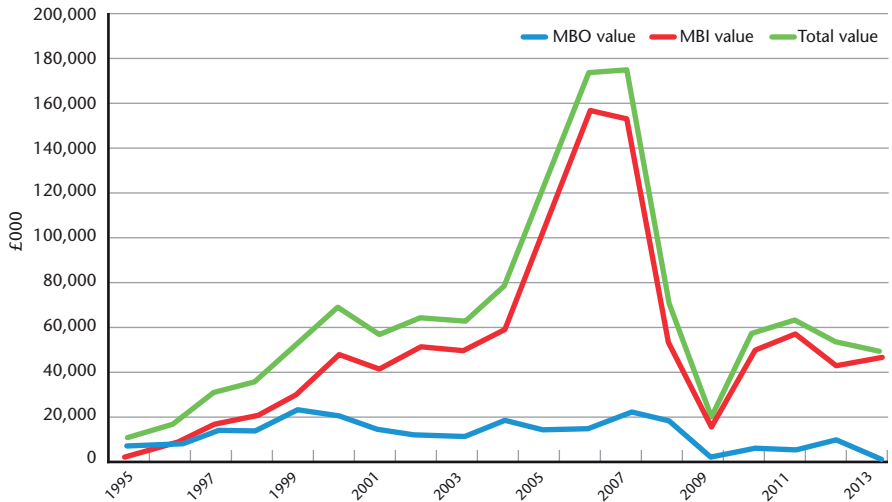
**Figure 1.10: Buy-in versus buy-out by number (Europe) 1985–2013**



Source: CMBOR/EY/Equistone Partners Europe.

Second, the largest deals have increasingly involved investor-led MBIs (Figure 1.11)

Figure 1.11: Buy-in versus buy-out by value (Europe) 1995–2013



Source: CMBOR/EY/Equistone Partners Europe.

### 1.4.3 The company auction process

The reasons for this shift relate substantially to changes in the way vendors manage the process of selling companies.

In the early days of the buy-out industry, management often expected to lead a transaction. They would appoint advisers who would raise funds to acquire a business from the vendors. In this process vendors had to attempt to manage a process that could lead to a trade sale or a management buy-out. The potential trade purchasers were understandably concerned about the impact on the business if the management team were the losing under-bidders. Similarly the vendors had to manage the potential conflicts of interest with their own management teams who were both running the business and trying to buy it. The solution was the creation of the company auction process by corporate financiers.

In an auction a sales document is prepared and circulated to potential interested parties including both private equity and trade buyers. The level playing field should reduce conflicts for management and capture more of the value for the vendor. It also encourages private equity houses to team up with external managers in an attempt to gain a sector advantage, giving a boost to the MBI/Institutional Buy out (IBO) numbers at the expense of the MBO numbers. Auction processes are virtually ubiquitous both in larger transactions and in disposals by private equity firms (secondary buy-outs).

If auctions generally increase the price paid for buy-outs by acquirers, there is a transfer of value from the purchasers to vendors. If prices are not higher as a result of the process, there is a leakage of value due to transaction costs. Other things being equal we would expect either of these to reduce returns when compared to the past performance. In addition to paying an increased price, there is a further downside as purchasers with poorer access to management in any auction process take on more risk (as they lose access to management's inside view). This again might be expected to reduce returns in private equity overall.

#### 1.4.4 Deal initiation and proprietary deal flow

Private equity funds predictably do not like competitive auctions. They receive poorer access to the company than in an unfettered private process and have to bid against other interested parties, which forces up the price. They therefore invest heavily in ‘deal initiation’ (or ‘deal origination’) in order to pre-empt these competitive processes. The transactions that a firm initiates itself are so-called ‘off-market’ deals. When fund raising, much play is made of these proprietary deals, ie, those ‘owned’ by the fund in some undefined sense. More proprietary deal flow should in principle mean less competition, lower prices, better access to information and therefore the holy grail of both higher returns and lower risks.

This is what drives a large proportion of especially mid-market deal initiation activity. A ‘good eye for a deal’ is one of the key skills for a successful investor.

#### 1.4.5 What have been the biggest UK deals?

**Table 1.2: Largest UK buy-outs to date**

| Buy-out name              | Year of acquisition | Value (£m) | Source                   | Exit   | Year of exit |
|---------------------------|---------------------|------------|--------------------------|--|--------------|
| Alliance Boots            | 2007                | 11,100     | P2P                      | Partial exit with option for full sale       | 2015         |
| MEPC                      | 2000                | 3,488      | P2P                      | Trade sale                                   | 2003         |
| Saga & AA                 | 2007                | est. 3,350 | Secondary buy-out        | Flotation                                    | 2014         |
| EMI Group                 | 2007                | 3,223      | P2P                      | Trade sale/debt-equity swap                  | 2011         |
| Tomkins                   | 2010                | 2,890      | P2P                      | Significant stake realised                   | 2014         |
| Spirit Amber              | 2003                | 2,510      | UK divestment            | Trade sale                                   | 2006         |
| Somerfield/Gateway        | 1989                | 2,157      | P2P                      | Flotation                                    | 1996         |
| Yell Group                | 2001                | 2,140      | UK divestment            | Flotation                                    | 2003         |
| Global Merchant Services  | 2010                | 2,025      | UK divestment            | None   |              |
| Unique Pub Company        | 2002                | 2,013      | Secondary buy-out        | Trade sale                                   | 2004         |
| EMAP                      | 2008                | 2,000      | P2P                      | None   |              |
| Meridien Hotels           | 2001                | 1,900      | UK divestment            | Trade sale & write off                       | 2004         |
| Expro International Group | 2008                | 1,806      | P2P                      | None   |              |
| The AA                    | 2004                | 1,750      | UK divestment            | Merger                                       | 2007         |
| Debenhams                 | 2003                | 1,720      | P2P                      | Flotation                                    | 2006         |
| Laurel Pub Company        | 2001                | 1,630      | UK divestment            | Trade sale                                   | 2004         |
| Warner Chilcott           | 2005                | 1,614      | P2P                      | Flotation                                    | 2006         |
| United Biscuits           | 2006                | 1,600      | Secondary buy-out        | Trade sale pending at time of going to press |              |
| Iceland Foods             | 2012                | 1,450      | Parent in administration | None   |              |
| BUPA Hospitals            | 2007                | 1,440      | UK divestment            | Flotation                                    | 2014         |

Source: CMBOR/EY/Equistone Partners Europe.

Of the largest transactions shown in Table 1.2 none failed in the formal insolvency sense, but at least three delivered no equity value to their original investors. More information can be found on these and other larger transactions by looking at the Walker Guidelines Monitoring Group website.

#### 1.4.6 What have been the biggest deals in the world?

Of the largest LBO bids ever made, nearly all took place at the height of the private equity boom that ended around July 2007 (Table 1.3). It is also notable that two of these bids did not complete. Another, Clear Channel, was only completed some two years after the initial agreement, following a legal dispute as the private equity backers placed pressure on the lenders to keep to their agreement to provide debt and negotiations to reduce the purchase price in the wake of the credit crisis. It is also interesting that two of the largest deals were completed in 2013.

**Table 1.3: The world's largest buy-outs**

| Firm                               | Deal date | Deal size (\$m) | Investors  | Primary industry   |
|------------------------------------|-----------|-----------------|--|--------------------|
| Energy Future Holdings Corporation | 2007      | 45,000          | California Public Employees' Retirement System (CalPERS), Citigroup, Energy Capital Partners, Goldman Sachs Merchant Banking Division, Kohlberg Kravis Roberts, Lehman Brothers, Morgan Stanley, Quintana Capital Group, TPG | Energy             |
| Equity Office Properties Trust     | 2006      | 39,000          | Blackstone Group   | Property           |
| HCA Holdings Inc.                  | 2006      | 33,000          | Bain Capital, Citigroup, Kohlberg Kravis Roberts, Merrill Lynch Global Private equity, Ridgemont Equity Partners   | Healthcare         |
| First Data                         | 2007      | 29,000          | Citi Private equity, Goldman Sachs Merchant Banking Division, Kohlberg Kravis Roberts  | Financial Services |
| H.J. Heinz Company                 | 2013      | 28,000          | 3G Capital, Berkshire Hathaway   | Food               |
| Caesars Entertainment Corporation  | 2006      | 27,800          | Apollo Global Management, Blackstone Group, California Public Employees' Retirement System (CalPERS), TPG  | Leisure            |
| Alltel Corporation                 | 2007      | 27,500          | Goldman Sachs Merchant Banking Division, TPG   | Telecom Media      |
| Hilton Worldwide                   | 2007      | 26,000          | Blackstone Group   | Leisure            |
| Dell Inc.                          | 2013      | 24,900          | MSD Capital, Silver Lake   | Hardware           |
| Clear Channel                      | 2006      | 24,000          | Bain Capital, Thomas H Lee Partners  | Advertising        |

Source: Preqin.

### 1.4.7 What are the largest private equity funds in the world?

An indication of the largest private equity funds in the world that lead new investments is given in Table 1.4.

**Table 1.4: Estimate of the world's largest private equity funds (all time)**

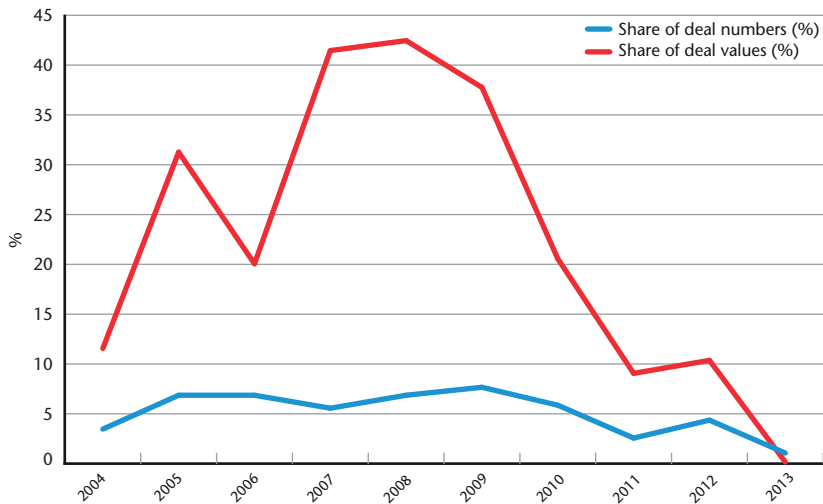
| Firm                             | Fund manager                            | Final close size:<br>(Ccy m) | Fund manager location |
|----------------------------------|---|------------------------------|-----------------------|
| Blackstone Capital Partners V    | Blackstone Group                        | \$21,700                     | US                    |
| GS Capital Partners VI           | Goldman Sachs Merchant Banking Division | \$20,300                     | US                    |
| TPG Partners VI                  | TPG                                     | \$18,873                     | US                    |
| Apollo Investment Fund VIII      | Apollo Global Management                | \$18,380                     | US                    |
| Apax Europe VII                  | Apax Partners                           | €11,204                      | UK                    |
| KKR Fund 2006                    | Kohlberg Kravis Roberts                 | \$17,642                     | US                    |
| Blackstone Capital Partners VI   | Blackstone Group                        | \$16,200                     | US                    |
| TPG Partners V                   | TPG                                     | \$15,372                     | US                    |
| Apollo Investment Fund VII       | Apollo Global Management                | \$14,676                     | US                    |
| CVC European Equity Partners V   | CVC Capital Partners                    | €10,750                      | UK                    |
| Permira IV                       | Permira                                 | €11,100                      | UK                    |
| CVC European Equity Partners VI  | CVC Capital Partners                    | €10,907                      | UK                    |
| Carlyle Partners V               | Carlyle Group                           | \$13,700                     | US                    |
| Carlyle Partners VI              | Carlyle Group                           | \$13,000                     | US                    |
| Providence Equity Partners VI    | Providence Equity Partners              | \$12,099                     | US                    |
| Advent Global Private equity VII | Advent International                    | €8,500                       | US                    |
| Bain Capital Fund X              | Bain Capital                            | \$10,707                     | US                    |
| Advent Global Private equity VI  | Advent International                    | €6,600                       | US                    |
| Silver Lake Partners IV          | Silver Lake                             | \$10,300                     | US                    |
| Apollo Investment Fund VI        | Apollo Global Management                | \$10,136                     | US                    |
| Silver Lake Partners III         | Silver Lake                             | \$9,400                      | US                    |
| KKR North American XI Fund       | Kohlberg Kravis Roberts                 | \$9,000                      | US                    |
| Hellman & Friedman VII           | Hellman & Friedman                      | \$8,900                      | US                    |
| BC European Cap IX               | BC Partners                             | €6,500                       | UK                    |
| GS Capital Partners V            | Goldman Sachs Merchant Banking Division | \$8,500                      | US                    |

Source: Preqin.

The table reinforces the dominance of US/UK fund managers and the concentration of European private equity funds originating from the UK.

### 1.4.8 How significant are public to private transactions in the private equity market?

Figure 1.12: Percentage share of public to private buy-outs by number and value (UK) 2004–2013



Source: CMBOR/EY/Equistone Partners Europe.

Public company acquisitions by private equity funds ('public to privates', or 'P2Ps') have attracted much scrutiny and comment. We suggest that there is an over-emphasis on P2Ps in the press and academic literature due to a greater availability of data on public companies. Questions of insider dealing and failure of corporate governance have been examined by a number of authorities in the UK and US. As seen above, around half of the largest UK buy-outs have been public to private buy-outs. A sustained period of activity, beginning around 1998, accelerated from 2004 culminating in the UK's largest P2P transaction to date, Alliance Boots plc in 2007. However, as illustrated in Figure 1.12, P2Ps represent a relatively small proportion (by number) of the overall private equity market. P2Ps at time of writing have fallen to their lowest level in the UK for some 17 years as changes to rules relating to public companies have increased the difficulty of executing such transactions.





## 2. Private equity funds, funders and other market participants

In this section we examine the motivations and constraints of each of the major participants in the private equity market. We summarise the academic evidence to date on the activities of private equity firms and their impact on companies and wider stakeholder groups. We then go on to clarify the principles that underlie the taxation status in the UK of the various parties.

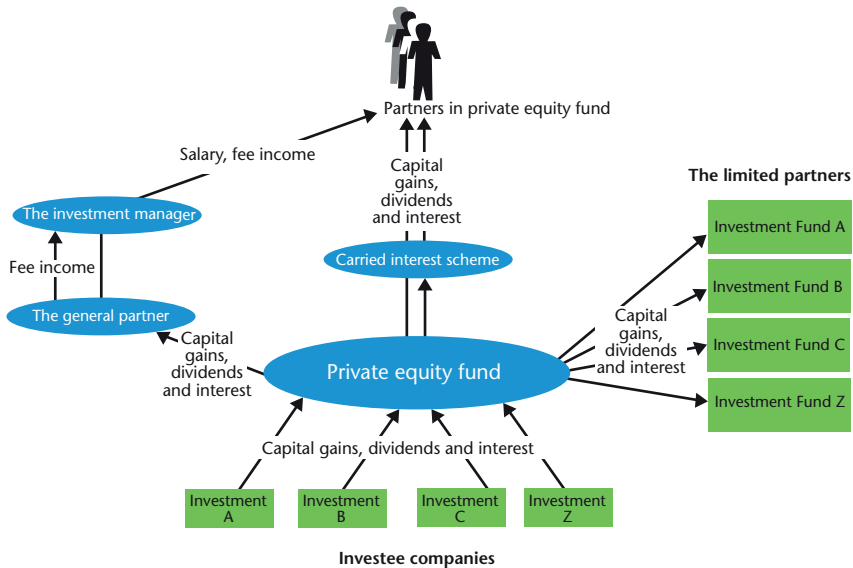
## 2.1 The private equity fund

### 2.1.1 What is a private equity fund?

As we noted in section 1, much, but not all, of the investing done in the private equity market is by private equity funds. A private equity fund is a form of 'investment club' in which the principal investors are institutional investors such as pension funds, investment funds, endowment funds, insurance companies, banks, family offices/high net worth individuals and funds-of-funds, as well as the private equity fund managers themselves.

### 2.1.2 How are private equity funds structured? 'Ten plus two' funds

Figure 2.1: Structure of a typical private equity fund (July 2014)



Source: Gilligan and Wright.

The fund manager manages one or more funds. These are invested in by a variety of institutions and other bodies. The funds have a limited life, meaning that there is a pre-agreed date on which they will stop making new investments and subsequently be wound up. Typically a fund invests in new projects for six years and is wound up in 10 years. There is a standard extension period of two years in most fund agreements, hence they are generally known as 'ten plus two' limited life funds. This is discussed more extensively below.

### 2.1.3 Why are private equity funds partnerships?

The fund manager itself may or may not be a partnership. However, each fund is usually a separate limited life partnership. There is much misrepresentation and confusion about why these structures exist. In essence the problem that needed to be solved was: how can a group of institutions and individuals create a structure that would bind them together as investors for a finite period without creating multiple tax charges?

Note that the starting point is not to avoid tax, it is to avoid duplicating tax charges. Each investor should be taxed according to their individual tax position. The problem was to avoid creating a vehicle that would also be taxed before the investors were paid out. If a limited company had been formed, for example, it would have had a corporation tax liability and would have had to be solvently liquidated at the end of the investment period. Similarly, in a traditional partnership (at that time) all the partners in any partnership jointly and severally guaranteed each other's obligations. Clearly this is not a vehicle that would be appropriate to a mutual investment fund with multiple disparate investors.

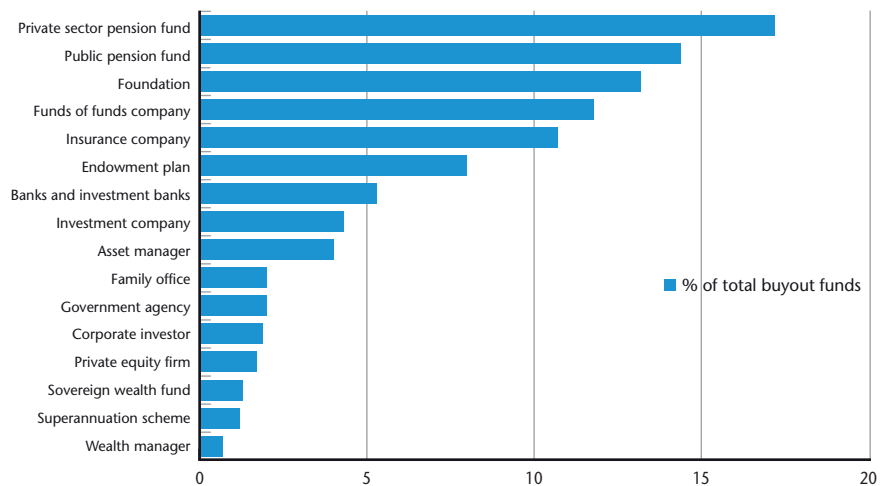
To solve these types of problems, in the UK, structures created by an obscure piece of early twentieth-century legislation were revived. These are called limited life partnerships. They allow partners to come together to cooperate for a finite period without creating a new layer of taxable income or requiring the partners to jointly and severally guarantee each other's liabilities.

#### 2.1.4 What are LPs and GPs?

The external investors are called limited partners (LPs) because their total liability is limited to the amount they invest. The manager is often called the general partner (GP). The general partner has potentially unlimited liability for the actions of the fund. To put a cap on this potentially unlimited liability many GPs are in fact limited companies or partnerships. Technically, the fund manager invests in the general partner; however, in common usage, LPs are investors and GPs are fund managers.

#### 2.1.5 Who are the investors in private equity funds?

Figure 2.2: Investors in private equity (2014 TD)



Source: Preqin.

Pension funds constitute the largest category of investors in private equity and venture capital funds and the largest proportion of funds raised are buy-out funds (Figure 2.2). The largest investors are the largest pension funds, which are generally public sector schemes around the world. Ultimately many of the investors are members of the wider public who contribute to pension schemes and collective saving funds and who purchase pension products.

Note that many of these investors are pension funds and charities which are typically not liable to tax. Therefore any structure that imposed a tax at the level of the investment vehicle (a limited company, for example) would be a unique tax on private equity. These investors pay no tax on investing in public shares, and some of the complex structures seen are how a similar position is reached in private equity.

Segregated data for the large buy-out funds alone are not published by the quoted sources, but are likely to be similarly distributed, though with fewer individuals and academic and government agencies investing. Buy-out funds accounted for 85% of funds (by value) raised in 2006, the top of the boom period.

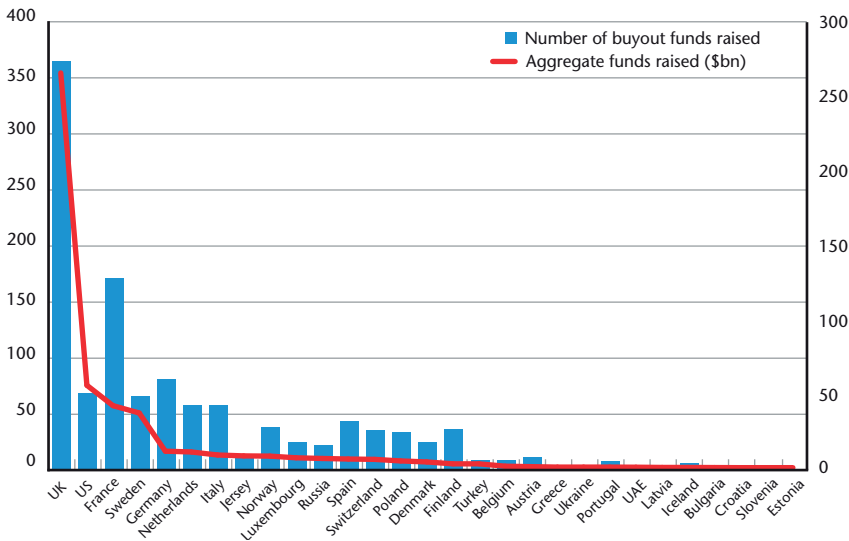
Elsewhere in this report we summarise the findings on investment performance by private equity funds. We are not aware of any research that does a similar analysis of fund-of-funds, the largest of which are shown in Table 2.1.

**Table 2.1: Top 20 fund-of-funds investors in global private equity 2013**

| Firm name  | Private equity assets under management (\$bn) | Firm country |
|--|---|--------------|
| AlpInvest Partners                               | 48.4  | US           |
| Goldman Sachs AIMS Private Equity                | 41  | US           |
| Ardian   | 36  | France       |
| HarbourVest Partners                             | 35  | US           |
| Partners Group                                   | 30.7  | Switzerland  |
| Hamilton Lane                                    | 29.5  | US           |
| GCM Customized Fund Investment Group             | 28.8  | US           |
| Pantheon   | 27.4  | UK           |
| Pathway Capital Management                       | 26.8  | US           |
| Altius Associates                                | 26.3  | UK           |
| Adams Street Partners                            | 24  | US           |
| JPMorgan Asset Management – Private Equity Group | 24  | US           |
| LGT Capital Partners                             | 20  | Switzerland  |
| Neuberger Berman                                 | 20  | US           |
| Capital Dynamics                                 | 18  | Switzerland  |
| BlackRock Private Equity Partners                | 16.8  | US           |
| PineBridge Investments                           | 16.3  | US           |
| Commonfund Capital                               | 13.5  | US           |
| Performance Equity Management                    | 13  | US           |
| StepStone Group                                  | 11.1  | US           |

Source: Prequin.

**Figure 2.3: Geographic origin and country of management of European funds raised in 2013**



Source: Prequin.

Figure 2.3 shows the private equity and venture capital fund market by country of origin of funds raised and country of the fund manager. The domination of the UK market within Europe and the significant capital inflows managed by UK fund managers are clearly illustrated.

From anecdotal information, it seems likely that this data understates the capital inflows into the European market from countries other than the US. For example, it does not show inflows from the Middle and Far East. Accurate data on the identity of the sources of funds used by private equity investors is not publicly available. As a consequence of this lack of clarity about sources of funds, it is neither possible to assess the risks of concentration of funders within a fund, nor to assess the risk of the failure of any LP to be able to fund its commitments going forward.

#### 2.1.6 What are sovereign wealth funds?

Sovereign wealth funds have become increasingly large investors in private equity, both directly and in funds. They are investment programmes run on behalf of governments that have budget surpluses that are not used to fund government programmes as they accumulate. The largest are those associated with countries that are resource rich (eg, oil states).

#### 2.1.7 How are private equity fund managers rewarded?

As we discussed in section 1, in addition to a salary and the returns as an investor, GPs receive two other income sources.

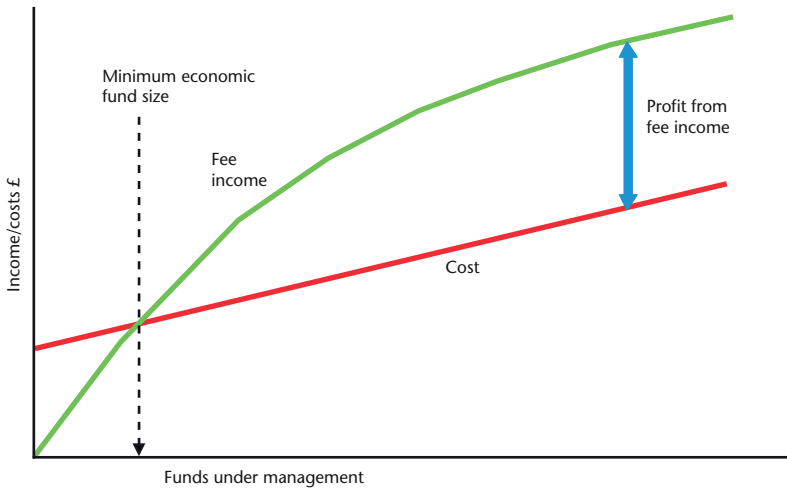
##### **Fee income**

Fund managers (GPs) receive management fees that are expressed as a percentage of the funds raised. The larger the fund, the greater the fee income, although the percentage generally declines from around 2%–3% in smaller funds to 1%–1.5% in larger funds. The management fee was originally intended to pay for the operating costs of employing staff and other expenses associated with the fund manager's business, plus the reasonable salaries of the partners. Any excess over these costs is retained by the management company (the manager) and may be paid to its partners/shareholders. Fund managers have to balance the use of fee income to reinvest in growing the personnel, infrastructure and assets of the business with the requirement to recruit and retain their best partners by offering industry-competitive remuneration.

It has been argued that the growth in fund size has resulted in the creation of a new principal–agent problem within private equity funds. As illustrated in Figure 2.4, the larger funds generate fees that may result in substantial profits to their partners. These profits accrue whether or not the fund itself is successful. This challenges the central idea of alignment of interest driving value creation. Partners are receiving a risk free return if they can raise a large fund. The evidence regarding historic sustained outperformance by the best funds has prevented new entrants from competing away the profit from fee income.

As fund performance has been impacted by the economic downturn, the balance of power between LPs and GPs (investors and managers) has begun to alter. There is much discussion within the LP community regarding fee levels. Some argue that publicising fees would result in economic efficiencies.

**Figure 2.4: The relationship between costs and income**

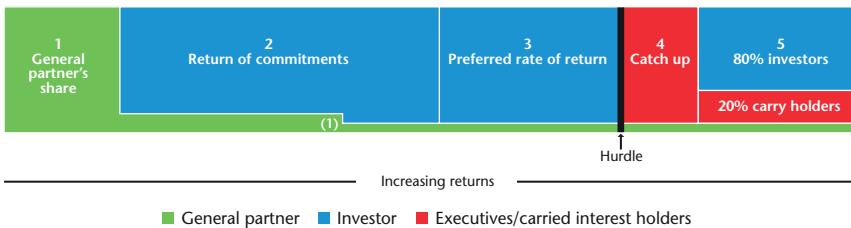


Source: Preqin.

**Carried interest**

The second source of reward for private equity fund managers is a share in the profits of the fund; this is generally known as carried interest (or carry). Once the investors have achieved the hurdle rate, the fund managers will share in the excess and usually this was 20% of any excess. The hurdle rate (historically around 8% per annum but variable from fund to fund) is calculated on the amounts actually invested.

**Figure 2.5: The mechanics of carried interest**



Source: Adam Fraix/ BDO (UK) LLP.

The mechanics of the calculation are intricate (Figure 2.5). Over the life of the fund, net income and capital distributions will be made in the following order.

1. The GP receives a priority share of partnership returns each year.
2. The investors then receive a 100% return of commitments advanced and a preferred rate of return (8%).
3. The carried interest holders receive 100% of all distributions until such time that they have received 25% of the investors' preferred return (2 above). This is referred to as 'catch up'.
4. Thereafter the remaining distributions are split as follows:
  - (a) 80% investors
  - (b) 20% carried interest holders.

Theoretically the fund could go 'into carry' if all called commitments and the hurdle rate has been paid and then go 'out of carry' if a further draw down is made.

As the market has matured there has been a constant refinement of industry practice to attempt to ensure that the carried interest calculation tightly aligns the interests of investors and fund managers. However, in a long-term, illiquid investment business with low levels of transparency to new entrants, this process of realigning interests may take longer than in other industries. Management fees can be structured as an advance of carried interest but are nevertheless payable to the manager even if the fund generates no profits and no carried interest.

These funds are known as 'two-twenty' funds: ie, 2% fee and 20% carried interest. The origin of the 2/20 (fee/carried interest) fund model has been the source of some academic investigation. It seems to be no more than a 'sticky' industry norm. Its resilience is underlined by the fact that it appears to stem from medieval Venetian trading contracts between ship owners and merchants.

### 2.1.8 Other fees

In addition to these fees and profit share that are common to most funds, other fees may be receivable by the fund managers.

Monitoring and/or non-executive director fees are widely payable by individual investee companies to defray some of the costs of employees and partners of private equity managers monitoring the investment. These fees may be payable to the private equity fund or to the manager, or more likely are split between them in a predetermined proportion.

Transaction costs incurred by the private equity fund in making an investment are usually payable by the new company established to effect the buy-out (Newco) and not by the private equity fund. Abort costs of transactions which fail to complete may be borne by the fund or the manager or more likely shared in a pre-agreed ratio.

Private equity fund managers may charge an arrangement fee to the investee company expressed as a proportion of the amount of money invested in a deal. These may be up to 3% of the equity invested. Usually these fees are credited to the fund but they may be split on a pre-agreed basis with the manager.

Typically, but not always, the net of all these fees would be included in the calculation of the management fee and would not increase the overall rewards of the private equity fund managers.

All of these individually negotiated arrangements within a fund manager's business impact the individual returns of investors over the long term.

Moreover, the economic impact of the array of fees charged is unclear. If a Newco borrows from its lenders to pay fees to its lenders, what profit has been made and when? The allocation and levying of transaction fees gives rise to further potential principal-agent issues between LPs and GPs.

LPs and management need to be aware of the impact of the proliferation of fees to funders on both returns and, importantly, incentives.

### 2.1.9 What is co-investment and how does it differ from carried interest?

In some arrangements, managers (and sometimes other founder investors) are permitted to invest directly in each individual investment as well as, or instead of, in the whole fund. This practice is called co-investment. For fund managers this is increasingly uncommon as it can create misalignment between the fund investors and the fund managers where the gains in one investment are disproportionate to the value of the overall portfolio. However, co-investment has re-emerged in a new guise in the form of 'managed account arrangements' (see below).

The objective of all of these structures is to align the interests of all parties and to incentivise and reward performance above a threshold level.

### 2.1.10 What are separate managed account arrangements?

Investors who have significant amounts of capital and wish to negotiate bespoke terms are increasingly turning to separate managed account arrangements. These are partnerships that mimic the main fund vehicle but have only the fund manager and the investor as partners within them. They may, sometimes at the discretion of the investor as well as the fund manager, co-invest alongside other funds managed by the fund manager. There are also co-invest arrangements with some investors that allow them to invest directly alongside the fund on a case-by-case basis.

These are dilutions to the traditional long-term commitment to a fund with discretion purely in the fund managers' hands. They have grown in popularity in both direct private equity funds and in fund-of-funds.

### 2.1.11 How does a private equity fund differ from a quoted equity fund?

Funds that invest in public companies operate using different business models (Table 2.2). Some quoted funds are specifically designed as income funds that seek to pay to investors a running yield generated from dividend income from shares and interest on bonds. As noted above, private equity funds do not generally aim to generate yield. They are comparable to capital growth quoted funds that seek to generate the majority of their return from increased value in their investments. Key differences between the funds are set out in Table 2.2.

**Table 2.2: Key differences between private equity and quoted equity funds**

| Private equity funds   | Quoted equity funds  |
|--|--|
| <b>Control and influence</b>   |  |
| <p>Private equity funds usually own a substantial or controlling stake in the business.</p> <p>Individual private equity investments are controlled using a detailed legally binding shareholder's agreement that establishes the contractual rights and obligations of the company, its management and the investors.</p>   | <p>Funds investing in quoted companies usually acquire small minority stakes, which offer no control and no special rights.</p> <p>Institutional shareholders may be influential, but usually have no contractual control over day-to-day management decisions or strategy.</p>  |
| <b>Financial structure of individual investments</b>   |  |
| <p>Private equity transactions are financed using a combination of the private equity fund's own capital, and third-party debt provided on a deal-by-deal basis; thus there is usually a degree of debt within a private equity fund's individual investments.</p> <p>The financing structure of a private equity investment usually requires the business managers to personally invest in the company they manage. They share the risks and rewards of the business.</p> | <p>Funds that invest in quoted shares do not increase the borrowings of the company that they invest in. They may have borrowings within their fund structure, but they do not introduce debt to the company as part of their investments.</p> <p>The rewards for management in quoted companies are a matter for the remuneration committee, not the shareholders. Managers are not generally required to buy shares in their company although they may benefit from capital growth through option schemes.</p> |
| <b>Information prior to investment</b>   |  |
| <p>Private equity funds will undertake substantial financial, commercial and legal due diligence prior to making an investment.</p>  | <p>Quoted company funds have access to and rely on only publicly available information on the companies they invest in.</p>  |



**Table 2.2: Key differences between private equity and quoted equity funds (continued)**

| Private equity funds  | Quoted equity funds  |
|---|--|
| <b>Information and monitoring while invested</b>  |  |
| <p>Private equity fund managers receive wide-ranging commercially sensitive information including detailed monthly management information and board minutes from each company the fund is invested in, and also often have board representation.</p> <p>Investors in private equity funds receive regular detailed information and commentary on each of the private equity fund's investments from the fund managers, including opinions on future prospects. The guidance for this communication is summarised in the International Private Equity and Venture Capital Investor Reporting Guidelines.</p> | <p>Quoted fund managers predominantly rely on company announcements, management presentations and analysts' research to monitor their investments.</p> <p>Investors in quoted funds receive no detailed information on the operations or management of the individual investments.</p>   |
| <b>Liquidity in underlying investments</b>  |  |
| <p>Private equity investments are illiquid: private equity funds cannot generally sell a portion of their investments and therefore rely on a sale of the whole company to achieve a capital gain (but see later sections on secondary transactions).</p>   | <p>Quoted shares are freely tradable, albeit in small 'parcels', on whatever stock exchange they are quoted. Quoted funds can therefore readily vary the proportion of their investment in any company by trading up or down.</p>  |
| <b>Rewards to fund managers</b>   |  |
| <p>Private equity fund managers receive management fees from each fund they manage. They also invest directly in the funds they manage and further share in any aggregate realised profits of the fund over its whole life through 'carried interest'. As carried interest can take many years to build up and be paid, it has been argued that private equity fund managers are in effect tied into their funds for a longer period than equivalent quoted fund managers.</p>  | <p>Quoted fund investment managers receive fee income from the funds they manage and are often rewarded for the quarterly increase in the value (realised and unrealised) of the portfolio they manage.</p>  |
| <b>Rewards to the managers of the company acquired/invested in</b>  |  |
| <p>Management are incentivised primarily to achieve a capital gain. They invest in the financial instrument with the highest risk/reward profile in the capital structure. The private equity investor negotiates the senior managers' employment terms directly with the managers.</p>   | <p>Managers are incentivised to achieve whatever their employment contracts reward and whatever the board agrees. In many cases this is not explicit, but may be a combination of increasing the share price, increasing profits or growing the scale of the business. Public shareholders have little direct control of employment terms which are usually agreed at a remuneration committee of non-executive directors.</p> |

**Table 2.2: Key differences between private equity and quoted equity funds (continued)**

| Private equity funds   | Quoted equity funds   |
|--|---|
| <b>Fund structure and fund liquidity</b>   |   |
| <p>Generally, private equity funds have a limited life of 10 years. Investors in private equity funds make commitments to invest in the fund and pay in their capital when required to do so to fund investments recommended by the private equity fund managers. When realisations occur, the fund will repay capital to investors. An investor cannot withdraw their investment and future commitment from a fund. If they wish to change their commitment they require the private equity fund manager's approval of an alternate investor. There cannot therefore be a 'run' on a private equity fund.</p> <p>Earnings are distributed not retained.</p> <p>Private equity funds do not have leverage within the fund.</p> | <p>A quoted equity fund has permanent capital in the form of share capital or units in a unit trust, and investors in such a fund commit all their investment to the fund when they invest but can sell their shares or units when they choose to. Funds are provided by new investors and retained earnings. Some also use borrowings at the fund level to increase returns.</p> |

Source: Gilligan & Wright.

In essence, private equity fund managers seek to control the businesses they invest in and to choose an optimum capital structure for each of their investee companies. Thus, private equity funds operate with much better information and stronger controls and influence over management than funds holding quoted equities. To achieve this they forgo liquidity in the individual investments.

A very important differentiating factor is the 10-year fixed-term fund structure. This structure is a key determinant of the behaviours of the industry. Unlike permanent funds, limited life funds do not generally reinvest proceeds received from investments. They distribute proceeds to their investors. These investors then may, or may not, choose to reinvest the money in a subsequent fund. It is this long-term commitment to the fund, coupled with the way funds are distributed that has been the defining feature of private equity investment to date.

### 2.1.12 How does a private equity fund differ from a group of companies?

Private equity funds and trading groups of companies are compared and contrasted in Table 2.3.

**Table 2.3: Key differences between private equity and trading groups of companies**

| Private equity funds   | Trading groups  |
|--|---|
| <b>Control and influence</b>   |   |
| In principle, similar.   |   |
| <b>Financial structure of individual investments</b>   |   |
| <p>Borrowings are ring-fenced within each investment without recourse to the private equity fund.</p> <p>Profits and losses in each investment are taxed separately from other investments and therefore interest cannot be offset against profits in other investments.</p> | <p>Any borrowings are often cross-guaranteed by all companies in a trading group.</p> <p>Profits and losses within a group can be offset against each other. This allows interest to be offset against profits in a group wherever profits occur.</p> |

**Table 2.3: Key differences between private equity and trading groups of companies (continued)**

| Private equity funds  | Trading groups   |
|---|--|
| <b>Information prior to investment</b>  |  |
| In principle similar, but private equity firms, as professional acquirers often with less sector knowledge, use more external advisers than a corporate acquirer during due diligence.  |  |
| <b>Information and monitoring while invested</b>  |  |
| In principle similar, although private equity firms are known for their tight monitoring of cash flow and performance against budget.   |  |
| <b>Rewards to the managers of the company acquired/invested in</b>  |  |
| Management are shareholders and are incentivised primarily to achieve a capital gain. They invest in the financial instrument with the highest risk/reward profile in the capital structure. The private equity investor negotiates terms of employment directly with the senior management.  | Managers are employees whose rewards are a function of their employment contracts and parent company policy.<br><br>In a quoted group, managers are likely to own shares possibly through a share option scheme or other share incentive scheme. |
| <b>Liquidity in underlying investments</b>  |  |
| Similar: both must sell/float an investment to realise value although value created may be reflected in the share price of the holding company in a quoted group of companies.  |  |
| <b>Rewards to fund managers/corporate managers</b>  |  |
| Fund managers share in the net performance of the investment portfolio over the life of the fund and are incentivised to realise capital gains.   | Parent company management are incentivised as managers, not investors. There is no explicit assumption that companies are bought with a view to a subsequent sale to realise a capital gain.   |
| <b>Fund structure and fund liquidity</b>  |  |
| Usually private equity funds have a limited life of 10 years. Investors cannot generally withdraw their investment and future commitment from a fund. If they do wish to do so, they require the private equity fund manager's approval of an alternate investor. There cannot therefore be a 'run' on a private equity fund.<br><br>Earnings are distributed not retained.<br><br>Private equity funds do not have leverage within the fund. | If quoted, the shareholders (and option holders when options are exercised) can sell their shares in 'parcels' in the market.<br><br>The organisation will fund itself by a mix of debt, equity and retained earnings.                           |

Source: Gilligan & Wright.

A group structure therefore, shares a number of the features of a private equity fund. In particular the information asymmetries seen between private equity funds and quoted funds do not generally exist. However, there are significant differences including tax advantages for corporate entities (for example with respect to the ability to offset losses in one subsidiary against profits in others) that are not available to investment partnerships. The key differences are in the incentives that private equity funds provide. Private equity funds and managers of investee companies are tightly aligned to generate capital gains on a sale/flotation of each individual investment, whereas trading groups may have to seek a wider range of goals that are articulated by the trading strategy of the overall group, rather than the individual company within the group. Managers in corporations are rewarded typically annually with a relatively small proportion tied to medium/long-term realised value growth.

The differences in the risks of the traditional private equity fund model when compared to a highly geared corporate acquirer were seen in the rapidity of the failure of Baugur. Baugur was an acquisitive Icelandic corporate that acquired a number of UK companies with a particular focus on retailers. Baugur used debt within each of its investments and further debt within its own balance sheet to generate high levels of risk and potential reward. Furthermore it was a major shareholder in a number of its lending banks. Following the collapse of the Icelandic banks, Baugur was declared bankrupt on Friday, 13 March 2009. It failed due to the use of excessive levels of debt in each layer of its business creating systemic risk. Private equity structures explicitly eliminate this type of risk.

### 2.1.13 What are hedge funds and how do they differ from private equity funds?

Hedge funds emerged to invest in shares and in derivative assets used by corporations to hedge their risks. The original hedge fund investment proposition is that the fund manager can make a superior return by making a series of trades in these derivatives and the underlying assets. The original hedge funds often sought arbitrage opportunities arising from the misalignment in the price of derivatives and/or the assets underlying the derivatives.

In order to generate these returns the hedge fund manager will use both financial leverage, in the form of borrowings in the fund itself, and leveraged trading positions (derivatives). This generates increased risk, matched by increased returns when successful.

As markets become more globally integrated and liquid, the returns earned from pure arbitrage by hedge funds have diminished. These funds therefore have sought to widen their trading strategies to achieve returns and some have turned to investing in private equity transactions as debt and/or equity providers.

**Table 2.4: Key differences between private equity and hedge funds**

| Private equity funds  | Hedge funds  |
|---|--|
| <b>Investment strategy</b>  |  |
| Private equity funds are skilled in using transactions and active management to generate profits outside the quoted markets.  | Traditionally hedge funds make returns from a series of related trading positions, rather than single investment decisions. They are generally skilled in using markets and market inefficiencies to generate profits.   |
| <b>Control and influence</b>  |  |
| Private equity funds usually own a substantial or controlling stake in the business.<br><br>Individual private equity investments are controlled using a detailed legally binding shareholder's agreement that establishes the contractual rights and obligations of the company, its management and the investors. | Hedge funds generally invest in quoted companies and may acquire large minority stakes, which offer no control and no special rights, but may have some influence over the company's board. Trading strategies differ: some are 'active funds' that seek to change management or strategy; some are pure trading funds seeking to benefit from market price movements. |
| <b>Financial structure of individual investments</b>  |  |
| Private equity investments have borrowings within the investee, but generally no borrowings in the private equity fund.   | Hedge funds may create financial risk and reward by using derivatives (options, swaps etc) rather than debt. It is common for larger hedge funds to have borrowings within the fund, using financial leverage to increase risks and rewards.   |

**Table 2.4: Key differences between private equity and hedge funds (continued)**

| Private equity funds   | Hedge funds   |
|--|---|
| <b>Information prior to investment</b>   |   |
| <p>Private equity funds will undertake substantial financial, commercial and legal due diligence prior to making an investment. In a management buy-out, the knowledge of the incumbent management is extremely valuable in assessing risk and reward.</p>   | <p>Investors in quoted assets, such as many hedge funds, have access to and rely only on publicly available information on the companies they invest in. However, hedge funds use similar due diligence methods to private equity funds when investing in unquoted assets.</p>  |
| <b>Information and monitoring while invested</b>   |   |
| <p>Private equity fund managers receive wide-ranging commercially sensitive information including detailed monthly management information and board minutes from each company the fund is invested in, and also often have board representation.</p>   | <p>Where assets are quoted, hedge funds rely on public information to monitor their investments. The active funds' investment thesis is that they will use their stake to positively influence the direction of the businesses in which they invest.</p> <p>Pure trading hedge funds may simply take a 'position' in a company in the anticipation that the company's value will change to their benefit.</p>   |
| <b>Liquidity in underlying investments</b>   |   |
| <p>Private equity investments are illiquid: private equity funds cannot generally sell a portion of their investments, they rely on a sale of the whole company to achieve a capital gain.</p>   | <p>Quoted assets are freely tradable, albeit in small 'parcels', on whatever stock exchange they are quoted. Large stakes are less easy to place (sell) than smaller ones. Therefore, broadly, the greater the influence sought, the less liquidity is available.</p>   |
| <b>Rewards to fund managers</b>  |   |
| <p>Private equity fund managers invest in the fund they manage and share in any aggregate realised profits of the fund over its whole life through 'carried interest'. As carried interest can take many years to build up and be paid, it has been argued that private equity fund managers are in effect tied into their funds for a longer period than equivalent quoted fund managers. Fee income is also paid by each fund.</p> | <p>Hedge fund managers are often rewarded for the quarterly increase in the value (realised and unrealised) of the portfolio they manage. In addition they receive fee income from the funds. There is not usually a hurdle rate of return to exceed.</p>   |
| <b>Fund structure and fund liquidity</b>   |   |
| <p>Private equity funds are usually long-term illiquid commitments for a finite period and they cannot suffer a 'run' on the fund. There is rarely any borrowing within the fund and therefore there is generally no bankruptcy risk.</p> <p>Private equity funds usually have a defined narrow investment focus, although this is becoming broader and less defined in successful funds.</p>  | <p>Hedge funds are open-ended investment commitments that allow their investors to sell their units of investment (subject to various lock-up clauses), either in a public market or a periodic private market. They also often have borrowings within the fund. They therefore carry a risk of bankruptcy and can have a 'run' on the fund. Hedge funds can and do fail.</p> <p>Hedge funds often combine wide-ranging investment strategies seeking superior returns.</p> |

Source: Gilligan & Wright.

Hedge funds, in their private equity activities, therefore generally sit between the private equity fund model based on low liquidity, financial engineering, high control and information and the quoted fund model based upon a trading strategy in highly liquid stocks.

The key difference is that private equity funds are long-term commitments by the investors and have not historically used debt within the fund structure itself to generate returns.

It is possible that hedge funds may emerge with different mandates and a focus on private equity investments, in which case such funds may create market risks that do not currently exist in the private equity market, for example:

- hedge funds, which themselves are often leveraged, investing in investments using debt, would increase gearing and thus compound the risks associated with leverage; and
- funds that offer investor liquidity investing in illiquid investments create a mismatch of assets with liabilities. Since this observation was made in the first edition of this publication a large number of hedge funds have indeed failed, or been required to restructure due to the liquidity provided to their investors.

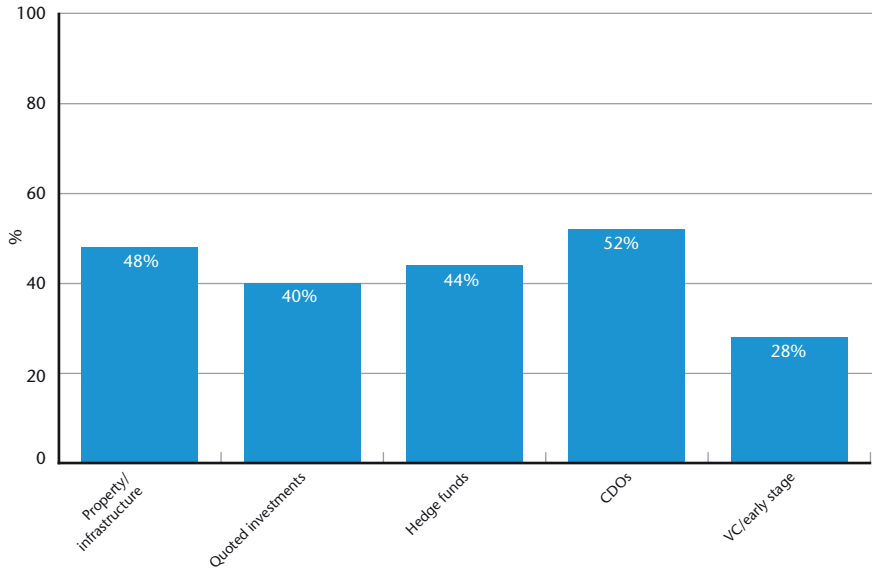
The term 'hedge fund' does not have a precise definition and covers a wide variety of fund models, which makes drawing general differences difficult. We have tried above to characterise fairly the key differences in the general business model and structures utilised. In reality there is overlap between the various fund types at the margins: some private equity funds invest in alternative assets and quoted assets, and some hedge funds have long-term capital commitments. However, the general principles of fund management remain that the fund must match the term of its assets and liabilities and that competitive pressure can lead institutions to a mismatch that only becomes apparent when liquidity tightens.

#### 2.1.14 Emerging and converging alternative asset investors

The analysis above draws distinctions between different types of fund structures. As funds have grown in size, a number of the largest private equity fund managers have diversified into areas outside the traditional private equity model. Similarly investors in hedge funds, investment banks and other institutions have moved into private equity investing. Essentially we have seen the emergence of 'alternative asset' fund managers and advisers.

Figure 2.6 shows a high-level analysis of the 25 largest private equity funds in the world and their wider portfolio management activities. Few are involved in the early-stage venture capital market. A significant minority (44%) of the managers own hedge funds. Over 50% have fund management teams that operate collateralised debt obligations (CDOs). Only a minority of these largest fund managers are focused purely on private equity investment. Noticeably this focus on pure private equity is seen to a much greater extent in UK-based funds than their US counterparts. This may reflect the relative maturity of the UK versus the US private equity market.

**Figure 2.6: Forms of diversification undertaken by world's largest private equity managers**



Source: Gilligan and Wright.

We suggest that an examination of the hedge fund industry may similarly find that the largest hedge funds have started to become active in the private equity market whether as equity investors or as providers of debt and mezzanine to support buy-outs.

It is clear that the boundaries of the various alternative investors are blurring. One possibility is that private equity will respond to this competitive threat by taking on greater risks either in pricing and structuring investments or by changing the underlying long-term commitment model and introducing leverage into the fund structures. If such a trend were to emerge, our conclusion regarding the absence of systematic risk in private equity would need to be reviewed.

#### 2.1.15 Can a private equity fund or a private equity manager fail?

As explained in section 1, private equity funds are not usually structured using third-party debt and therefore do not generally carry a significant bankruptcy risk. As noted earlier, a private equity fund may lose all the investors' capital, but, unless they create liabilities by mismanagement (eg, guaranteeing obligations of investee companies), they are unlikely to become formally insolvent. However, while the absolute risk of bankruptcy is remote, it is clear that some funds perform badly and investors do lose some or all of their committed capital.

An unusual circumstance arose in the case of UK investor Candover. Established in the 1980s, Candover grew to become one of the world's large private equity funds. It had a slightly unusual structure that led to its demise. Its general partner (also confusingly named Candover) was itself a quoted company on the London Stock Exchange. In the financial crisis it became clear that the quoted general partner (which had debt within it) could not be certain of being able to finance its commitments to the latest Candover fund. In consequence the other investing LPs were able to renegotiate a cancellation of the fund commitments, leaving Candover without a new fund to invest from. This arose because it was the general partner which could not commit to the fund rather than any of the limited partners.

In the case of Permira, its founder investor, SVG Capital, also a quoted company, found itself with similar capital constraints. However, because SVG is an LP in Permira, not the GP like Candover, the renegotiation that ensued simply scaled back the size of the fund.

As we have emphasised above, it is important to understand that the failure of a fund does not mean that its investments will also fail, unlike in most corporate structures. There is no guarantee from the investments to the fund. There may be adverse impacts due to a lack of follow-on funding for example, but the private equity fund structure acts to contain, not disseminate, risk.

In extremis the investment agreement usually has a 'divorce clause' that allows investors to terminate the agreement if (typically) 75% by value of the committed investors agree to do so.

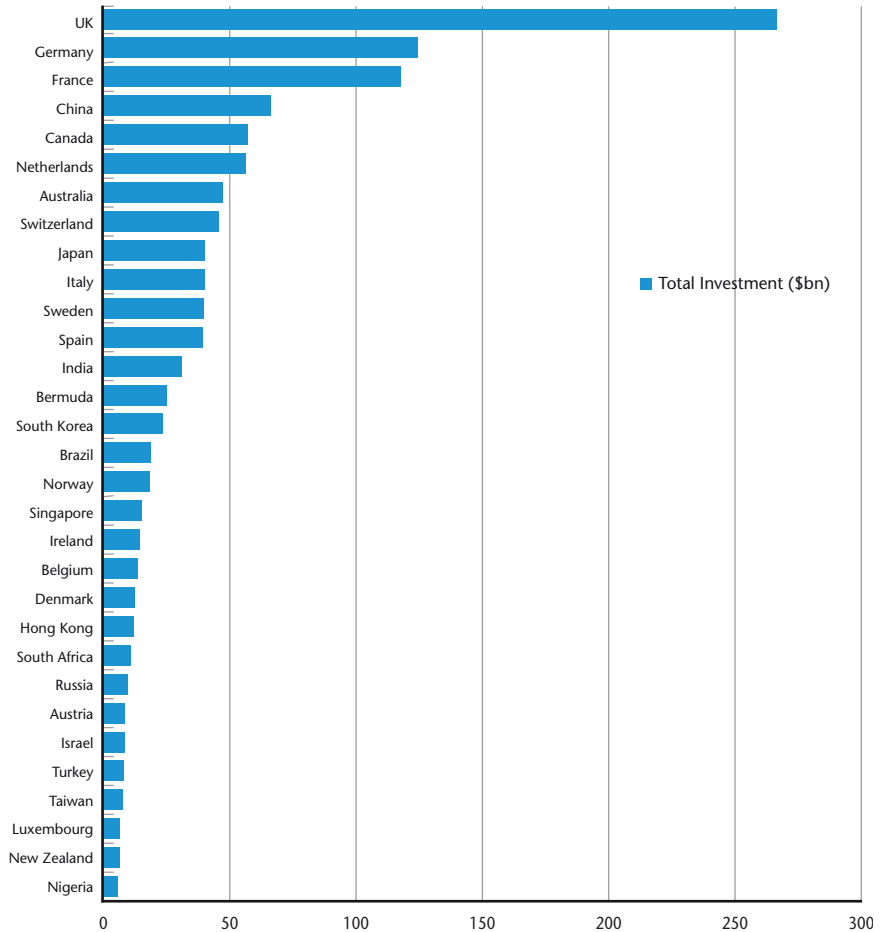
There is virtually no evidence or research in academic studies regarding the failure rates of private equity fund managers, in part due to the rarity of its occurrence.

#### 2.1.16 Where do private equity fund managers operate?

Since the mid-1980s many of the larger private equity fund managers have opened overseas offices in order to source deals internationally. In the 1990s, US private equity funds began to establish European offices, predominantly in London. Today the largest private equity funds operate in a market funded by international investors as private equity markets have developed worldwide. The UK private equity market is the second largest in the world after the US (Figure 2.7).



**Figure 2.7: Investment \$bn by country January 2006–July 2014 (exc. US; countries with at least \$5bn invested)**



Source: Preqin.

### 2.1.17 Why have European private equity funds been based predominantly in the UK?

Private equity fund managers require four necessary conditions to operate:

- availability of funds to invest;
- opportunities to make investments ('deal flow');
- people with the necessary skills to source, negotiate, structure and manage investments; and
- the availability of exit opportunities (stock market, M&A market).

Each of these necessary conditions is met in the UK. However, the number of alternative locations worldwide where they are also met is increasing due to the globalisation of both financial markets and professional service firms. The choice of the UK is therefore increasingly dependent on a complex interrelation of other economic, legal and cultural factors, including:

- **Economic environment:** local costs and benefits and the overall economic infrastructure of the location are very important. Private equity funds are heavily

reliant on third-party advisers both for the provision of services (legal, accounting, corporate finance etc) and for deal flow. Similarly, the reliance on leverage requires a banking infrastructure able to provide efficient support for leveraged acquisitions. There is an increasingly symbiotic relationship between the private equity industry and the various providers of professional services and leveraged capital. The latter are heavily dependent on transaction-driven fees, the former are reliant on external technical advice and sources of deals. Similarly, the availability of exit opportunities in a location is a further factor favouring the UK. The London stock markets provide both deal flow and exit opportunities.

- **Regulatory environment:** at the margin, regulatory risk impacts both the availability of funds and the cost of funds. This in turn flows directly to managers' personal rewards. The UK's regulatory environment imposes costs, but nevertheless confers benefits, on fund managers that are generally regarded as being at best favourable, or at worst, not unacceptable. There has been growing national and international pressure to increase the regulation of private equity in eg, the EU, US etc. The impact of this on the London market is as yet unclear.
- **Taxation environment:** the objective of any fund manager is to maximise the returns to its investors. The funds are structured to attempt to manage the tax burden from the investee company to the ultimate fund investors in such a way as to avoid double taxation and legitimately to minimise the overall tax burden. In principle this is no different from any other investment business.
- **Legal environment:** the efficient enforcement of contract law is important where there are potential default risks and the stated objective is to sell or float the investment in a given period. There are also particular legal structures such as the limited partnership available in the UK (and indeed in other jurisdictions) which allow for the management of liabilities without causing double taxation.
- **Cultural environment:** private equity funds are becoming increasingly multicultural as they expand their activities internationally outside Anglo-Saxon economies. They are, however, by ancestry an Anglo-Saxon phenomenon, and while this may be less important in the future due to the changing mix of new recruits, they are still largely run by senior partners from the UK and North America. A degree of institutional inertia may therefore favour location in the UK in the short/medium term.

In summary, the necessary infrastructure and services to support private equity are found in the UK, together with a strong capital market. As the industry has developed, the UK has continued to have a wide range of competitive advantages over other potential locations. However, the scale of the industry and its increasing international outlook may weaken the cultural and historical ties to the UK.

It is important to note that being located in the UK does not preclude any business from having significant offshore activities.

### 2.1.18 Fund raising and investors in private equity funds

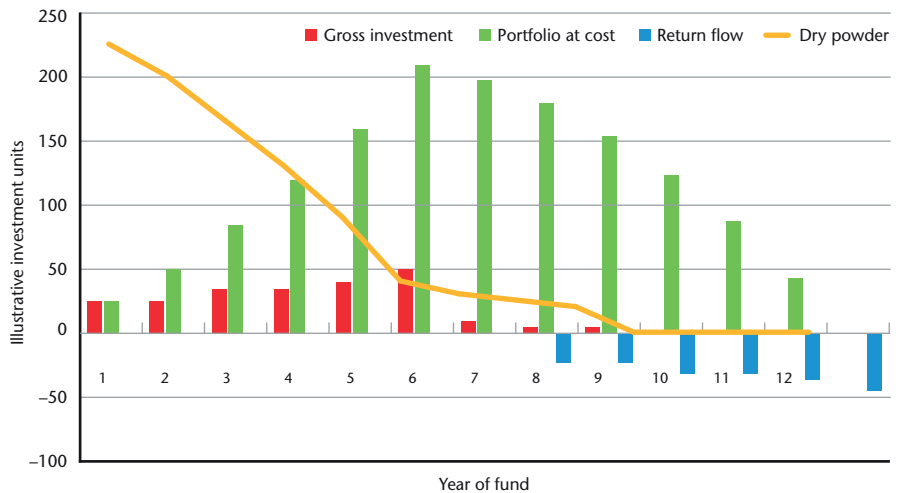
It is of course a necessary condition of being a private equity investor to have funds to invest. In section 1 we described the move away from captive funds and the emergence of the current 'standard model': the 'ten plus two' year limited life fund. Usually these funds make investments for around six years then the fund moves into a period where no new investments are made other than further capital committed to existing companies.

### 2.1.19 Committed versus invested capital

It is important to understand that private equity funds do not generally drawdown funds until they are needed. An investor makes a commitment to invest in the opportunities a fund manager selects for the fund. They do not deposit the cash with the fund manager. The GP fund manager has certainty of funds, but for the LP investor in the fund this means that they have an uncertain cash commitment to any particular fund, both in terms of timing of drawdown and the total amount that will be drawn down.

This makes private equity funds particularly difficult to forecast from a cash perspective. The GP fund manager protects themselves from the risk of an LP being unable to fund their commitments by putting in place a mechanism whereby if an LP funder cannot invest the other LPs take up their investment. The LP that fails to fulfil their commitment then substantially loses their rights and returns under the investment agreement.

**Figure 2.8: Private equity investment cycle**



Source: Gilligan and Wright.

Figure 2.8 shows an illustrative life cycle of a fund (at cost). In the early years there are large undrawn commitments (so-called 'dry powder'). As cash is invested (gross investment) dry powder diminishes and the portfolio (at cost) is built. As loans are repaid and realisations made ('return flow') the cash flows reverse for the investors typically from around the end of year six or seven.

The graph above illustrates a typical investment cycle and the planned return flow from the portfolio (excluding realisations and refinancings). As investments are geared, there is a redeemable element that is repayable, usually in years 5, 6, 7, 8 depending on the particular deal terms.

**Gross investment:** gross investment is the cash invested in each company. It can be a first investment into a company new to the portfolio, or a further investment into an existing portfolio company. Traditionally a fund could make first investments up to the end of year 6 and thereafter it could only make supporting further investments in companies already in the portfolio. Therefore, in order to be able to make ongoing new investments a private equity fund manager had to raise new funds before the end of the existing fund's five-six-year investment window.

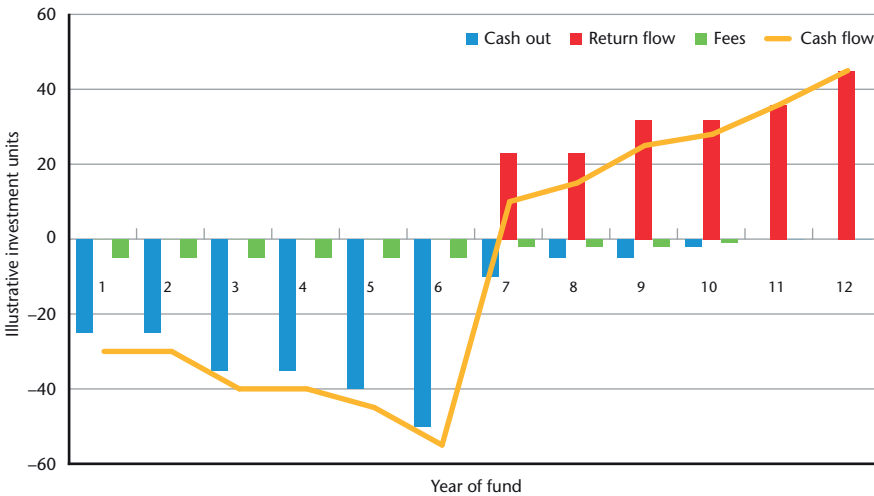
**No recycling of capital:** return flow is the name given to cash receipts from the underlying investments. These consist of income in the form of interest, dividends and (sometimes) fees, plus any capital repaid, from for example loans made as part of an investment. In addition any capital gains will be received as they are realised. A second key feature of most private equity funds is that they do not generally recycle capital. Repayments are paid back to the investors as they are received, not reused by the fund. Therefore a fund is limited to gross investment up to its committed capital, but not beyond, irrespective of how much cash is returned through return flow and capital gains. Private equity investors are not 'flush with cash' after a realisation, it all goes back to the investors.

### 2.1.20 Investor cash flows: the J curve (at cost)

As a result of the investment and realisation profile of any fund, an investor will generally see a highly uncertain pattern of cash flows, but one that will tend to have net cash out in the early years and net cash in later years.

In practice private equity is characterised by very lumpy cash flows, in terms of both new investments and realisations. The stylised example below does not assume any early realisations from successful investments (Figure 2.9).

**Figure 2.9: Illustrative investor cash flows**



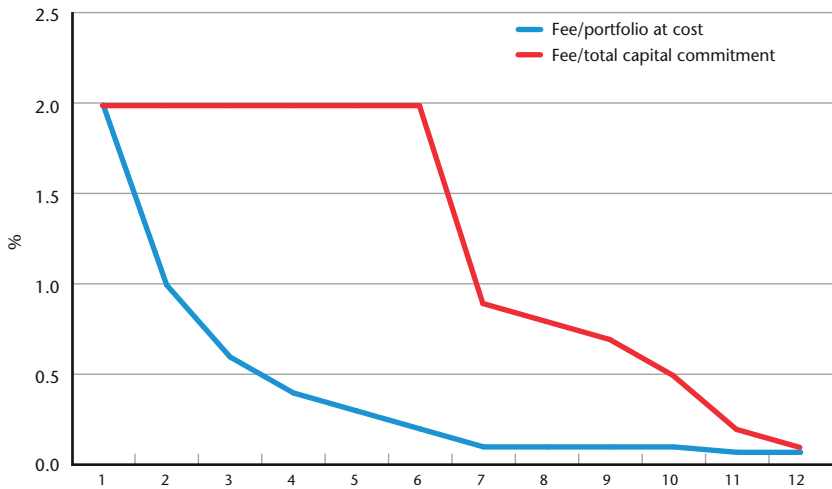
Source: Gilligan and Wright.

When private equity funds represented relatively small commitments by very large institutions, the fact that the LP investors had volatile cash flows was comparatively unimportant. In the scheme of a large institutional investor these volatilities were not a material management problem. As fund sizes and the number of funds grew, these volatilities started to present significant cash flow management issues to some investors, in particular those with borrowings predicated on cash flows from existing investments and those with high levels of commitment relative to their overall business. This is one of the factors that has encouraged the emergence of the secondaries market as discussed below.

### 2.1.21 Fund management fees

The fund investors pay a management fee based on the amount of capital committed up to the end of the investment period (Figure 2.10). Once the investment period ends, the fee typically reduces to a percentage of the capital actually invested, rather than the total committed. If the fund is extended beyond 10 years the fee arrangements will again fall.

**Figure 2.10: Illustrative fund management fees over time**



Source: Gilligan and Wright.

As noted above, fees were historically 2% of the capital committed or invested. Fees have come under sustained pressure, especially in larger funds and multiple fund managers where the quantum of fee income was argued to have created serious misalignment between the investors and the managers who received the fees.

Much as the pension management fees charged have come under scrutiny, so those charged by private equity fund managers have also come under scrutiny.

### 2.1.22 Fund extensions

If by the tenth anniversary of closing the fund the investments have not been realised the manager can seek a fund extension. Seeking an extension has generally been seen as a sign of poor performance; however, situations have arisen where holding a portfolio of investments for longer has been the desired outcome and 'positive' extensions have occurred.

An extension of the investment period earlier in a fund's life is typically a sign that the manager has not been able to deploy the capital commitments as planned. This has been common in the funds raised in the period immediately prior to the crash. In a number of these cases the LP investors have taken the opportunity to amend the terms of the original agreement by reducing fees and promoting tighter alignment of objectives.

### 2.1.23 Competition for funds by private equity managers

When funds are being raised, investors are offered the opportunity to commit an amount of capital to the fund. As the fund has no underlying assets, other than the goodwill of the manager, there is no pricing mechanism in the cost of fund units to ration demand. There is, however, generally a minimum amount which can be committed. If a fund is oversubscribed, by agreement with LPs, the private equity fund managers may enlarge the fund, or may scale back investors' applications.

The demand for investing in a particular fund will, to a large extent, depend on the investment track record of the private equity fund managers. However, an investment decision by an LP will also be influenced by the way it is proposed to share investment returns between the LPs and the manager. There is, therefore, competition between funds based upon the management fees charged, the hurdle rate of return, and the priority of the returns between LPs and the GP and the carry percentage.

#### 2.1.24 What are founders' rights and re-ups?

New funds often offer investors preferential founder investor rights to invest in subsequent funds. These may also include preferential rights to share in carried interest. These preferential rights fall away if an investor does not support a particular fund raising. Investors who are invested in predecessor funds who invest in subsequent funds are said to have 're-upped' their investment.

Volume discounts for the largest investors are also increasingly common, with some funds offering a stepped series of terms dependant on the amount invested.

#### 2.1.25 What is 'most favoured nation' status?

In order to protect themselves from having rights that are less favourable than other investors, some LPs seek a status akin to that of 'most favoured nation' in trade. This states that if any investor has rights that are more favourable than those negotiated, those rights will automatically be given to the investors holding most favoured status. This is intended to ensure that the investor gets the best deal that they can. In practice fund managers have turned it on its head and used it to block individual negotiations about the terms of the LPs investment. The position adopted is 'I'd like to negotiate, but my other investors have most favoured nation status so I just cannot afford to', or some similar position. It has therefore, ironically, become a block on individual investors negotiating. This is compounded by confidentiality agreements that prevent investors from sharing information and adopting collective position in any negotiation.

#### 2.1.26 First closes, early commitment discounts and speed of fund-raising

Funds are marketed with a specific target minimum and usually a maximum cap. The maximum can be a 'hard cap' that cannot be breached, or a soft cap that is there to guide investors about the fund aspirations but can be extended. Once a fund has commitments over the minimum they may declare a 'first close'. This represents a commitment to investors and funders to proceed with the fund and also acts as a signal to those who may be waiting to see how a fund raising is progressing that the fund is indeed going to be raised.

As the funding environment toughened it has become increasingly common for GP fund managers to offer LP investors preferential terms if they commit to invest before the first close. The intention is to entice investors into the fund as early as possible and to build momentum that enables the fund manager to close the fund-raising as soon as possible. A fast fund-raising is considered a sign of a successful fund manager. Conversely a long fund-raising is deemed to be indicative of a weaker proposition.

#### 2.1.27 How can individual investors invest in private equity funds?

There are retail funds and venture capital trusts that invest in smaller private equity transactions. There are also quoted investment trusts that invest in private equity transactions including larger deals and, as commented on above, both KKR and Blackstone, which are partnerships, have offered interests to the public. However, in general, larger private equity funds have a minimum investment amount that precludes most private investors. Furthermore, managing the drawdown from private investors

would be a significant burden. This minimum varies from fund to fund but a minimum investment of \$10m is not uncommon. Furthermore, due to the regulatory protections afforded to retail investors in the UK and Europe, the costs and regulatory burdens of raising retail funds mean that no large private equity fund markets to a retail investment audience. The latest of these regulatory changes, the AIFM, is discussed below.

The flotation of a fund will alter the ability of retail investors to access private equity, but this is not explored in this publication.

In order to provide wider access to private equity funds a number of fund-of-funds have emerged. These allow smaller institutional investors, who cannot justify the costs of an in-house team making private equity fund investments, to collectively invest in the larger private equity funds. However, the fund-of-funds manager will charge a fee (and take a share of any profit) before the investor earns a return and for similar reasons to those above, few are open to retail investors.

In any reasonable sense, other than a few exceptions (eg, indirect investment and, for example, specialist venture capital trusts), the private equity market should therefore be viewed as a wholesale market available only to institutional investors and regulated accordingly.

### 2.1.28 What is the secondary fund market?

Investors in private equity funds typically make a 10-year commitment to each fund. Compared to many other investment fund types, this is a long-term commitment. However, as we have made clear above, a commitment is not the same as an investment. Investors only invest cash as the fund is drawn down.

For investors seeking to exit from these commitments there is a growing market in private equity fund positions, the secondary fund market, and a number of specialist funds now exist to acquire secondary positions. With the private equity fund manager's consent, the investor can sell to another party both their share of the actual investments in the private equity fund, and their obligation to fund future investments. Historically, the early secondary purchases were generally only of actual investments rather than future commitments and were usually sold at a discount. Today these may be at a premium or discount and may often include the acquisition of the obligation to future funding commitments.

Although the secondary fund market has existed for some time it has been given added impetus in tight liquidity conditions. In some cases, stock market falls meant that some LPs were over-allocated to private equity in relation to their statutory target limits (the so-called 'denominator effect'). In other cases, poor performance of the private equity fund triggered a desire to exit. Other reasons for secondary fund activity concern changes in LPs' investment strategies, regulatory changes and a need to release funds to avoid defaulting on capital commitments. Liquidity in the secondary fund market is constrained by the challenges of valuing funds where selling LPs have a major informational benefit over prospective buyers because of their typically long-term relationship with GPs.

We discuss these secondary fund market transactions in more detail in section 2.5.5.

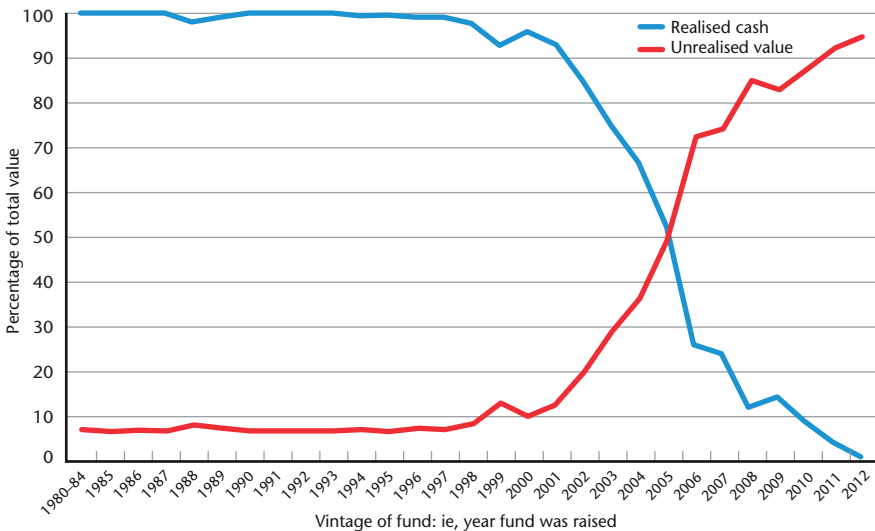
### Findings 2.1: Secondary fund market. The academic evidence

There is limited academic evidence on the secondary funds market. Available evidence (Appendix Table 2) indicates that private equity fund interest is more liquid if the fund is larger, has a buy-out-focused strategy, has less undrawn capital, has made fewer distributions and is managed by a manager whose funds were previously sold in the secondary fund 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.

#### 2.1.29 Why do private equity funds value unrealised investments?

Since private equity funds own assets that are not quoted, there is no market price with which to value investments. This creates both accounting and wider commercial issues that are relevant to the debate on disclosure by private equity fund managers. As a number of commentators have remarked, the only value that ultimately matters to a limited partner (or the fund manager) is the difference between the total cash invested in the fund and the total received back once the fund has closed, and so the theoretical value attributed to an investment prior to its ultimate exit may be considered to be of limited practical use. There are some funds that charge fees based on net asset values, but this is not generally the norm.

Figure 2.11: Percentage of value realised and not realised by vintage of funds



Source: BVCA/PwC 2012.

However, since funds are 10-year commitments with a five-year investment horizon or holding period, new funds are always being raised before existing funds are fully realised. This is clearly illustrated in the data above (Figure 2.11). It shows that in funds that were six to eight years old in 2012, between 50% and 75% of the total return in funds is attributable to unrealised investments. Equivalently, only 25%–50% of total return has been received in cash from funds six to eight years old.

Therefore, the valuation of recent unrealised investments is a material piece of information to both the fund manager and potential investors in any fund being raised.



It is common practice for managers to carry out quarterly valuations as part of the reporting process to investors.

This ongoing valuation is particularly important in private equity. There has been a hotly contested finding that the best funds have systematically outperformed the market. The first sign of a breakdown in this finding should be seen in portfolio valuation falls.

### 2.1.30 How do private equity funds value unrealised investments?

Detailed guidelines intended to represent current best practice on the valuation of private equity investments are published in *International Private Equity and Venture Capital Valuation Guidelines* ('IPEV Guidelines'). In summary the IPEV Guidelines identify six different 'most widely used' methods available to value an investment. Within each method there are a number of variables that require a decision on the part of the valuer.

1. **Price of a recent investment:** when a recent investment has been made in a company, the implied market value of the company in that investment round may be used to value any instrument. In first investments, this means that they are valued at cost. In further investments (for example a development capital or a rescue) the total investment (including any earlier rounds) might be valued at the price of the latest investment.

2. **Earning multiple valuations:** these are commonly used for profitable investments.

There is an array of alternative methods including:

- (a) P/E ratios: equity value/profit after tax;
- (b) EBIT multiples: enterprise value/earnings before interest and tax;
- (c) EBITDA multiples: enterprise value/earnings before interest, tax, depreciation and amortisation.

Each calculation can be performed using historical, current, 'sustainable' or projected data.

It is usual to use comparable ratios derived from the quoted markets and/or relevant recent transactions. Having decided which of the potential comparable market ratios to use, it is normal to apply a discount to the quoted market ratio to reflect a liquidity discount. This discount may be reduced if a fund manager believes a sale or flotation to be imminent.

3. **Net asset valuation (NAV):** where a business is not profitable or carries out an activity that is essentially involved with purchase and management of assets (such as a property investment company) they may be valued by reference to their net tangible assets. Goodwill created by the acquisition should normally be excluded along with certain other intangible assets. As in an earnings valuation based on market comparators, a discount is typically applied to the tangible asset valuation.
4. **Discounted cash flows (DCF) in the company:** economic theory tells us that the present value of any asset is the value of its future cash flows discounted to reflect the time until the cash is received and the risk that the cash flow will vary. DCFs, therefore, have the strongest theoretical underpinning. However, in practical use they are extremely sensitive to the assumptions made regarding discount rates and timing of cash receipts. Furthermore, there is a requirement to estimate the value of the business at the end of the discrete period for which cash-flow estimates are available. This is itself a valuation estimate.

5. **Discounted cash flows from the investment:** where an investment generates most or all of its returns from reasonably predictable cash payments and relatively little (or none) of its return from a terminal payment on sale, DCFs may be an appropriate valuation method. Loan stock, mezzanine and preference share investments are more suitable to this approach than most equity instruments.
6. **Industry benchmarks:** some industries have commonly quoted metrics that are not based on cash generation or profitability. Multiples of sales are often quoted for companies that are either loss making or where profits are not disclosed. Similarly the growth of new subscriber businesses was characterised by the use of 'value per subscriber'. All of these methods are proxies for the future cash generation that will accrue from the business. In general, the further the valuation metric moves away from being based upon future cash generation, the greater the likelihood that it will be proved to be inaccurate.

Where the selected methodology results in an estimate of the enterprise value (EV) of the underlying business (for example EBIT/EBITDA multiples or DCF), the EV is apportioned between the holders of debt and equity instruments in accordance with the respective claims of those instrument holders (having due regard to the impact of any ratchet arrangements and/or outstanding options) assuming a sale of the business at its estimated EV.

### 2.1.31 Understanding private equity portfolio valuation movements

When looking at the movement in the valuation of a private equity portfolio, there are four classes of variable that contribute to the change in the equity value:

Changes in valuation method + Changes in company performance + Change in external market comparators + Change in net debt

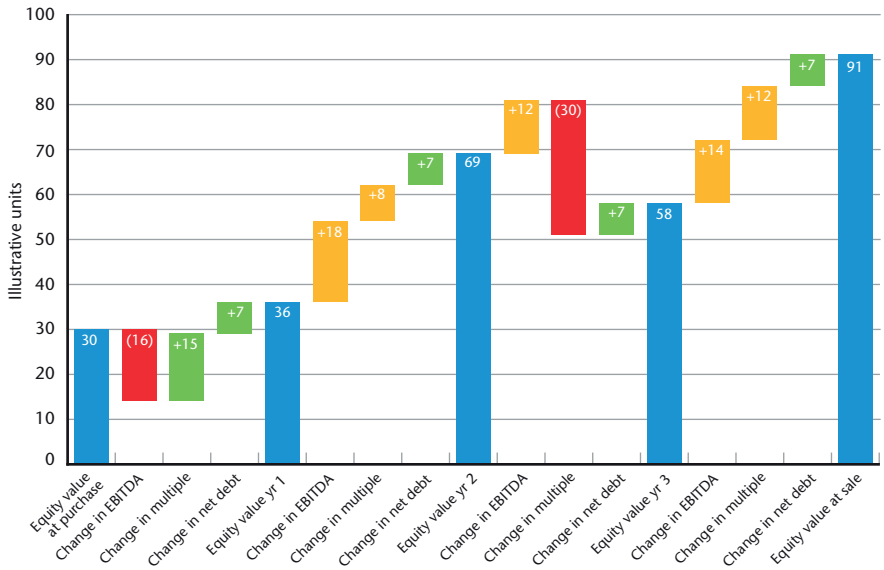
The first element is almost always relevant to funds in their early stages. All first investments in any fund are normally initially valued at cost. Once the first accounts after the investment are received, the fund manager will generally revalue based on the investment performance. Note that the audited accounts relate to the prior period and may therefore have a limited relevance to current trading. This creates significant timing lags if only audited accounts are used. If unaudited management accounts are used to adjust for this timing lag, a lack of external verification of the data used to underpin valuations arises.

The basis of valuation therefore fundamentally changes from one based on the actual price paid to some proxy for an external market value.

Many private equity investments are based on an investment thesis that a business requires restructuring or realignment: 'one step backwards to take two steps forwards'. In such cases the actual performance of the business, and its lagged valuation, may fall before the benefits of any repositioning emerge.

Valuations therefore move for a mix of reasons, some related to the performance of the business, some the external market and some purely due to a change in valuation method.

Figure 2.12: Illustrative equity valuation bridge



Source: Gilligan and Wright.

Furthermore, the significant costs and transaction taxes paid in completing a deal must be recovered before any value accrues to the equity holders. Other things being equal, it might therefore be expected that the value of an investment would fall after completion (by at least the amount of the costs) before recovering as a result of the planned restructuring or realignment (Figure 2.12).

This timing effect is compounded by the widespread belief that ‘lemons ripen faster than plums’: failures (lemons) emerge quickly whereas successes (plums) take longer to fully emerge.

### 2.1.32 Valuation of limited partner holdings: the J curve revisited

In addition to the change in the valuation of the portfolio of investments, the value of a limited partner’s holding will be further impacted by the timing differences between fees paid to the manager and any value growth, realisations and yield from the investment portfolio. Management fees are higher during the investment phase of any fund and generally decline when the fund closes to new investments and is concentrated on realising the investments made. Therefore, with investments valued at cost, the investors will generally see a decline in the return of their investment due to fees in the early years of any particular fund.

When accounting for the total return from an investment portfolio the effects of all revenues including fees, valuation movements and realisations are brought together and the movement in the portfolio at value calculated.

Total return = Revenue profit/(loss) + Realised profit/(loss) over valuation + Valuation increase/(decrease)

The cash flows of the fund are initially negative as investments are made and will become positive once the investments generate yield and are realised. This, coupled with the fees noted above, results in the cash flow profile known as the J curve, as illustrated above. The difference between the total return and the cumulative cash flow will, in all probability, be further exaggerated as the total return statement should include a discount for non-marketability, whereas the realised cash flows include the actual realised value of the investments, which, other things being equal, should be higher. By the close of the fund the cumulative cash flows equal the cumulative total return.

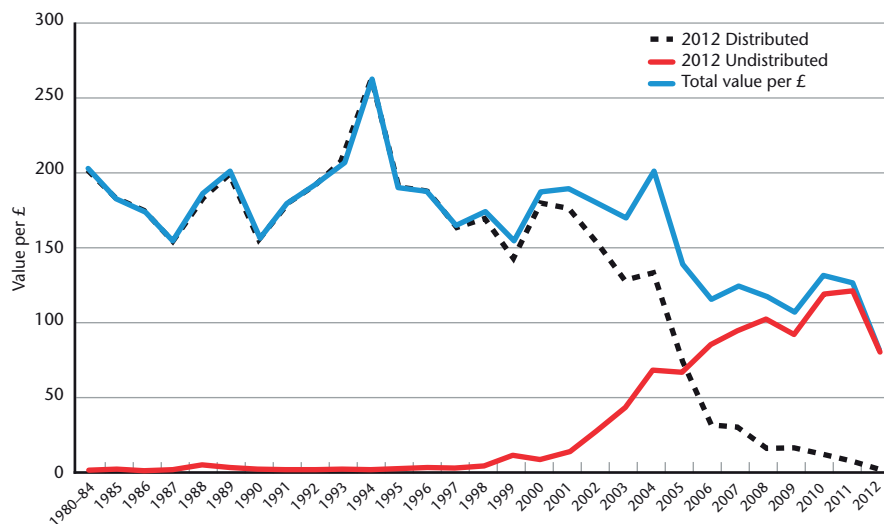
### 2.1.33 What are DPI and TVPI as measures of return?

Various measures are applied to monitor and adjust for the timing differences between total return and receipt of cash flows. We describe and illustrate the most commonly used measure, IRR, in section 3.

One of the simplest trend measures is the value per £1.00 invested both at valuation and including realisations as illustrated in Figure 2.13. This measure captures the trends in value appreciation in the portfolio as it matures.

In the jargon of the industry, DPI measures distribution as a percentage of paid-in capital. TVPI measures total value as a percentage of paid-in capital. Both are measures of value per £ or other currency.

**Figure 2.13: Value per £ invested in UK private equity firms: distributed and undistributed value by fund vintage as at 31 December 2013**



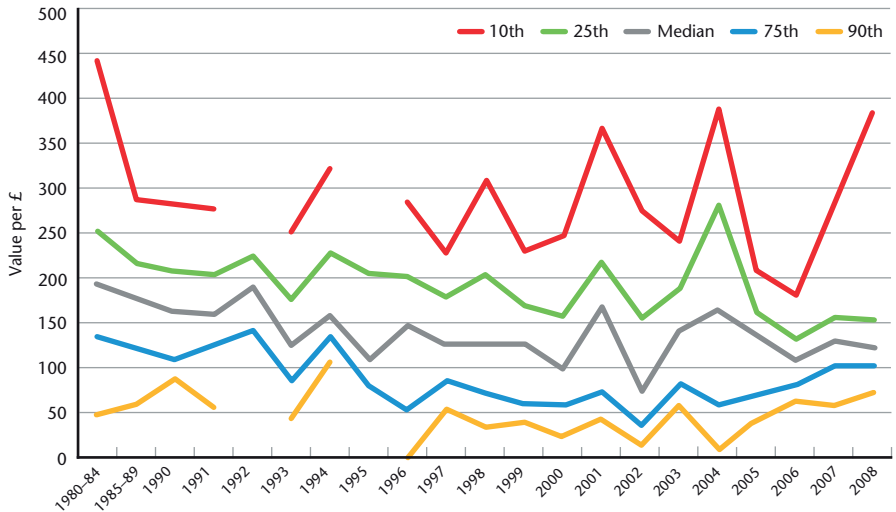
Source: BVCA/PwC 2012/2010/2009/2008.

### 2.1.34 What is the range of returns for investors?

It is important to understand both the overall industry returns and their volatility over time. In addition, the variation in returns between the most successful and least successful fund managers is a key statistic to understand the performance and risks of the industry. Data on the performance of mature funds is presented annually by the BVCA.

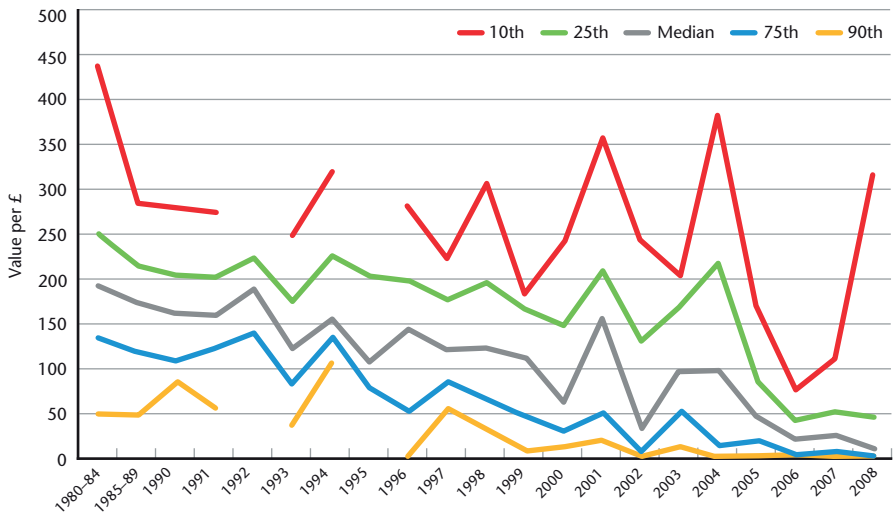
The latest data was published in July 2013, covering periods up to 31 December 2008 and is summarised in Figure 2.14 and Figure 2.15. These illustrate the average (median) return private equity funds, and give data on the distribution of the returns of the various funds. Later returns are not published because of the J curve effect distorting the returns.

**Figure 2.14: Distribution of returns to mid-large buy-out funds by vintage of fund – total value per £ invested (funds over six years old)**



Source: BVCA/PwC.

**Figure 2.15: Distribution of returns to private equity funds by vintage of fund – cash distributed per £ invested (funds over six years old)**



Source: BVCA/PwC.

This limited data and further data available from both the BVCA and EVCA illustrating the distribution of IRRs between upper quartile/decile funds and lower quartile/decile funds suggest that:

- returns are volatile;
- returns have been falling over time in all percentiles.

Thus, while the median outcome in funds has favourably compared with many other investment categories, the variance of outcomes is wide. As these are measures of funds, not of fund managers, it is difficult to extrapolate these conclusions further. However, it is clear that there are very material variations in performance between funds.

According to the BVCA 'Performance Measurement Survey and Report on Investment Activity' (for 2012) over a 35-year horizon in a dataset containing 454 separate funds:

- nearly half of all private equity funds pay no carried interest;
- one in four of funds loses around 1/8th of its capital;
- one in 10 of funds loses around 1/2 of its capital.

The academic studies of private equity fund performance are reviewed in more detail below.

### **Findings 2.2: Do investors earn superior returns? The academic evidence**

Private equity funds provide extensive information to their investors, but hitherto they have provided very little information to any external parties, which has made it difficult independently to assess the performance of funds. The available data is contradictory (Appendix Table 2). Evidence sponsored by the private equity industry trade associations indicates that private equity funds outperform alternative forms of investment such as quoted shares, although the variation between the top-performing funds and the others is very wide. Academic evidence attempts to adjust for risk and fees, as well as whether investments are realised or not. However, considerable debate has now emerged amongst a plethora of academic studies about the performance of buy-out funds. Much of this debate centres on the problem that apparent over- or underperformance may be down to the database being used. While proprietary databases, such as those held by funds-of-funds provide access to performance data that is not publicly available, they may potentially be biased depending on the scope of the funds that are covered. Initial US evidence showed LBO fund returns (gross of fees) exceed those of the S&P 500 but that net of fees they are slightly less than the S&P 500. After correcting for sample bias and overstated accounting values for non-exited investments, separate evidence shows that average fund performance changes from slight over-performance to underperformance of 3% pa with respect to S&P 500. There is also quite strong evidence that some buy-out fund managers generate more from fees than from carried interest. Buy-out fund managers earn lower revenue per managed dollar than managers of VC funds.

More recent studies have cast doubt on the underperformance, with several finding over-performance using various stock market comparator benchmarks using more robust data sources and one study finding a zero alpha gross of fees. However, it is important to adopt the appropriate benchmark given that buy-out funds typically invest in smaller deals than the S&P 500. Adjusting for the size premium, there is some evidence that the over-performance disappears.

The timing of fund-raising may also be important: private equity returns on buy-out funds appear to be higher for those funds raised in the 1980s than those raised in the 1990s and 2000s ie, there is a declining trend over time. Funds raised in boom times (which generally correspond to the second halves of the past three decades) seem less likely to raise follow-on funds and thus appear to perform less well. These studies also find that the top-performing funds had enduring outperformance, notably top decile rather than top quartile funds.

### **Findings 2.2: Do investors earn superior returns? The academic evidence (continued)**

It has been suggested that this long-standing relationship may be breaking down and that outperformance in many funds will no longer endure. Some academic work suggests that, historically, most successful funds have become too large, too fast. There are indications, however, of diseconomies of scale among private equity firm investors as investments held at times of a high number of simultaneous investments underperform substantially, with diseconomies being highest for independent firms, less hierarchical firms (in the organisation sense), and those with managers of similar professional backgrounds. The most recent study suggests that persistence in buy-out funds has weakened and barely persisted post-2000, suggesting that previous quartile performance is not a strong predictor of current fund quartile performance. It is also recognised that the ability to raise a further fund is dependent upon past fund performance. Turnover of fund professionals between funds is associated with higher performance, especially if professionals with operating experience are recruited.

### **Direct investments by LPs**

Although private equity firms are specialist intermediaries with the expertise to select and add value to portfolio companies, high fees and the poor performance by some private equity firms has been behind an increase in direct investments by LPs. A number of Canadian pension funds, for example, have established direct investment businesses. In principle, direct investment in portfolio companies, either as sole investor or as a co-investor with a private equity firm, provides greater control for the LP in the selection of particularly attractive investments while saving on fees. As private equity fund performance is highly cyclical, direct investment may also enable LPs to better time the market and manage their risk exposure if LPs are under less pressure to invest at peak times than are LPs. On the other hand, LPs may be less skilled in picking attractive investments, unless they can recruit and reward professionals with this expertise, which may be difficult within the traditional structures of LPs.

### **Findings 2.3: Direct investments by LP. The academic evidence**

There is limited academic evidence on the returns to direct investments by LPs. The main available study (Appendix Table 2) shows that solo investments by LPs outperform co-investments. Where there is outperformance this appears to be driven by deals where informational problems are not severe, such as where the deals are late stage so that the investee company has a track record, or are located close to the investor and when deals are undertaken in peak years. The poor performance of co-investment deals appears to be due to selective offering by private equity fund managers to LPs of large deals.

#### **2.1.35 Banks and other lenders**

##### **What role do banks play in private equity?**

Banks provide the debt in buy-outs and this debt may take many forms and be provided by many different market participants including one or more of commercial banks, investment banks, dedicated mezzanine providers and hedge funds or similar specialist funds.

Many smaller loans are syndicated within the traditional banking industry. During the most recent buy-out boom, larger loan facilities frequently had many different 'layers', some of which were structured to be sold through global capital markets via a CDO as described below.

More information about the process and logic of structuring of layers of debt is given in section 3.

### **What is leveraged lending?**

There is no hard and fast definition of what is and is not leveraged lending. In one sense all lending is leveraged as the use of any debt magnifies the returns (both positive and negative) when compared to financing with only permanent equity.

However, the industry generally defines leveraged lending with reference to either the post transaction debt: total assets ratio (the 'gearing ratio' in the UK, the 'leverage ratio' elsewhere), or the ratio of EBITDA: total debt (the EBITDA multiple).

Where total debt is over 50% of total assets or borrowings exceed around 3 X EBITDA, most banks would define and manage the relationship as a leveraged finance loan. Other definitions might include the credit rating of a traded bond or the margin on a particular loan. Whichever definition is used, the term attempts to capture the fact that a leveraged loan is deliberately structured with higher risks and rewards than a 'non-leveraged loan'. This contrasts with distressed loans that are loans that become higher risk rather than being structured as such.

### **How did the banking market change?**

In traditional banking, a bank will lend and build a portfolio of loans, although some of the larger loans might be shared between banks through a process of syndication. In this model, bankers are constrained by the fact that any losses will fall on their own balance sheet. In recent years banks changed and began to act as arrangers of loans rather than primarily as lenders. The proportion of loans held by the arranging or 'lead' bank after a transaction fell throughout the late 2000s. In this 'arranger model' of banking, the incentive is to maximise the amounts lent, subject to the constraint of being able to syndicate the loans to other banks (and other investors) such as CDOs.

To achieve a wide syndication, a loan must either be actively sold to the market by a syndication team within a bank or alternatively sold to the public markets as a rated bond issue. If the loan is sold to the market by a syndication team the bank gives a limited number of banks access to its due diligence. The appraisals it has carried out are made available usually including the opportunity to meet the management of the company prior to investing in the loan issue.

If a loan is sold to the public markets as a rated bond issue a credit rating agency will be retained by the lead issuer and will undertake its own credit assessment and grade the loan according to market norms. The arrangement between the rating agency and the issuer has come under some scrutiny. The rating agency's fees are paid by the sponsor of the bond being issued. The agency is therefore incentivised to give a rating that is consistent with the issuer's own assessment, or better. The constraint on this favourable incentive was argued to be reputational risk: rating agencies would not favourably rate due to the perceived risk to their reputation. This argument now looks hollow. Rating agencies are indemnified against the risk of errors arising from poor or inaccurate data by the sponsors.

**The bank's rewards and the risk:** the lead bank's major source of income becomes fees from arranging the debt and syndication rather than interest from lending a portfolio of loans. In the first edition of this work we noted that there was very little academic research around the impact of this gradual change in banking incentives and the potential impact on risk and conflicts of interest within the arranging and syndications markets. Since we wrote the first edition, it has become apparent that the conflicts we alluded to within the arranger model led to systematic risk in the banking market that manifested itself in the credit crunch.



**Bank covenants:** if a business with borrowings does not perform to plan, a series of monitoring tools will alert the lending banks. These ratios, or financial covenants, are agreed prior to a loan being granted. If a company breaches one or more of these agreed limits, the banks will typically have a series of options available to them. These include renegotiating the loan package or appointing an administrator to sell the business or its assets to repay the loans. The negotiation of the banks' covenants is therefore a crucial part of the management of the risk of a transaction for the company, the banks and the equity investors. This is described in more detail in sections 3 and 4.

Where the covenant arrangements are either not tested as frequently as industry norms or the agreement allows the private equity funds to inject new capital to rectify any breach ('equity cure'), the loans are known as covenant light or 'cov-lite' loans. Post-credit crunch, cov-lite disappeared from the banking market but it is now returning. However, there is a significant volume of cov-lite loans in existence. These therefore continue to change the risk allocation in favour of the borrowers and against the lenders.

### **Why did the banking market change?**

Syndication has advantages to both the arrangers of the syndication and the participants in the syndication. For the arrangers a new business model began to emerge that generated higher returns on assets than had been achievable in the traditional banking model. Lead arrangers not only generated lucrative fees from arranging the loans and underwriting the facilities prior to syndication, they were also able to force cross-selling of other banking services to the borrowers. It is often a condition of a loan arrangement that certain other banking services are taken with the arranger – hedging, insurance or other lucrative broad advisory services. Conversely, the largest corporate borrowers often force banks to participate in their bond issues if they wish to provide other banking services. It is noticeable, for example, that the largest private equity funds often have limited partners whose core business includes being participants in the leveraged finance market. Such mutuality, or conflict, of interest and influence is of no great surprise.

In buy-outs, by taking the underwriting risk on the whole debt package, lead banks are able to capture both the underwriting profit and a significant portion of the overall banking business of the buy-out group. This further enhances the returns generated by banks minimising the amount of capital tied into any particular loan package post-syndication.

The syndication model therefore allowed banks with origination teams to increase their ability to sell a broad range of services while reducing the amount of capital permanently tied up in the provision of any particular facility.

For syndicate members the process also has advantages. Firstly, it allows smaller financial institutions whose balance sheets are too small to allow them to participate in lending to the largest borrowers to gain access to this market. Secondly, it allows institutions to diversify their portfolio to include markets within which they have no origination teams. This was a particularly important incentive when global yields on bonds were low and therefore investors generally, including banks, were seeking to achieve higher yields.

The market therefore allowed institutions of all sizes to gain exposure to a wide array of risks.

### **What are the risks of leveraged lending?**

There are generally six recognised risks in leveraged (or indeed any other) lending:

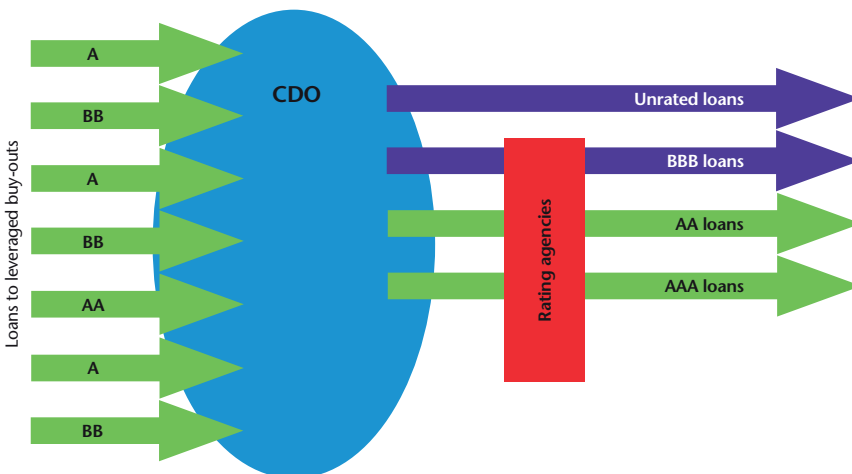
1. Credit risk arises in any loan and represents the risk to capital and income of the lender due to the risk of the borrower's inability to pay. This includes the underwriter's risk prior to the syndication.

2. Liquidity risk arises when a bank mismatches the term of its assets and liabilities. Where it has short-term borrowings supporting long-term loans a liquidity crisis can cause a bank to collapse.
3. Price risk arises in underwritten syndications because the terms to the borrower are agreed prior to syndication. Where the market assesses the risks to be different to the underwritten assessment of the lead bank, the price paid for any particular bond may fall and the underwriter will incur a loss.
4. Reputational risks are the effect of adverse public perception on the prospects of an institution. In leveraged finance this includes the particular reputational damage that can occur when complex structures are put in place that are perceived to be designed to avoid moral obligations, such as the creation of offshore special purpose vehicles that are characterised (often inaccurately) as tax avoidance schemes.
5. Strategic risks include an organisation's ability to manage its exposure to the particular market and the changes within the market that it operates. This might include, for example, having an organisation structure that effectively monitors and reports on a loan portfolio to enable decisions to be made in a timely and informed manner.
6. Compliance risks arise when new and innovative financial products are developed that have not previously been specifically considered by the regulator of a market. The issuer of any syndication will take responsibility for the legality of the transactions that are being completed. They have a risk that any syndicate participant will pursue them for damages in the event that an arrangement is misrepresented or is illegal.

In the credit crunch many institutions experienced a variety of these risks.

### 2.1.36 What are collateralised debt obligations, collateralised loan obligations and structured investment vehicles?

Figure 2.16: Schematic of a CDO/CLO/SIV



Source: Gilligan and Wright.

Collateralised debt obligations (CDOs) and collateralised loan obligations (CLOs) together with structured investment vehicles (SIVs) are important and little-understood fund structures (Figure 2.16). CDOs have existed for many years as vehicles to enable banks to sell loan obligations, thereby increasing capital efficiency and returns on capital, but have grown in significance dramatically in the last few years.

For simplicity we ignore the terminological differences between CDO/CLO and concentrate on the economics of the transaction rather than the assets or management style of the fund. The SIV is simply the legal entity that takes in loans and assets that are blended together to create the CDOs.

There are basically two forms of CDO.

- **Balance sheet deals:** these have existed for many years and involve a bank selling a portion of its loan portfolio to a SIV that pays for the assets from the receipts of a bond issue, or a series of contracts to transfer the default risk to other investors, usually by a credit default swap (an insurance policy against non-repayment). These deals are usually constructed to allow a bank to manage its regulated capital base efficiently.
- **Arbitrage deals:** these structures attempt to capture the difference between the yield of an underlying asset and the cost of the bonds issued by the SIV to acquire the assets (or the price paid for the asset) and can be broadly characterised as being of two forms.

The first involves a trading strategy where the SIV actively trades bonds to generate a return. These types of vehicle were heavily involved in the sub-prime lending market and are the focus of much public discussion.

The second are cash-flow deals. These are most relevant in the LBO syndication market. In these transactions, the SIV participates in the debt syndication. It builds a portfolio of loans financed by its own equity and bridge finance from its bankers. Once the portfolio is large enough it will issue a series of bonds backed by the loans. The senior bonds are rated by a credit rating agency and are ranked first. These are bought by investors in the bond market. Rated mezzanine bonds are also issued that rank after the senior bonds. These have a higher interest rate, but carry more risk and are sold to investors seeking higher yield assets, often hedge funds and alternative asset investors. Finally, any profit or loss on the underlying assets is paid to unrated bonds ranking last. These bonds have returns and risks that are comparable with equity. They are sold to investors seeking equity returns and usually held by the SIV manager. This process of so-called 'slicing and dicing' enables risk to be dispersed throughout the market. It also makes it exceptionally difficult to know exactly where risk resides.

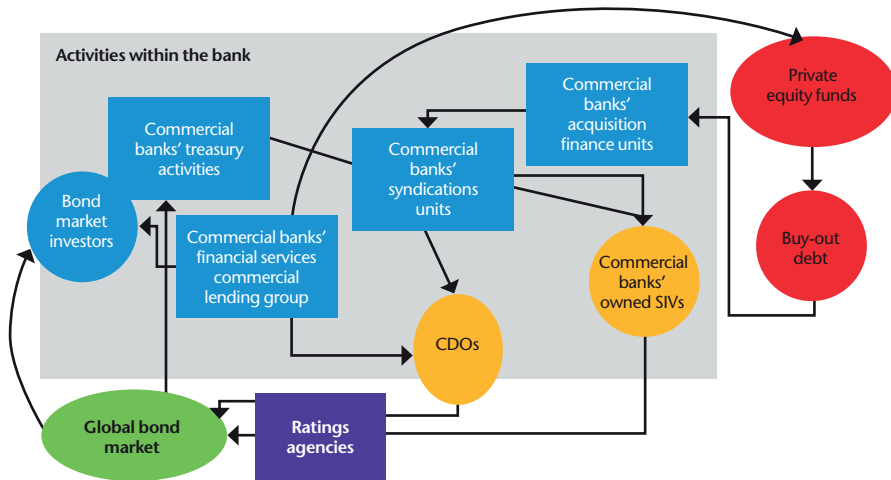
CDO managers earn returns in the same way as private equity fund managers; they receive fees and a carried interest. Indeed a number of CDO funds are sponsored and managed by teams affiliated with private equity fund managers and are invested in by them.

### What went wrong?

**Syndication:** the broad syndication of loans throughout the financial market has had two major consequences. First, the total risk was disseminated across many institutions, reducing the impact of any one corporate default or failure. Second, it became increasingly difficult for observers of the markets to establish where the risks were actually held within the financial system. Figure 2.17 below simplifies the flows to illustrate how risk is disseminated from the original lenders to a wide variety of institutions and how that risk can flow back to the originating banks.

It shows that a risk that is securitised through a CDO or a SIV enters the global bond market 'wrapped' in a credit rating issued by a rating agency. Where the issuer is a CDO or a SIV, the bond will be a synthetic amalgam of various loans held within the issuer's portfolio.

**Figure 2.17: Flow of risks from original lenders through securitisation to bond markets**



Source: Gilligan and Wright.

During the period prior to the credit crunch, it was argued that this dispersal of risk through the enlarged global financial system reduced systemic risk. We now know this to be incorrect. The lack of transparency created by the process of securitisation created a market in which a sharp fall in confidence resulted in a dramatic reduction in liquidity in the wholesale banking market.

This happened because institutions were unable to confidently price the synthetic products created by the securitisation process. When the pricing mechanism fails, free markets fail to clear. This in turn created short-term funding crises in the banks and other financial institutions that were reliant on wholesale funding for their day-to-day operations. In essence, the greater the reliance on wholesale funds, the greater the bankruptcy risk caused by the market failure attributable to the lack of accurate information.

Many leveraged loans took advantage of the growth in the number of participants in the bond market that had grown largely on the back of the US housing market. As the sub-prime market grew there was increased liquidity at its margins that the arrangers of leveraged loans took advantage of. They used the same process as was employed in the mortgage market to distribute loans widely. Lead banks increasingly used rating agencies to issue traded bonds either directly in the largest buy-outs, or in the upper-mid market by a process of securitisation undertaken within CDOs and similar special purpose vehicles (SPVs).

Key to the ability to achieve this dispersal of risk is the rating agencies' ability to accurately rate the commercial paper issued so that the market prices it appropriately. This ability appears to have been seriously compromised.

### How much leveraged lending did banks undertake?

In the period leading up to the boom, the amount of banks' exposures to LBOs rose 17% from €58bn at June 2005 to €67.9bn at June 2006 as reported by the FSA (now FCA). These exposures were relatively concentrated, with firms' top five deals representing on average 47% of their exposure. Banks' exposures were also increasingly complex with enhanced use of mezzanine, bridge and payment-in-kind (PIK) debt. These instruments are described and discussed in sections 3 and 4.

The FSA (now FCA) argued that this was a response to the appetite in the institutional debt market for such products prior to the credit crunch.

As discussed above, the banking market saw a change in the business model used and banks were increasingly distributing the debt that they underwrote. Following the credit crunch of 2007–2008, banks significantly reduced their exposure to leveraged buy-outs and new forms of lenders have emerged to fill the gap left.

### 2.1.37 Non-bank lenders

With the retrenchment of the traditional leverage finance providers, an opportunity arose for the establishment of new non-bank lenders to private equity. These funds use a similar model to the private equity funds to raise debt funds. Non-bank lenders differ from banks as follows.

Firstly most new lenders were originally targeted at the upper-mid market and beyond. There are no significant competitors in the smaller buy-out market. Secondly these funds do not generally recycle their investments like a bank and they therefore prefer to leave capital invested for longer. This creates risk that justifies higher costs of funds. You therefore see the use of so-called ‘unitranche funding’ which has a single repayment (tranche) payable at the end of the life of the investment. These structures are very like interest-only mortgages in their risks.

## 2.2. Advisers and other service providers

Private equity funds outsource many functions. Unlike larger banks, few private equity funds have in-house accountants and lawyers, and most outsource as much as possible. These outsourced service and advisory relationships fall into three broad categories – services, transactions advisers and fundraising advisers – which are explained below.

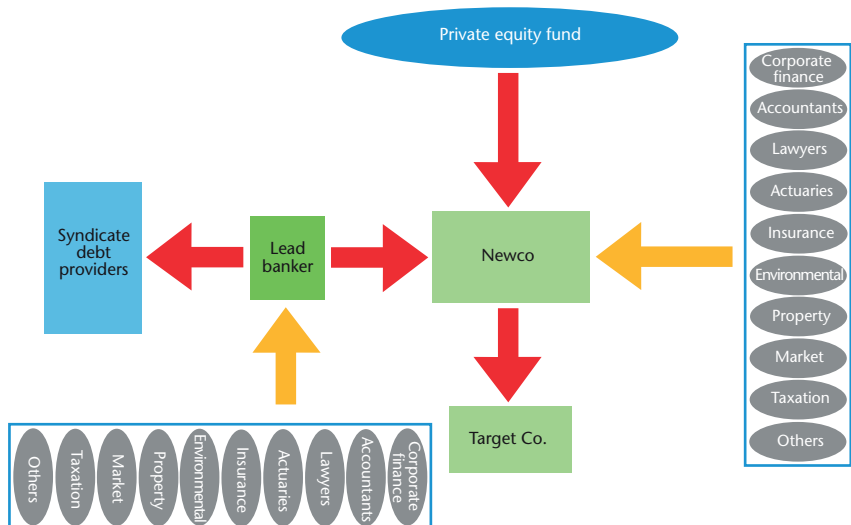
### 2.2.1 Who provides outsourced services?

These are providers to the fund management business providing day-to-day support to management and reporting of the funds business. They are in principle no different to any other business.

### 2.2.2 Who are transactions advisers?

Transaction advisers generally include investment bankers, accountants and lawyers.

Figure 2.18: Illustrative advisers to a transaction



Source: Gilligan and Wright.

- **Investment bankers:** both a source of deals for the private equity fund, when the investment bank is advising the vendor of a business, and a provider of advisory and distribution services (ie, syndication) when advising the private equity funds. Thus in Figure 3.1 an investment bank may be providing advisory services to the Newco and private equity fund at the same time as underwriting the banking and arranging the syndication of the transaction debt. This creates a complex series of incentives: the corporate finance and syndication fees are, on the whole, payable only if a transaction completes. However, if a transaction that is not attractive to the market is arranged, the underwriting arm of the bank will be left holding the majority of the transaction debt. The incentives are therefore to maximise the transaction flow subject to the limitation of the appetite of the syndication market for debt. The bubble of the late 2000s in the secondary banking market released the normal action of this constraint and allowed the almost unrestrained growth in the size and scale of buy-outs prior to the credit crunch.

Furthermore the lucrative fees for advising and arranging the subsequent sale or flotation of the business will depend to some degree on the reputation for quality that an organisation or individual builds up.

- **Accountants:** provide due diligence and taxation advice on transactions. The corporate finance advisory businesses of the accountants also provide similar advisory services to those of the investment banks mostly in the mid-market. The accountancy firms argue that they provide advice that is independent of the distribution capacity that is provided by the investment banks. However, the accountancy firms sometimes provide both advisory and due diligence services to the same transaction. Where this is the case the relative size and contingency of the fees for these services needs to be considered to avoid the perception or actuality of a conflict of interest.

Many larger private equity funds have sought to maximise the incentive of their due diligence advisers to be objective by forging long-term relationships with one or two providers. In these arrangements it is argued that the volume of transactions that any active private equity fund pursues will compensate the due diligence providers for the losses associated with those that do not complete successfully.

Ongoing audit and tax advice may also be provided to individual investee companies, the funds and the partners of the funds (subject to independence regulations). Some of the large accountancy firms also operate fund placement businesses that assist in raising private equity funds.

- **Lawyers:** providers of legal and tax advice on transactions and fund-raising and structures. Every party to each contract in a transaction will generally have a legal adviser.

### 2.2.3 Who are fund-raising advisers?

Placement agents are used by many funds. These are specialist advisers who provide assistance in raising funds and provide advice and access to potential investors in private equity funds globally. As the market for private equity has matured, the role of placing agents has migrated from being one that primarily consisted of broking investments by potential limited partners, to both broking and project managing the process of fund-raising.

Potential investors are naturally keen to have comprehensive information on the track record of general partners and to have access to the key people behind whom they are potentially investing. These key individuals also have to manage the portfolio and new business activities of their funds. As funds have grown in size a fund-raising specialism has

emerged both within the funds themselves and outside the funds to efficiently manage the time-consuming process of fund-raising.

Placement agents and placement fees scandal: as funds grew, and the investing community became increasingly international, it became common for private equity managers to retain placement agents to assist in the arranging of new funds. These agents were rewarded with commissions if they brought new investors to the funds being raised. They were especially important if funds were being raised in countries where the fund managers themselves were not known, for example European fund managers seeking US investors for European-focused funds. In the US in a series of scandals and criminal cases it became apparent that placement agents had been lavishly entertaining representatives of some of the large investors in private equity. Subsequently allegations were made that commissions were being shared with the investor's representatives. The US acted swiftly to close down the risk of corruption by banning commissions to placement agents.

### **2.3. Employees and other stakeholders**

#### **2.3.1 What is the impact of private equity transactions on wider stakeholders?**

The wider stakeholders in the business including the employees, customers and suppliers, are generally not party to the negotiations in a buy-out. In the case of quoted companies there are strict rules regarding confidentiality of price-sensitive information that preclude wider involvement.

In the UK where the assets of a business are sold rather than the shares in the business, there is a statutory right for employees to be consulted regarding any change in employment terms under the Transfer of Undertakings (Protection of Employment) (TUPE) Regulations.

#### **2.3.2 What is TUPE and when is it applied?**

TUPE legislation is designed to protect UK employees from being adversely impacted by the sale of businesses and/or their assets rather than a sale of the shares in the company. TUPE was established in 1981, revised in 2006 to incorporate the EU Directive on Acquired Employment Rights and amended by the Collective Redundancies and Transfer of Undertakings (Protection of Employment) (Amendment) Regulations 2014.

Employees have a legal contractual relationship with the company that employs them. This is embodied in their employment contract and is supplemented by protections guaranteed by employment law. When shares are sold and the ownership of the company transfers to new owners, this has no impact on the contractual relationship between the employee and the company being sold: the legal relationship remains unchanged and is legally identical before and after a sale. If a purchaser subsequently wishes to change any employment conditions it must do so in exactly the same way as if no sale had occurred.

If the assets or the business undertaking are sold rather than shares, the employees will have a new contractual relationship with the acquiring company. They will cease to be employed by their former employer and become employees of the company that bought the assets or undertaking.

TUPE is designed to protect employees from employers who seek to use the change of legal employer to vary the employment terms or to use the sale to dismiss workers. TUPE gives employees an automatic right to be employed on the same terms (with the exception of certain specific occupational pension rights which are outside the scope of this report) by the new employer. These rights include the right to be represented by a trade union where the employees transferred remain distinct from the employees of the

acquiring company. This is almost always the case in a private equity transaction because Newco has no business prior to the transaction, and therefore no employees other than those acquired as part of the transaction. The regulations apply to all companies and public bodies without exception.

The regulations require that representatives of the affected employees be consulted about the transfer by the employers. They have a right to know:

- that the transfer is to take place, when and why;
- the implications for the employees legally, socially and economically; and
- whether the new employer intends taking any action that will have a legal, social or economic impact on the employees.

TUPE also places obligations on the selling employer to inform the acquirer about various employment matters.

#### **Findings 2.4: Do private equity and buy-outs adversely affect employment?**

##### **The academic evidence**

Evidence on the effects of buy-outs on employment is mixed and inconclusive (Appendix Table 3 Panel A). Some US studies from the 1980s report small increases in total firm employment following LBOs. Others report that buy-outs do not expand their employment in line with industry averages but that non-production workers experience the largest fall over a three-year period, while employment of production workers was unchanged. Recent US plant-level data show that employment grows more slowly in private equity cases pre-buy-out and declines more rapidly post-buy-out but in the fourth or fifth year employment mirrors that in non-buy-out control group firms. Existing buy-out plants create similar amounts of jobs to control group forms while greenfield buy-out plants create more jobs. Early firm level UK evidence relating to the 1980s suggested that job losses occurred most substantially at the time of the change in ownership and then began to rise. UK evidence from buy-outs completed over the period 1999–2004 shows that employment growth is 0.51% higher for MBOs after the change in ownership and 0.81% lower for MBIs. More detailed recent data also indicates that employment in MBOs dips initially after the buy-out but then increases, on average. In contrast, for MBIs, the employment level remains below the pre-buy-out level. The majority of both MBOs and MBIs show an increase in employment. The relatively small number of MBI/IBOs involving majority private equity acquisitions of listed corporations tend to experience employment falls in the year immediately after the deal compared with non-acquired firms and generally fail to show subsequent increases in productivity or profitability. Further evidence suggests that private equity-backed buy-outs have no significant impact on employment while traditional acquisitions have negative employment consequences. The impacts of buy-outs on employment growth rates are similar to those for traditional acquisitions. A private equity deal would be unlikely to occur if the pre-buy-out firm was performing optimally because there would be few performance gains to be obtained from restructuring. As on average MBO/I plants have lower productivity before the buy-out than their non-buy-out counterparts, it is not surprising that some labour shedding occurs. However, shedding labour at the time of a buy-out helps set the firm on a more viable footing, reducing the likelihood that the firm will subsequently fail with an even higher loss of employment. Where there is little alternative except closure, a private equity deal may have its attractions. US evidence suggests that private equity accelerates both job destruction and job creation resulting in productivity gains.



### **Findings 2.5: Do private equity and buy-outs adversely affect wages? The academic evidence**

US studies from the 1980s indicate a decline in the relative compensation of non-production workers (Appendix Table 3 Panel B). Evidence from the late 1990s and 2000s in the UK shows that the average growth in wage levels in MBOs and MBIs is marginally lower than in firms which have not undergone a buy-out. Buy-outs have more negative wage effects than traditional acquisitions. MBIs typically are underperforming problem cases prior to the change in ownership, that require more restructuring and which generally have a higher failure rate than MBOs. Pre-buy-out remuneration may not have been sustainable if firms had been underperforming. The impact of private equity-backed deals, may be different from that of non-private equity-backed deals, but preliminary evidence indicates that this difference disappears once the problem that certain types of firm are selected as buy-outs is taken into account. Data is not available concerning whether buy-outs had a higher or lower wages trend than non-buy-outs and hence whether the position is worse, better or the same after buy-out. It is also problematical to integrate the weekly/monthly wage aspects of remuneration and any benefits from the introduction of employee share ownership schemes at the point of the buy-out; the latter may substitute for standard wage payments which may not necessarily be the same in non-buy-outs. Thus, these findings are likely to bias against finding positive wage effects due to buy-outs if they are more likely to use such schemes than non-buy-outs. In summary, the results are again inconclusive.

### **Findings 2.6: What is the impact of private equity on human resources management? The academic evidence**

Buy-outs in the UK and the Netherlands result, on average, in an improvement in human resource management practices (Appendix Table 3 Panel C). Buy-outs in general result in the adoption of new reward systems and expanded employee involvement, but the effects depend on the type of buy-out. 'Insider' buy-outs and growth-oriented buy-outs had more commitment-oriented employment policies. Preliminary evidence also suggests that buy-outs backed by private equity firms report fewer increases in high-commitment management practices than those that are not private equity backed. Employees in UK MBO firms tend to have more discretion over their work practices than comparable workers at non-MBO firms, with skilled employees, in particular, having low levels of supervision at MBO firms.

Recent pan-European evidence from managers finds that private equity investment results in negligible changes to union recognition, membership density and attitudes to trade union membership. Managers in firms recognising unions after private equity buy-outs do not report reductions in the terms and conditions subject to joint regulation. Under private equity ownership more firms report the presence of consultative committees; managers regard these as more influential on their decisions, and indicate increased consultation over firm performance and future plans. Comparing industrial relations changes in different social models in Europe, the recent evidence suggests private equity firms adapt to national systems and traditional national industrial relations differences persist after buy-out. Systematic evidence is lacking however on the impact on human resources management during the recession.

## 2.4 Taxation

The structuring of a fund will have a direct impact on the tax position of the various stakeholders involved. It is therefore important that a fund is structured to be attractive based on each stakeholder's relationship with the fund.

Below we consider the tax position of three classes of stakeholder:

2.4.1 investors in a private equity fund;

2.4.2 private equity executives who will manage the fund; and

2.4.3 investee portfolio companies.

### 2.4.1 Investors in a private equity fund

Any fund must present an attractive investment opportunity for an investor. The way in which returns to an investor are taxed will directly affect the quantum of the return received. It is therefore important that a fund's profits can be distributed in a tax efficient manner.

As a general principle, it is usually the investor who pays taxation on any investment activity, not the investment vehicle. The country in which an investor pays tax will be determined by where they are resident for taxation purposes and the country in which the investment itself is located. As illustrated above, many investors in private equity funds are not based in the country of the fund. They are located in a wide variety of tax jurisdictions. Many are themselves collective investment vehicles, such as pension funds, insurance companies or funds of funds. Taxation will therefore generally be paid by the ultimate investors in those funds wherever they happen to be resident for tax purposes.

Any fund manager will need to consider the tax paid by investors.

#### What is double taxation?

The investments made by private equity funds are often in companies that are located in a wide variety of countries. The funds are therefore structured to allow the returns to be earned without creating 'double taxation'. Double taxation occurs when a government taxes profits in one country and these profits are taxed a second time (without offset of the initial tax paid) when they are received by the ultimate investor.

Most private equity funds are structured as limited partnerships. These are treated as being 'transparent' for tax purposes; meaning that the partners are taxed, not the partnership itself. Profits made by the fund will be taxed directly on the partners. Dividends or interest received by the fund will be taxed as dividends or interest in the hands of the investors. Gains made by the fund will be taxed on the investors as chargeable gains.

#### Why are partnerships offshore?

The transparent nature of limited partnerships means the location of the partnership itself should not affect the tax position of the investors. Accordingly, the decision as to whether a partnership is located onshore or offshore will typically be driven by commercial factors, rather than for tax reasons.

Limited partnerships also reduce the level of disclosure as, in certain circumstances, formal accounts do not need to be filed at Companies House. Accordingly, details of the investors in a fund will not appear on public record.

#### What are non-doms and how are they taxed?

There exists in common law a concept of being domiciled in a particular country. It may be different to a person's nationality or the country in which he or she lives. The concept broadly encompasses the idea of where an individual is 'actually from' and is confusingly

different from either where they are resident, or where they are resident for tax purposes. There are a series of tests that establish whether a person is UK domiciled, relating to where they were born, where they live and the domicile of their parents. A non-domiciled person will pay tax on income and capital gains earned in the UK, but would not, prior to April 2008, be taxed in the UK on other sources of income and capital gains if they were not brought into the UK. Since April 2008, non-domiciled persons generally pay a flat tax (£30,000) after they have been resident for any seven of the previous nine years, or can elect to be taxed as a UK domiciled person.

### What is withholding tax?

Withholding tax on dividends, interest and capital gains is often the key tax issue that will impact the returns to an investor. Withholding tax is a prepayment of tax to the government by the fund. It is conceptually equivalent to PAYE taxation of an employees' income, where the employer prepays the employees' tax liability. Withholding tax is used to reduce tax avoidance.

Depending on the residence of the investor, it may be possible to make use of double tax treaties to lower the rate of withholding tax or even reduce the rate to nil.

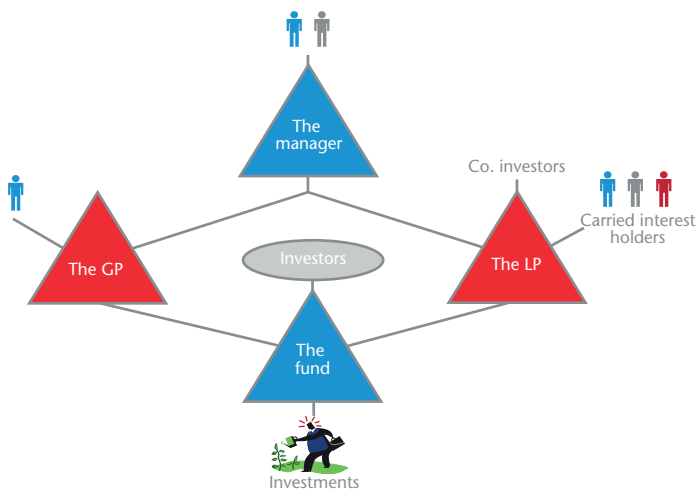
In the UK, an exemption from the obligation to withhold tax on interest exists for Quoted Eurobonds. Debt provided by funds to UK resident portfolio companies can often be listed on an appropriate stock exchange, such as the Channel Island Securities Exchange (CISE), before interest is paid to benefit from this exemption.

The extensive network of double tax treaties that the UK has with other jurisdictions and exemptions such as the Quoted Eurobond exemption make it an attractive jurisdiction for investment. The UK also does not withhold tax on dividends.

### 2.4.2 Private equity executives/fund

As noted at the start of section 2, fund managers will take a stake in the fund directly, via an interest in the general partner and via a 'carried interest'. They will therefore benefit in the success of a fund and are incentivised to maximise performance (Figure 2.19).

**Figure 2.19: Detailed structures in a typical private equity fund**



Source: Adam Frai/BDO (UK) LLP.

The general partner will often take the form of another transparent entity, either another limited partnership or a limited liability partnership. Again the partners are taxed and not the partnership which eliminates any double taxation.

However, most of the profits attributable to a general partner will be paid out to the investment manager. It is therefore not unusual to see general partners which are companies.

The taxation of the fund managers will depend upon where they are individually resident and where they earn their income. Income earned in the UK is generally taxable in the UK. Income earned offshore by UK residents is also taxable in the UK. Income earned offshore by non-UK residents is not taxable in the UK.

### **Why are Scottish partnerships used as carried interest vehicles?**

As mentioned above, fund managers will usually have a carried interest vehicle (normally a Scottish limited partnership).

A Scottish limited partnership has a separate legal identity whereas an English limited partnership does not. A Scottish partnership is therefore capable of owning assets in its own name and of being a partner of a limited partnership, such as the main fund vehicle.

### **How is carried interest taxed?**

Profits arising as carried interest are taxed according to the underlying nature of the fund's profits. This was confirmed in 1987 in a memorandum agreed between HMRC and the BVCA, and again in 2003. These memoranda were published by HMRC. This treatment is based upon the principle that the partners invest in the capital of the business and only achieve a gain if the fund increases in value. In many cases, returns on carried interest will be taxed as a capital gain (see Allocation of income and gains). In other cases, some of the carried interest may be received as dividend, fees and interest and taxed as income. These memoranda also confirmed that, providing certain conditions are met, the fund executives will be treated as having paid market value for their carry, meaning they should not be exposed to income tax on the acquisition of carry.

### **Base cost shift**

Initially, a carried interest partnership will have a limited interest in the fund. All profits will be allocated to either the general partner or the investors. However, once the fund has achieved its hurdle rate of return, the carried interest partnership will generally receive an enhanced share of future returns (normally 20% – see section 2.1).

At this time the members of the carried interest partnership will 'acquire' a right to 20% of any proceeds arising to the fund on any future disposal. They will also be deemed to have 20% of the base cost of any assets held by the fund under partnership tax rules (the 'base cost shift'). As the carried interest partners have contributed minimal capital to acquire the assets in the first place, they effectively receive an additional 20% deduction on their share of any gains.

Following the base cost shift, the other investors will have a reduced base cost. Accordingly they will make a larger taxable gain on any subsequent disposal. There are therefore intricate arrangements between the partners to adjust for the base cost shift.

### **Allocation of income and gains**

Most investors in a fund are typically non-taxable entities (pension funds or other corporate entities). They are likely to be indifferent as to the nature of the underlying profits allocated to them.

Fund managers who are individuals investing via a carried interest partnership will, however, be subject to a variety of tax rates dependent on the nature of the allocated profits. At current rates, a higher rate taxpayer will pay UK tax at:

- 45% on interest;
- an effective rate of 30.6% on dividends and;
- 28% on capital gains.

Carried interest is taxed as a capital gain. Accordingly, there is a significant incentive for profits that are allocated to the fund managers to be in the form of capital gains, even before the base cost shift is taken into account.

New anti-avoidance rules on the allocation of profits and losses between members of UK partnerships were introduced as part of the Finance Act 2014. The legislation is broadly seeking to counteract certain perceived abuses of the flexibility partnerships offer.

The new provisions are intended to deal with tax-motivated profit allocations. If there are arrangements in place to manipulate the allocation of profits between members, HMRC is expected to have the power to reallocate the profit to the individual chargeable member for tax purposes.

### **Do private equity fund managers 'pay less tax than their cleaners'?**

In 2007 Nicholas Ferguson, then Chairman of SVG, a quoted fund-of-funds that invests in Permira and other private equity funds, made an oft quoted (and, as it is rarely the same quote, misquoted) remark comparing the tax paid by private equity fund managers and those of 'the cleaning lady'. It was picked up widely in the media that private equity fund managers paid less tax than 'their cleaners' and that therefore there must be something untoward going on. In fact the comment referred not to the amount of tax paid, but the tax rate that was being paid at that time.

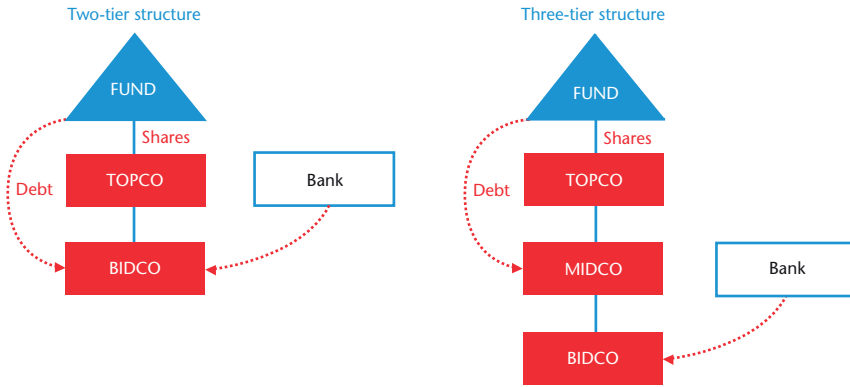
Because private equity funds target capital gains, most of the income is taxed at capital gains tax rates, as described above. Both the way capital gains tax (CGT) is calculated and the rate of CGT were progressively changed and reduced from 2000 onwards. As a result CGT rates fell to below the basic rate of income tax. Therefore, if you assumed that all private equity fund managers earned was capital gains (which is incorrect), they might pay a lower rate of tax than a basic rate tax payer, who might (or might not) include people who clean for a living. They would however, still pay more tax as an absolute amount of money.

The issue was resolved by the introduction of a new higher rate of capital gains tax at 28% for higher rate income tax payers and the various anti-avoidance provisions subsequently introduced.

### **2.4.3. Investee companies**

A new entity, Bidco, will normally be incorporated by the fund to effect the acquisition of a target entity. Bidco will usually be part of a two- or three-tier structure, as shown in Figure 2.20.

**Figure 2.20: Different common buy-out structures**



Source: Adam Fraix/BDO (UK) LLP.

Senior lenders (ie, banks) may wish to ensure that their debt is structurally subordinated (giving them a prior claim to the underlying assets) to that of the investors and therefore a three-tier acquisition may be used with the bank financing being provided to Bidco and the investor debt in Midco.

### **Tax deductibility of interest**

The deductibility of interest arising on any debt in the acquisition structure and the utilisation of those deductions in a tax efficient manner will be the key issue for any company.

The tax deduction for interest on the loan notes and other debt issued by a portfolio entity is restricted to the amount of interest that corresponds to arm’s-length terms (ie, those equivalent to an unconnected, non-shareholder, lender).

Any restriction of the interest deduction arising on the debt provided by the fund can affect the way interest received is taxed on the investors who are UK tax resident.

### **Abolition of ‘tax free’ income**

In the past, where interest was not deductible against corporation tax, a UK resident investor might receive that interest tax free. The argument was that the interest had in effect already been taxed, because it had not been deducted from profits, so it should not be taxed again when received by the investors. These rules were perceived to allow interest to be paid to UK investors free of tax. The rules changed with effect from October 2013 to stop this. The new rules largely bring the UK into line with other jurisdictions. As a result, the interest is now treated as a dividend when received by individual UK investors. UK corporate investors will continue to benefit from a corresponding adjustment.

### **Accrued versus paid interest timing differences**

Interest can be deducted either when it is actually paid in cash, or when it is charged to the company’s accounts ie, when it is accrued. Generally, tax deductions for interest on shareholder debt will only be allowed on a paid basis. However, it can be allowed when it is paid within 12 months of the end of the period in which it accrued. This 12-month window creates limited opportunities to time interest payments to ensure that tax deduction can be utilised in full. It avoids tax relief becoming ‘stranded’ in the company.

The 'paid basis' was originally introduced as an anti-avoidance measure. It was to deny claims for tax deductions on interest that might not actually be paid until sometime in the future. At the time of writing, these rules were under review by HMRC.

There are other provisions that can restrict the tax deductions available for interest. These include the worldwide debt cap and other measures that can reclassify interest as a non-deductible distribution. These other measures generally apply where there is a particular tax avoidance motive or purpose for the debt or where the debt exhibits similar characteristics to equity (eg, the rate of interest varies based on performance of the company).

### **Findings 2.7: What are the effects of taxation on private equity? The academic evidence**

Using debt rather than equity to fund a business may reduce the corporation tax bill of any company because some interest is deducted from profits before tax is calculated, whereas dividends are not. Since 2005 the rules in the UK (and elsewhere) have been tightened so that if debt is provided by a shareholder on a 'non-arm's-length basis' then the interest is not allowed to be deducted against corporation tax. In LBOs, a great deal of effort is applied to creating a structure that is tax efficient. This is generally the case for almost any company, but comes into sharp relief when a company changes the way that it is funded, as in a buy-out. It has been argued that the returns earned by leveraged buy-outs can be explained by the effect of interest payments on corporation tax and there is extensive academic research investigating this hypothesis. Early studies in the US showed some support for the argument, but since these studies were completed there have been many changes in the taxation of leveraged buy-outs in many countries, including the UK (Appendix Table 4). At the time of writing, the most recent studies around the world have found no evidence to suggest that taxation is an adequate explanation for the performance gains seen in successful buy-outs.

## **2.5 Refinancing and exits**

### **2.5.1 Types of exit**

All private equity transactions are structured with an exit in mind. Historically there were three exit routes:

- trade sale: sale of the business to a corporate acquirer;
- flotation on a stock market;
- receivership and liquidation.

This publication does not explain these types of exit as they are well understood. However, new routes to exit include:

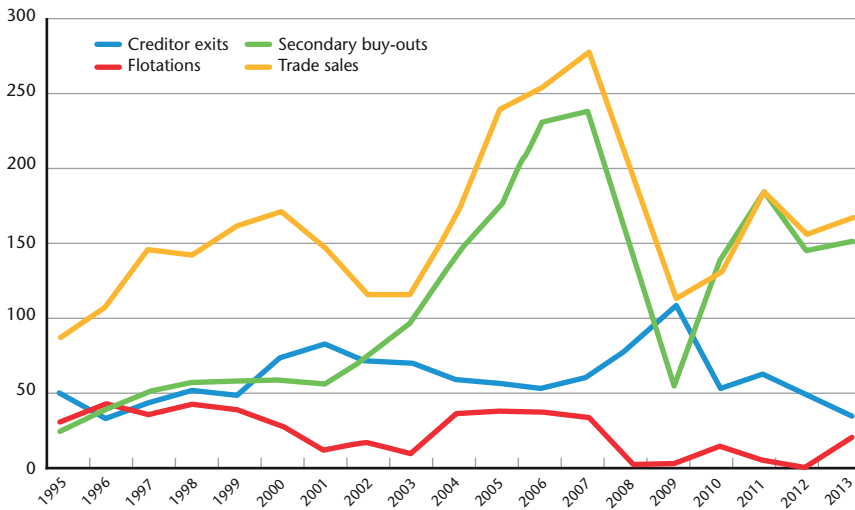
- secondary buy-out/sale to another private equity fund;
- leveraged recapitalisation/repayment of loans and preference shares; and
- secondary market transactions including the sale of portfolios of investments to other financial institutions.

These are discussed in more detail below.

Not all exits crystallise increases in value; some investments are written off or down.

## 2.5.2 What has been the pattern of exits from private equity deals?

Figure 2.21: European divestment numbers by type of exit



Source: CMBOR/EY/Equistone Partners Europe.

As shown above in Figure 2.21 the period from 1995 to 2013 in Europe have been marked by a general decline in the number of private equity deals that float on a stock market (IPO). However, there has been a notable growth in the number of large secondary buy-outs, providing liquidity for the buy-out market at a time when alternative exit routes have been difficult. These deals may lead to the prolongation of disintermediation from public markets, but may maintain the positive benefits of private equity governance and incentives as a longer-term organisational form. Such transactions raise important and challenging unresolved issues relating to performance evaluation. In particular, if the original private equity financiers were effective, how likely is it that further performance gains can be achieved? Increasing evidence is becoming available on the performance of secondary buy-outs, with the balance of evidence indicating that returns are below those for primary buy-outs (see below).

### 2.5.3 Secondary buy-outs and new principal agent issues

In the early years of the buy-out market it was rare for a private equity fund to be prepared to buy a business from another private equity fund. Up to 2007 it was common, accounting for about a third of larger buy-out exits (Figures 2.22 and 2.23). Despite a fall in secondary buy-outs in the dislocation that followed the banking crisis, the numbers of secondary deals have been rising and 25%–30% of all buy-outs are now transactions between private equity houses. There has also been a convergence in the value of primary and secondary deals. In 2013, the value of secondary deals completed in Europe exceeded that for primary deals, for the first time. This has raised a number of issues regarding 'churn' in the private equity market.



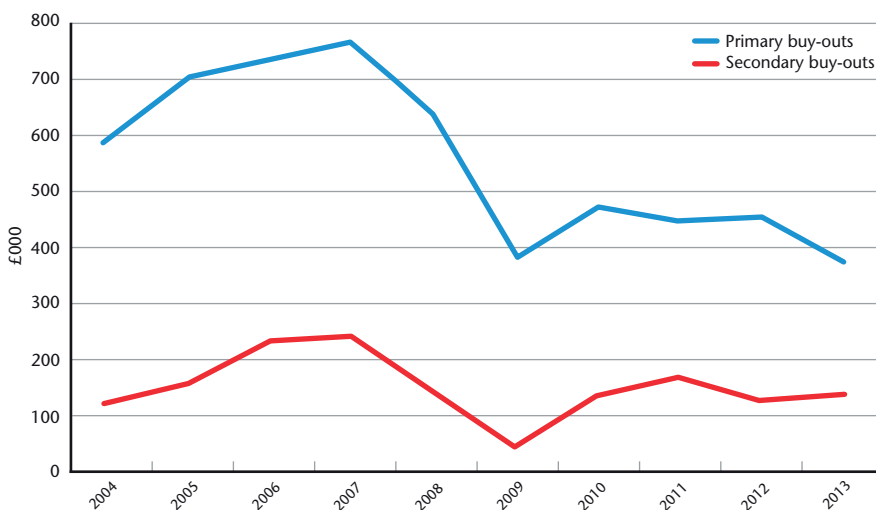
Where a fund is approaching the end of its agreed life and has yet to exit an investment, a fund manager may face an unusual set of incentives. If the fund is extended to maximise the value of the last investment(s) there are penalties for the fund manager. Therefore, it may be more rewarding to the manager to sell the asset for whatever value can be achieved today, rather than attempt to maximise the value in the longer run. In this sense there is an apparent anomaly in private equity fund structures: the longer an investment has been held in a fund, the more likely it is that the private equity fund manager is incentivised to act based on short-term considerations.

In recent years, the most liquid acquirers of corporate assets have been private equity funds. Therefore, a fund seeking a quick exit will very probably approach, among others, private equity funds. One way to mitigate the potential forgoing of value in such a transaction might be for the vendor private equity fund managers to co-invest in the business alongside the new private equity fund and do this from another fund under their management. This could trigger the carry in the old fund and carry forward the asset in the new fund at the value established by a third-party purchaser.

Furthermore, funds that are underinvested and are approaching the end of the investment period have strong incentives to invest or lose access to the committed capital. Recent research suggests that secondary acquisitions late in the life of a fund have lower returns than would be normally expected.

As the market has evolved, investors in private equity funds have had to be careful to ensure that the incentives of the fund manager and the investors in each and every fund are tightly aligned. Ultimately the constraint on fund managers is reputational: in the long run, investors will not support fund managers that abuse their relationships.

**Figure 2.22: European primary and secondary buy-outs by number**



Source: CMBOR/EY/Equistone Partner Europe.

Figure 2.23: European primary and secondary buy-outs by value



Source: CMBOR/EY/Equistone Partner Europe.

### Findings 2.8: What are the drivers and impact of secondary buy-outs?

#### The academic evidence

US evidence indicates that firms are more likely to exit through secondary buy-outs when the equity market is 'cold', the debt market condition is favourable, and the sellers face a high demand for liquidity, with the last being the strongest reason (Appendix Table 13). Secondary buy-outs appear to be priced higher than first-time buy-outs due to favourable debt market conditions. Performance declines in the primary buy-out before a secondary buy-out takes place and primary buy-outs exiting as a secondary buy-out generate lower internal rates of return on average than other forms of exit. The longer a firm has been held in the portfolio of the private equity firm, the more likely it is to exit as a secondary buy-out. The systematic studies now emerging show evidence on average of a deterioration in long-run returns following secondary buy-outs. UK evidence shows that secondary buy-outs on average perform worse than primary buy-outs in terms of profitability, productivity levels and growth, sales growth and internal rate of return. Secondary buy-outs also have lower efficiency than buy-outs of private firms or divisional buy-outs. 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. However, secondary buy-outs between specialised private equity firms perform better than those conducted between other private equity firms.

#### 2.5.4 What is a leveraged recapitalisation?

As with secondary buy-outs, the market in leveraged recapitalisations (or 'recaps') has become more active in recent years. A recap involves the investee company re-borrowing debt previously repaid and/or increasing borrowings (usually due to increased performance since the original buy-out) from the wider banking industry. These new borrowings are used to repay and/or restructure the loan elements of the original financing structure, sometimes including the private equity investment in loan stock and/or preference shares (and sometimes paying a dividend).

The return will generally take the form of a repayment of loan stock and a dividend. The capital repayment can be tax free (as there is no profit or loss) and an individual receiving the dividend currently pays tax at 25%.

There is little academic research regarding the effect of recaps on investment performance. Recaps arise for one, or a combination, of three reasons:

1. re-borrowing debt that has previously been repaid;
2. increasing the amount of debt because the performance of the business has improved; and
3. increasing the amount of debt because the banks are prepared to lend more debt at the same performance level.

During the credit boom the appetite of banks to lend was exceptionally high. This resulted in a sharp increase in leveraged recaps.

To the extent that a business is able to replace more expensive capital with less expensive senior debt, these transactions can be seen as enhancing efficiency. The corollary is that financial risk to the business increases with the level of senior debt.

The impact on a fund's performance is to accelerate cash returned from any investment, thus increasing the IRR of the fund. However, this increase comes at the cost of reinstating or increasing financial risk in the portfolio.

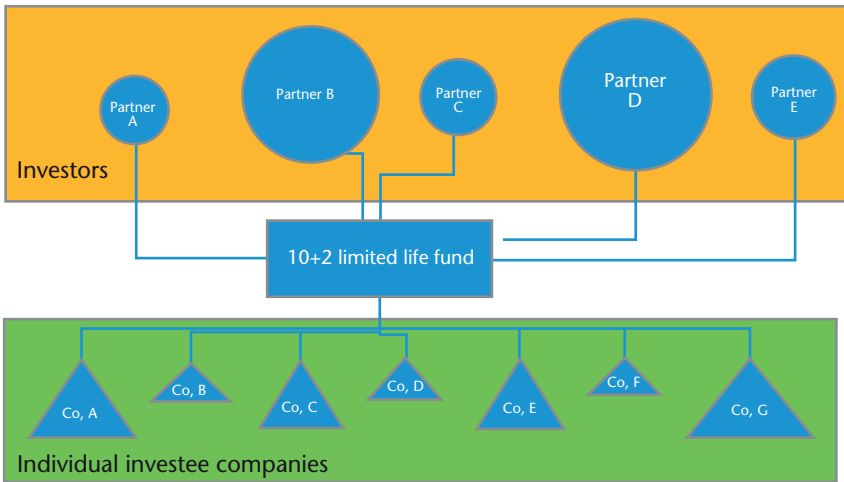
The maximum amount that can be repaid without a capital profit being created will generally be the amount of the investment at cost (plus any PIK interest – see section 4). To the extent that there is greater borrowing capacity a dividend may be paid. This dividend will be equal to the excess of new borrowings over the cost of the investment. This raises complex tax issues as the dividend will be received as income, not capital gain.

There is therefore a series of trade-offs to be calculated: how much borrowing is it prudent to have? What is the impact on fund returns and risks? What is the tax implication of receiving dividends rather than capital proceeds or gains? Finally management's position requires consideration. To the extent that they receive no benefit from a recap, management's risk is increased with no reward. This needs careful and considered negotiation before any deal is structured.

#### 2.5.5 What is a secondary fund market transaction and how does it differ from a secondary buy-out?

We referred earlier to secondary fund market transactions. We have not discussed this class of transaction in any detail in earlier editions. The name is confusingly close to that of a secondary buy-out, and covers two distinctly different transaction types, both of which are fundamentally different to a secondary buy-out.

**Figure 2.24: Typical simplified fund structure to illustrate different secondary transactions**



Source: Gilligan and Wright.

In a secondary (or tertiary, or whatever) buy-out, as we described earlier, the investment is sold to a new company that happens to be funded by a private equity fund. In essence the sale is legally identical to a trade sale although the financial terms are usually more complex and require some degree of skilled design. In the diagram above, this is the sale of company A, B, C through to G to another private equity fund.

In a pure secondary fund market transaction, it is not the whole company that is being sold. Rather, it is the interest in the shares and loans of all the companies owned by a particular LP who is invested in the fund (and any further undrawn commitments) that is sold to a new LP. The new LP will take their place in the investing partnership. In the diagram above it is the interests of partner A, B, C etc, in the fund that is sold.

Essentially the fund is allowing one of its partners to leave the partnership, as long as it can find a buyer for its existing interests who will fund its ongoing future commitments. This is therefore a sale of a portfolio of investments, not the sale of a single company. The portfolio may also include a commitment to make further investments in the future.

When the fund is a captive of an insurance company, bank or similar institution, the process is more straightforward. The parent company simply markets and sells the portfolio of assets it wishes to dispose of, usually along with a new management contract that typically specifies that the team that made the investments manages them under a new set of terms. In the diagram it is the creation and sale of the whole fund that is subject to the transaction.

**How is a secondary fund market transaction completed?**

The earliest secondary fund market transactions were small and involved the consensual change of partners within particular funds. This might arise due to a change in the investment appetite or ability of a particular LP leading them to request that a GP allowed them to find a replacement investor. The new investor is not allowed to

renegotiate the terms of the partnership and therefore the question of pricing becomes one of 'what price shall I pay for the existing investments, given that I am taking on a commitment to fund the selling parties' future liabilities?' The language used around secondary transactions therefore reflects a discount or premium to the current value of the selling LP's interest.

The process will involve the preparation of a sellers memorandum explaining:

- the current investments made by the fund and their current estimated value;
- the undrawn commitments that a new LP will potentially be required to fund; and
- the terms of the partnership that the new LP will become party to.

Interested parties will submit an offer based on all this information. If they perceive that there is value over and above the current estimated value, they may offer at a premium to net asset value (NAV).

Recall that in section 1 we talked about how due diligence is done on the manager by potential LPs and by the GP on the financial worth of the potential LP. The investor wants to understand the track record and prospects of the potential manager of its money. Conversely the GP/manager wants to ensure that the potential funder can meet their obligations to the fund over the next 10 years or more. When an LP wants to change, subject to the details of each partnership agreement, the process is very similar. The fund manager/GP will only allow a change if the buyer is of acceptable standing. Where funds are seriously underperforming it is not unusual for there to be enhanced rights for investors to try and find a replacement investor on the same terms.

### **What impact does the secondary fund market have on incentives?**

Earlier we talked about the alignment created by the long-term relationship between all the investors in the private equity partnership. We argued that in this sense, private equity is a very long-term, illiquid investment vehicle. The secondary fund market weakens all those relationships by allowing membership of investment partnerships to evolve and change over time. This allows investors to come in to private equity after investments have largely been made, but before they have been exited, eliminating so-called 'blind risk' (the risk of not knowing what the fund's assets will be). Conversely investors who prefer the risks and rewards associated with a new fund with no investments can realise their investments independently of the fund manager's ultimate decision to sell any particular company.

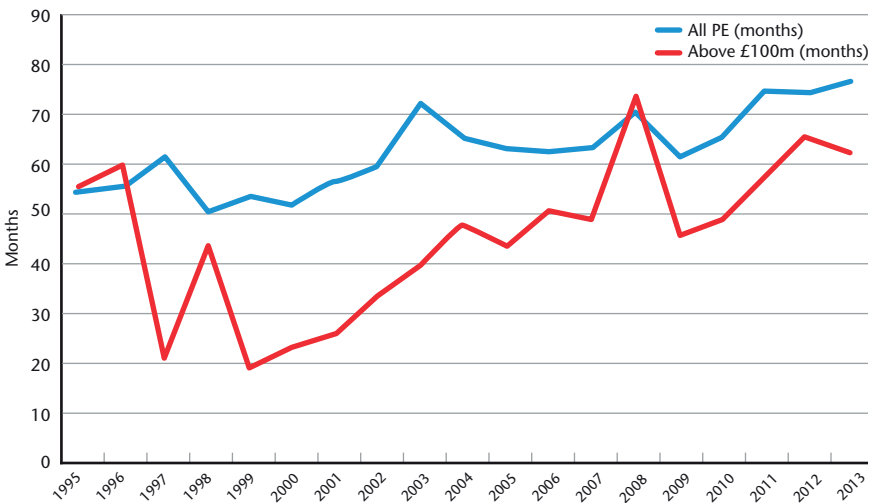
It has been hugely important in the post-crash environment for LPs to be able to trade their fund positions. Investors have found that they have had to change their asset allocations for a host of regulatory and financial reasons. Large secondary firms have emerged able to acquire multi-billion dollar portfolios and positions in private equity funds.

Had these secondary fund markets not been created it is likely that limited partners who had commitments that they could not meet to private equity funds, may have defaulted and a crisis in confidence in the private equity model ensued.

**Findings 2.9: Do private equity deals involve the short-term ‘flipping’ of assets?  
The academic evidence**

When we return to the question of short-termism, it is at the company level that we need to focus the analysis. The academic evidence (Appendix Table 5) suggests that there is a wide variation in the length of time any investment is held. There is no evidence that the industry systematically seeks to ‘flip’ investments in a short time period. Evidence from the 1980s in both the US and UK shows that some buy-outs are exited in a relatively short period of time, while others remain with the buy-out structure for periods in excess of five years. On average, larger deals exit significantly sooner than small deals. During the second private equity wave, there were very short periods to exit of some private equity deals, but this is neither new nor surprising and most are held in portfolios much longer. Some deals fail soon after completion while others may be turned around quite quickly and receive unsolicited bids by trade buyers. Over time, the average time to exit is increasing (Figure 2.25), the most common timing of exit for those deals that have exited since 2000 is in the range of 5–6 years.

**Figure 2.25: Average time to exit in private equity-backed buy-outs by year of exit in the UK**



Source: CMBOR/EY/Equistone Partners Europe.

### **Findings 2.10: What is the extent of asset sales and refinancing? The academic evidence**

US evidence from the 1980s suggests that larger buy-outs involving P2Ps engage in substantial divestment of assets (Appendix Table 6) to an extent significantly greater than for buy-outs of divisions. The extent of asset sales among UK buy-outs completed in the 1980s was much less than in the US. It should be noted that buy-outs divesting assets may also have been making acquisitions. Partial sales peaked in Europe at 163 in 2005 and at 12 billion in 2006, but then fell sharply from 2008 until recovery in value in 2012. In 2013 there were only 65 partial sales for a total value of €9.3 billion. European refinancings also peaked in the boom years of 2005–2007 at around 130 per year, with a high of €46.5 billion in 2007. Numbers then fell to below 100 per year before recovering sharply in 2013 at 125 for a total value of €41.6 billion.

### **Findings 2.11: Do the effects of private equity continue after exit? The academic evidence**

An important unresolved question is whether the claimed benefits of private equity deals are sustained once the buy-out structure ends (Appendix Table 7). US evidence is that while leverage and management equity fall when buy-outs return to market (reverse buy-outs), they remain high relative to comparable listed corporations that have not undergone a buy-out. Pre-IPO, the accounting performance of buy-outs is significantly higher than the median for the respective sectors. Following the IPO, accounting and share price performance are above the firms' sector and stock market benchmarks for 3–5 years, but decline during this period. This change is positively related to changes in insider ownership but not to leverage. Those private equity-backed MBOs in the UK that do IPO tend to do so earlier than their non-private equity-backed counterparts. There is some evidence that they are more under-priced than MBOs without private equity backing, but not that they perform better than their non-private equity-backed counterparts in the long run. Private to public MBOs backed by more active private equity firms in the UK tend to exit earlier and these MBOs performed better than those backed by less active private equity firms. However, IPOs of private equity-backed buy-outs have been rare if not absent altogether in recent years although they did make something of a recovery in 2013.

## **2.6. How did the UK private equity industry respond to public scrutiny?**

In 2007, at the request of the BVCA, a committee was established to review disclosure by private equity firms and companies controlled by private equity firms. The Walker Guidelines were published in 2007 and the Guidelines Monitoring Group was established to report annually on compliance with the guidelines.

### 2.6.1 What are the Walker Guidelines?

The Walker Guidelines (the Guidelines) were first published in 2007 with the intention to bring greater transparency to the private equity industry's largest investments and investors. The Guidelines are a voluntary code of practice. They are monitored by the Guidelines Monitoring Group consisting of a chairman, two independent representatives from industry and/or the trade unions and two representatives from the private equity industry.

From the end of 2010, adjustments to the criteria were introduced. They now apply to portfolio (investee companies):

- with an enterprise value of £350m at acquisition (previously £500m) or £210m in the case of companies that were quoted prior to acquisition (previously £300m); and
- have 50% or more of their business in the UK; and
- employ over 1,000 people in the UK.

Any private equity firm that has invested in a business covered by the Guidelines is then required to make disclosures about itself. This represents a relatively small proportion, by number, of the total population of companies that have been invested in by the private equity industry but accounts for a significant proportion of the total amount invested by private equity firms (Table 2.5).

**Table 2.5: Private equity and portfolio firm compliance with the Walker Guidelines**

|  | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|--|------|------|------|------|------|------|
| Portfolio companies required to conform                      | 27   | 45   | 43   | 78   | 73   | 72   |
| Portfolio companies voluntarily conforming                   | 27   | 15   | 12   | 9    | 7    | 17   |
| Total number of portfolio companies covered by the code      | 54   | 60   | 55   | 87   | 80   | 89   |
| Total number of private equity companies covered by the code | 32   | 34   | 35   | 43   | 47   | 53   |

Source: Guidelines Monitoring Group.

The Guidelines broadly require that companies provide the same kind of information to the public that would be provided if the companies were publicly traded.

The new element has been the requirement to communicate more broadly with any and all interested parties. The information required is included in an annual review published on the private equity fund's website. It is not required to (and generally does not) contain accounting or investment performance data. It seeks to identify who the individuals are within the private equity fund and what investments they hold. Limited information on intended investment duration and limited partner type (but not identity) is also given. The Monitoring Group issued a guide providing practical assistance to companies to help improve levels of transparency and disclosure, and which included examples of portfolio company reporting reviewed by the Group.

Further data provision to the BVCA for their annual report is also required that does include high-level financial data including the amount of capital raised, number and value of investments made and fees paid to advisers. Data that analyses the source of investment performance in exited investments is also sought to enable the annual review to be completed.



At the time they were introduced, there was some scepticism about the likely extent of compliance with the Guidelines. In the event, compliance is high and on an increasing trend. The sixth report published in 2013 noted a continued increase in the level of overall compliance, with the overall failure rate for providing enhanced disclosures decreasing to 3% for portfolio companies reviewed in 2013 from 13% in 2012. The sixth report also noted that the increase in the number of portfolio companies covered since the previous year was due to the inclusion of additional companies outside the scope of the Guidelines complying voluntarily. However, there was variability in the quality of disclosures and fewer examples of excellent disclosure, in part due to enhanced standards seen in the FTSE 350. Not all portfolio companies make the audited report and accounts available on their website, while the Monitoring Group emphasises that accounts should be readily accessible on the company's website. The quality of disclosures in respect of trends and factors likely to affect future development, performance or the position of the company's business was varied, in many cases the information was historical and discussion lacked a forward-looking orientation. All BVCA members were committed to complying with the Guidelines but only two out of 22 non-BVCA members did so. The Monitoring Group continues to enhance the provisions of the Guidelines to ensure that all companies covered report to a level comparable to current good practice in the FTSE 350.

### **2.7 What is the Alternative Investment Fund Managers (AIFM) Directive and what are its implications for private equity?**

The AIFM Directive was passed by the European Parliament in November 2010. The Directive comes into force in stages from 2013 and 2014.

Who is exempt? The Directive applies to alternative investment fund managers (AIFM) who are based in the EU, market funds or invest in the EU. The Directive therefore in principle applies to most private equity fund managers. There are, however, exceptions based on size and fund structure that favour private equity. If funds do not offer investors liquidity and have no internal gearing, a fund manager is exempt where the total funds under management fall below a threshold of £500m. If investors can redeem their investments the threshold is £100m. This exemption was negotiated to recognise the long-term nature of private equity funds.

Funds falling under the Directive are restricted as to whom they may market their funds. The apparent intention is to protect unsophisticated investors from complex and risky funds. The UK resisted the imposition of trans-EU regulation and the marketing aspects of the Directive are now being phased in over 10 years.

Initial proposals designed to stop asset stripping would have prevented leveraged buy-outs where the loan was secured on the assets of the target company. Essentially this would have taken us back to where we were prior to the Companies Act 1981. The measures would effectively have removed the business model used in leveraged buy-outs. The measures included in the Directive have been significantly diluted from these original proposals.

The Directive contains provisions to limit the levels of leverage that can be used by AIFM within funds. Leverage at the portfolio or holding company level used by private equity firms is not included in the definition of leverage used throughout the Directive. As private equity transactions use debt at the portfolio company level not the fund level this restriction has limited effect on private equity.

There are requirements for AIFM to have minimum capital related to the size of the underlying funds. Some consider that these requirements are misguided where the funds are inherently illiquid, as in most private equity funds.

The Directive requires AIFM to introduce a remuneration policy consistent with, and which promotes, sound and effective risk management. An AIFM must prepare an annual report for each EU alternative investment fund (AIF) it manages or non-EU AIF it markets in the EU. The report must be provided to the relevant EU competent authorities, as well as to investors on request.

An AIFM must notify its voting rights to its relevant regulator when it acquires voting rights of 10/20/30/50/75% of a non-listed company. When an AIFM acquires voting rights of greater than 50% in a non-listed company, additional disclosures must be made to its regulator, the company and its shareholders.

The private equity firm needs to disclose to regulators the chain of decision making regarding the voting rights of investors in the company; and practices to be put in place to communicate to employees. In changes to the original draft, there is no longer a need to disclose detailed information on the private equity firm's strategic plans for the company. Companies with fewer than 250 employees are excluded from these disclosure requirements.

AIFM are required to maintain an external depositary to safeguard the assets of the fund. Private equity received a specific derogation providing that national regulators may authorise non-investment bank entities to act as the depositary for private equity and venture capital funds, thus reflecting the circumstances of the industry.

Overall the Directive is complex and represents a significant increase in regulatory disclosures and regulatory burden, but does not materially impede any private equity fund manager from continuing their business.

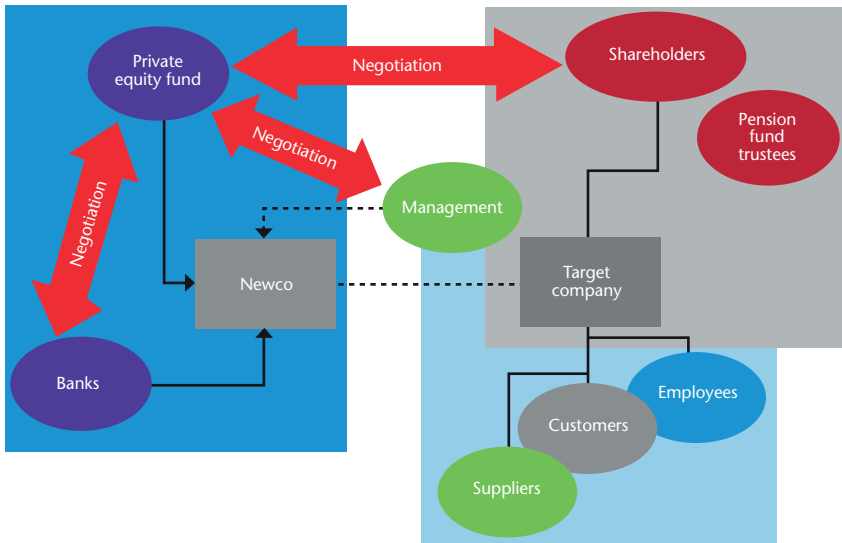
# 3. Evaluating, structuring and restructuring a private equity investment

In this section we look in more detail at the considerations of each party in the negotiation and structuring of an individual private equity investment.



### 3.1 Who's who in a private equity transaction

Figure 3.1: Participants in a leveraged buy-out



Source: Gilligan and Wright.

There are two sides to every corporate transaction: those acting with or for the purchaser, and those acting with or for the owners of the target company (the target), the shareholders (Figure 3.1). In a buy-out the key parties on the purchaser's side are the private equity fund that will invest in the transaction and the bankers who will lend in support of the deal and their respective advisers. They must negotiate between them a funding package to support the bid. The bid will be made by a newlyformed company, 'Newco', which will be funded by the bank and private equity fund.

On the target's side are the shareholders who are generally seeking to maximise the value they receive from any sale. They will be represented by the management of the business or independent advisers (or both) who will negotiate with the private equity fund acting on behalf of Newco. If the target has a pension fund, the trustees of the fund may also negotiate with the private equity fund regarding future funding of the existing and future pension fund liabilities.

The role of the incumbent management of the business in any buy-out varies. They may be part of the group seeking to purchase the business and therefore be aligned with the private equity fund (as illustrated in Figure 3.1). This is often termed an insider buy-out, or more often simply a management buy-out or MBO. Alternatively the private equity fund may be seeking to introduce new management if they successfully acquire the business. This is an outsider buy-out or management buy-in or MBI. In some circumstances management find themselves acting as both vendor and purchaser. For example, in a buy-out by a private equity fund of a company that is already owned by another private equity fund, management may on the one hand be vendors of their current shares, but also be purchasers of shares in the company set up to acquire the target. This is a secondary buy-out.

Where management have a conflict of interest, the shareholders' interests are typically represented by independent financial advisers and, in a quoted company buy-out, the independent non-executive directors of the target.

The role and rewards of management are a key difference between a corporate takeover and a management buy-out. In a management buy-out, management will be expected to invest their own money in the business acquiring the target and expect to have the risks and rewards of a shareholder of that business, not an employee. The majority of the rewards to management therefore take the form of capital gains payable on successful exit, not salary and bonuses paid during the life of the investment. This tightly aligns the interests of management and investors.

### 3.1.1 What is the role of the wider stakeholder?

In Figure 3.1 above there are no negotiations highlighted between the wider stakeholders and the acquiring or vending groups. In reality their position varies from deal to deal. If the assets of the target are being sold there are various rights created under TUPE as discussed earlier in section 2.3. These rights are not additional to any rights under employment. In general the wider stakeholders have certain statutory protections against asset stripping and similar practices, but have only commercial influence at the time of and subsequent to any transaction.

### 3.1.2 Value and pricing

There are many general guides to the basic principles of structuring a leveraged private equity investment. In this section we therefore take a relatively detailed look at the process used and the questions being asked when a deal is structured. We consider only leveraged buy-outs and primarily the case of an acquisition of shares (as opposed to a purchase of assets).

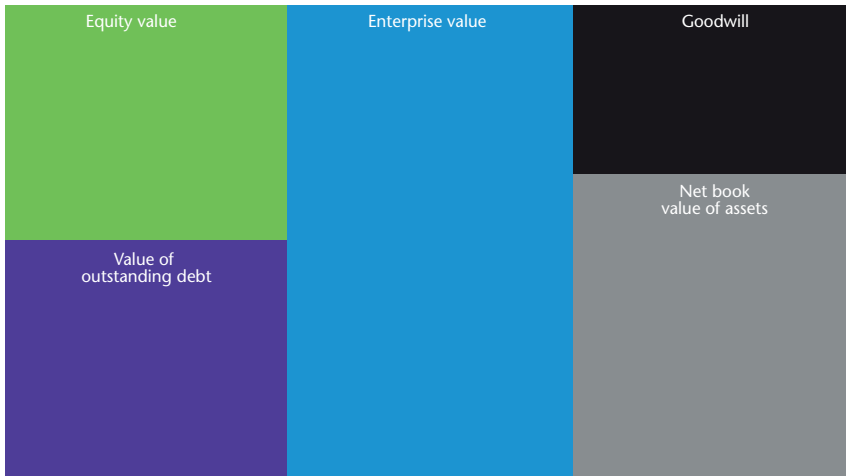
#### **What is 'value'? The difference between enterprise value and equity value**

When talking about structuring any transaction it is of the utmost importance to understand what is meant by the terms 'price' and 'value'. There are two widely used, but different, measures of the value of a business (Figure 3.2):

- **Equity value or market capitalisation** is the value of 100% of the shares of the business. It measures the equity value after all other claims on the business, including debt, have been deducted. Price earnings ratios (P/E ratios) measure the equity value divided by post-tax profits (note that as published, P/E ratios are based on profit before tax less notional tax at the mainstream corporation tax rate, not the company's actual tax rate).
- **Enterprise value** is the debt free/cash free value of the operating business. Enterprise value is measured by reference to earnings (profit) before interest and tax (EBIT) or earnings (profit) before interest, tax, depreciation and amortisation (EBITDA) and reflects the estimate of the value of the business regardless of how it is financed.

The net book value of a business's assets represents the value at which they are carried in a company's books less any debt. It rarely has relevance to the calculation of the enterprise value which is primarily based upon an estimate of future earnings.

**Figure 3.2: Equity value, enterprise value and asset value**



Source: Gilligan and Wright.

The calculations of value are illustrated in Table 3.1 below.

**Table 3.1: Calculation of enterprise value and equity value**

| Balance sheet       |   | £m  | Notes   |
|---------------------|---|-----|---|
| Net tangible assets |   | 150 | Net value of assets less liabilities not including cash or borrowings |
| Goodwill            |   | 50  | The difference between net tangible assets and enterprise value       |
| Enterprise value    |   | 200 | Value of the business   |
| Financed by         |   |     |   |
| Net debt            |   | 100 | Short- and long-term borrowings less cash                             |
| Equity value        | a | 100 | Market value of 100% of the shares in issue                           |
| Enterprise value    | b | 200 | Value of the business   |

| Profit and loss account       |   | £m   | Notes   |
|-------------------------------|---|------|---|
| EBITDA                        | c | 30   | Earnings (profit) before interest, tax, depreciation and amortisation |
| Depreciation and amortisation |   | (5)  |   |
| EBIT                          | d | 25   | Earnings (profit) before interest and taxation                        |
| Interest                      |   | (10) |   |
| NPBT                          | e | 15   | Net profit before tax   |
| Tax                           |   | (3)  |   |
| PAT                           | f | 12   | Profit after tax  |

Source: Gilligan and Wright.

### 3.1.3 Net present value, IRR and theoretical valuation methods

We referred earlier to the valuation guidelines that may be used in private equity. In theory the value of any financial investment is the Net Present Value (NPV) of the future cash flows. This is a simple calculation that is fraught with difficulty.

$$\sum_{t=0}^n \frac{CF_t}{(1+r)^t} = NPV$$

To accurately calculate the NPV of a particular investment you need to accurately know:

1.  $CF_t$  which equals the cash flows in each future period to the end of time;
2.  $(1+r)$  which equals the cost of capital in each period to the end of time.

You only need to look at people's attempts to estimate any uncertain number and you will immediately see that it is, in practice, very difficult to estimate either future cash flows or interest rates.

The calculation is also extremely sensitive to the timing of any cash flow. At equity discount rates, the difference between receiving a cash flow at the start or the end of the year has material impacts on net present value.

#### Pricing ratios

In part because of the limitations of the theoretical model, rules of thumb and other ratios have emerged that are used as pricing statistics. Using the example above, the most common historic ratios quoted are calculated and defined below.

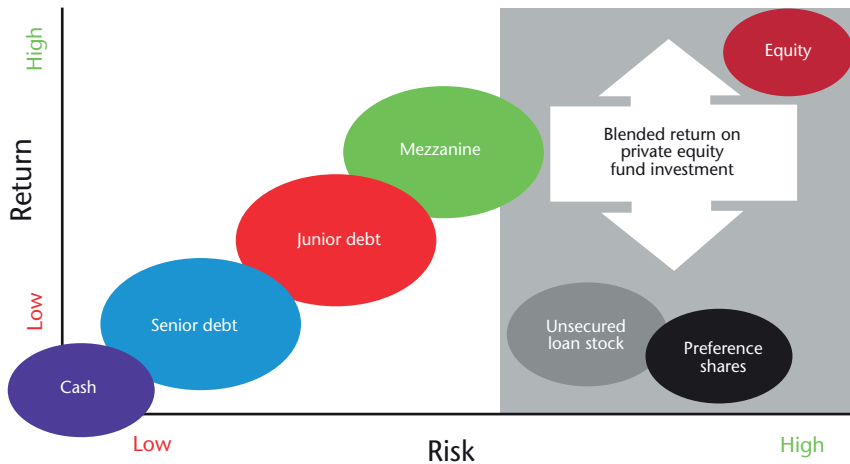
Table 3.2: Pricing ratios

| Pricing statistics | Ratio | £m  | Notes                         |
|--------------------|-------|-----|-------------------------------|
| P/E ratio          | a/f   | 8.3 | Equity value/profit after tax |
| EBIT multiple      | b/d   | 8.0 | Enterprise value/EBIT         |
| EBITDA multiple    | b/c   | 6.7 | Enterprise value /EBITDA      |

### 3.1.4 What is 'financial engineering'?

Financial engineering is the term often used to describe the process of creating an optimal capital structure for a company. At its simplest level it amounts to answering the question: 'How much is it possible and/or prudent to borrow from a bank?' In practice a capital structure will be more complex than simply an amount of permanent equity (ordinary shares) and a bank facility. The structure will have to be sufficient to finance the business plan of the company, which in a buy-out includes financing the acquisition and the associated acquisition costs. It will also need to be flexible enough and have sufficient headroom to accommodate the vagaries and volatilities of the commercial world. It should be efficient, minimising unnecessary taxation as well as currency and interest rate risk. It also needs to accommodate the need to incentivise key management and staff at the same time as rewarding the other investors for the risks they are taking.

Figure 3.3: Types of financial instrument: risk and reward



Source: Gilligan and Wright.

In a large buy-out it is usual to see multiple layers of debt, mezzanine and equity that carry different risks and rewards (Figure 3.3; see also section 4 for a detailed example). Using financial engineering prudently is therefore a core skill of the successful private equity investor. The detailed structural mechanics are usually outsourced to advisers such as lawyers and accountants, but the key commercial skill is to be able to assess the investment risk and design a structure which delivers an appropriate reward.

A private equity investment is often made using a combination of different types of financial instrument that together generate the required blended return. The private equity fund will invest in a mix of preferred equity and either unsecured loan stock and/or preference shares (depending on the tax regime this split has varied over time). Management will normally only invest in the highest risk, highest reward equity instrument. This is done to ensure that management’s rewards are only earned once the private equity fund has recovered the vast majority of its investment.

The objective is to minimise the cost of capital used to fund the business subject to the risk profile of the business. Any value created by this minimisation process is available to fund investment and acquisitions or is available to the ordinary equity shareholders who carry the highest risk.

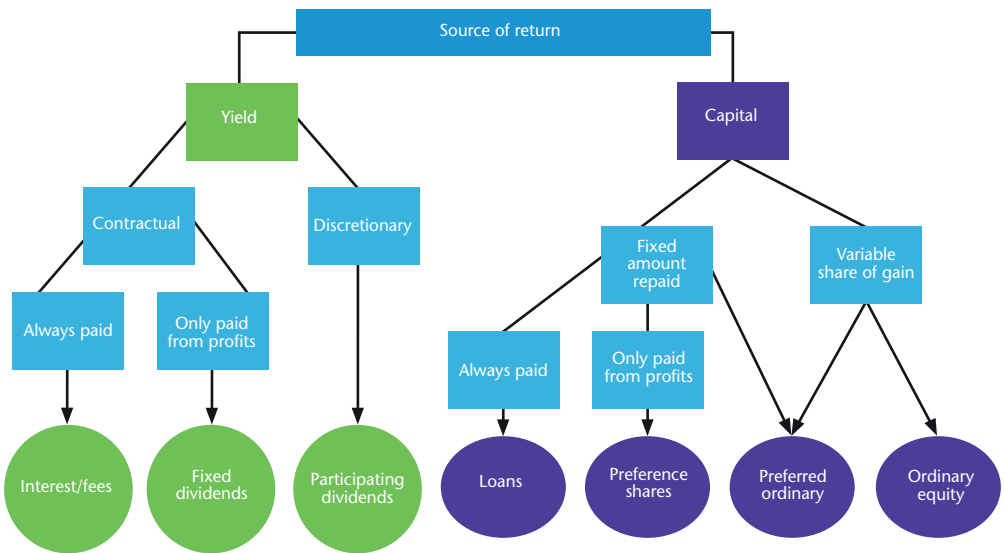
### 3.1.5 How do you design and build financial instruments?

In principle creating financial instruments is very similar to painting: there are a fixed number of primary colours and there are a fixed variety of financial characteristics. As these characteristics are blended together they create a huge spectrum of financial instruments with a wide array of risks/rewards (Figure 3.4).

There are, however, only two basic sources of financial return: yield (or income) and capital gains (or wealth creation/loss).



**Figure 3.4: The basic building blocks of financial engineering**



Source: Gilligan and Wright.

Yields can either be a contractual fixed obligation, that is payable no matter what happens (fees and/or interest), or they can be payable only out of profit earned (dividends). Dividends can be a fixed amount per year (a fixed dividend) or a proportion of after tax profits (participating dividends). Dividends can be payable only to one class of shares (a preferred dividend) or to all classes (an ordinary dividend).

The date of the actual payment may also vary: the amount might be payable in cash as the liability is incurred or it might 'roll up' and be owed today but paid at some later date. Interest may vary with market rates or be fixed for some or all of the term of the loans.

A particular financial instrument will have a priority in the capital structure: it will be repaid before some instruments and after others. Senior debt, for example, is 'senior' as it has the first priority when capital is repaid (see section 3.2).

Not all instruments stand to make a capital gain. Only instruments with an equity interest share in the increase in value of a business (hence being called shares).

With these simple rules we can begin to create financial instruments with tailored risks and rewards as illustrated in Table 3.3 below.

**Table 3.3: Creating a hierarchy of financial instruments by varying risk and reward**

| Type of instrument          | Investor                          | Type of yield |               |                         |                |                          |
|-----------------------------|-----------------------------------|---------------|---------------|-------------------------|----------------|--------------------------|
|                             |                                   | Secured       | Interest paid | Dividends paid          | Capital repaid | Shares in capital growth |
| Secured loan                | Banks/Bond markets                | Yes           | Yes           | No                      | Yes            | No                       |
| Unsecured loan              | Private equity house/Bond markets | No            | Yes           | No                      | Yes            | No                       |
| Redeemable preference share | Private equity house              | No            | No            | Yes: fixed as % of cost | Yes            | No                       |
| Ordinary share              | Management                        | No            | No            | Possibly                | No             | Yes                      |

Source: Gilligan and Wright.

Financial engineers therefore blend together a series of rights and obligations to create the desired mix of risk, reward and control. As we illustrate below, the effect of these rights is important in defining the relative negotiating strengths of each party if a situation requiring a change in the capital structure arises.

The 'best' instrument is one that ticks all the boxes in Table 3.3, being secured and entitled to interest, dividends, return of capital and a share of capital gain. However, some of the entitlements are mutually exclusive. An instrument that paid both interest and dividends would find that the interest element was treated as a dividend by most tax authorities, for example. Therefore, this hybrid asset having the benefit of the characteristics of a loan and the returns of a share is created by investing the majority of the private equity investment in a loan instrument paying a running yield and a small amount in preferred equity that benefits from capital gains.

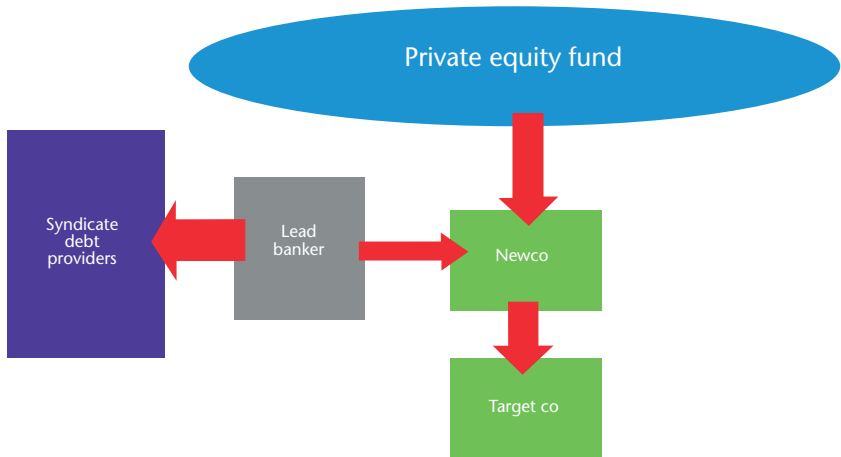
It is important to understand that this structure may materially advantage the private equity investor to the partial detriment of management who rank behind them. Management are only investing in the highest return strip of a capital structure to the extent that the instruments ranking ahead of them do not appropriate all the gains. If the yield on the loan notes or preference shares is greater than the growth of enterprise value, all equity growth flows to the private equity fund. We call this situation the 'equity illusion'. Management have a high percentage of an asset that has low value in all reasonable scenarios.

Having looked at how financial engineering tailors risk and reward for investors and the company, it should be noted that the simplest way to minimise risk is to pay the lowest price for a company or asset.

Therefore negotiation skills are a key component of the skill set of any acquisitive investor, including private equity funds.

### 3.1.6 What is a 'Newco'?

Figure 3.5: Outline structure of a leveraged buy-out



Source: Gilligan and Wright.

To make an offer for a target company, a new company is established (Newco) which raises the necessary funds for the acquisition from the private equity fund and the bank(s) (Figure 3.5). A number of Newcos may be established to achieve the required subordination or priority of return of the various different sources of funding.

### 3.1.7 How do you decide whether to buy shares or assets?

The legal and tax positions of a share transaction are different from those of a purchase of assets in the UK:

- **Asset purchase:**
  - the purchaser acquires only defined and identified assets, while historical liabilities remain with the vendor;
  - the purchaser pays stamp duty on the value of fixed assets acquired;
  - the purchaser will be able to claim capital allowances on certain of the assets acquired which can be offset against corporation tax; the vendor will have (in principle) an opposite balancing charge;
  - the vendor may have a tax liability on any gain (this could be a capital gains tax, corporation tax or income tax charge depending on the identity of the vendor and the type of asset). If the vendor is a company, the vendor's shareholders will pay further tax on any distribution that subsequently occurs ie, there is a risk of double taxation and the amounts received by the shareholders may be treated as income not capital gain; and
  - even though employees are transferred from the vendor to a new employer (the purchaser), their employees rights are protected by TUPE legislation, see section 2.3 above.
- **Share purchase:**
  - the purchaser buys the shares and inherits all the shareholder's rights and obligations, including historical liabilities;
  - the purchaser pays stamp duty on the price paid for the shares (but at a lower rate than for assets);

- unless the vendor is a group selling a division or subsidiary, the vendor will only pay capital gains tax on the profit on the share sale; and
- there is no change of employer, so all employee rights will remain intact and TUPE does not apply.

Generally, a sale of shares is preferred by vendors to avoid double taxation and is by far the most common transaction in larger buy-outs. However, where there are significant unquantifiable potential liabilities (eg, environmental claims or potential litigation) an asset deal may be the best way to proceed commercially.

### 3.1.8 Pricing a transaction

The price offered for any business must achieve two objectives: be acceptable to the vendor and be financeable in the prevailing markets.

Private equity funds (and indeed most rational bidders) typically work back from a financeable solution to an acceptable offer.

As noted earlier, the most effective way to reduce transaction risk is to reduce the price paid. Conversely, rising prices will, other things being equal, depress investment returns and, if inappropriately funded by unsuitable debt levels, increase investment risk. If acquisition prices are generally rising, other things being equal, two outcomes (in aggregate) are likely to occur going forward:

- higher risk, through increased borrowings; or
- lower returns.

### 3.1.9 A financeable offer

The basic questions to answer in structuring a leveraged transaction are as follows.

1. How much debt can, and should, be raised from the various participants in the banking market?
2. How much equity is therefore needed from the private equity fund to finance an acceptable offer to the vendors?
3. Does the business plan demonstrate that investors will receive an acceptable risk-adjusted return on the equity required to fund the offer?

## 3.2 Senior debt and mezzanine

### 3.2.1 What is debt?

It is worth pausing to look at this seemingly trivial question. Most of the problems in the financial markets in recent times have been caused by the debt markets and innovations used within them. Debt is a contractual obligation to pay an amount to a lender on given dates.

Debt may be secured or unsecured. If it is secured then if a borrower does not pay an amount due the lender will have the right to seize certain assets. If the security is a fixed charge the assets will be identified, if it is a floating charge the security will include assets that change from time to time.

Unsecured lenders have no right to seize assets and these loans are inherently riskier than secured loans. For example, credit card debts are unsecured and therefore incur interest at much higher rates than secured mortgages.

### **What is senior debt, junior debt and subordinated debt?**

Senior debt is the name given to the debt that has priority over all other debt when it comes to receiving interest, or to receiving the proceeds from asset sales in insolvency. This seniority gives lenders the ability to heavily influence the negotiations if a borrower is unable to service its debts.

Loans that rank after the senior debt are junior loans and those that rank last (but still have some claim to any residual assets) are subordinated loans.

#### **3.2.2 How much debt?**

In simple terms, banks\* look at two aspects of the business.

1. How much cash is available to pay interest and repay the loans?
2. If the company were to default on the loan, how much would the bank recover on a distressed sale of the business or its assets?

#### **How much debt? Cash flow lending**

Cash flow is the lifeblood of leveraged transactions and at the due diligence stage of the investment cycle an enormous amount of analysis and technology is applied in assessing what the range of probable cash flows of the target business are likely to be.

The amount of debt that a business can support falls as the interest rate rises: at low interest rates a business can either reduce its interest payments or keep its interest payments constant by borrowing more. Similarly the amount that can be borrowed against a given cash flow increases as the term of the loan increases. You can borrow more if you pay it back more slowly.

Figure 3.6 illustrates the relationship between the interest rate, the term of the loan in years and the amount that can be borrowed on an amortising loan. For example, a 0% interest loan repaid in equal instalments over eight years can be afforded at multiples up to eight times the risk free cash flow of the borrower. The same loan at an interest rate of 10% can only be afforded at multiples of up to 5.33 times the same cash flow. Therefore, the amount of debt that a business can support is inversely related to the interest rate and directly related to the term of the loan.

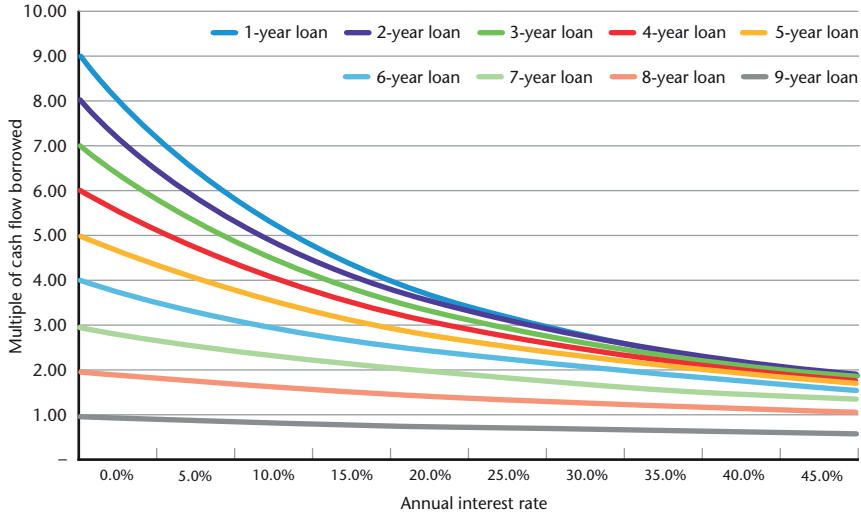
A private equity fund will therefore seek to maximise the term of the loan and minimise the interest rate subject to its appetite for financial risk.

Conversely, banks will seek to maximise the interest rate while matching the term of the loan to the demands of the syndication market and their own loan portfolio. These are both ultimately driven by the term and rates seen in the bond markets.

Prior to the credit crunch the private equity market took full advantage of the availability of cheap credit emanating from the global bond markets, resulting in a surge in the size of facilities that were written and a growth in the size of buy-outs being observed. In our view these were symptoms of the problems in the debt market exuberance, not the cause.

\* In this context 'banks' means 'lenders'.

**Figure 3.6: Relationship between length of loan, interest rate and multiple of free cash flow**



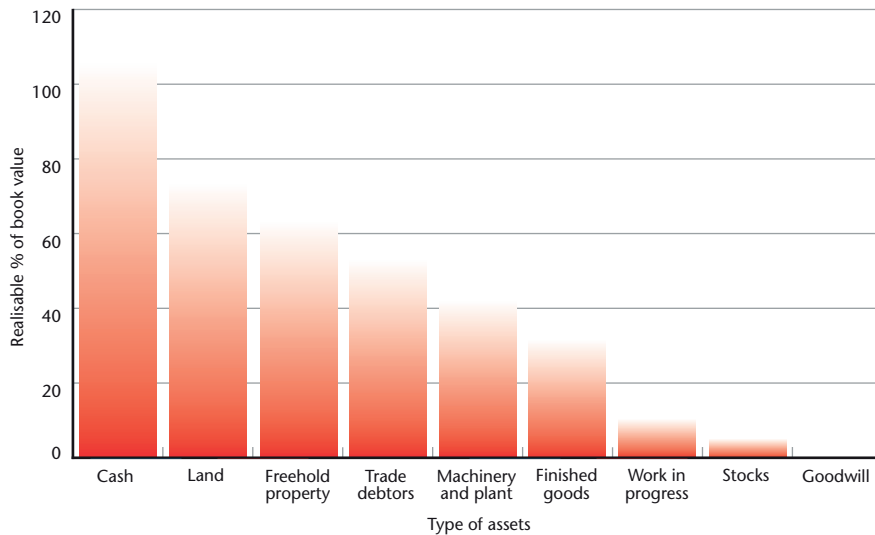
Source: Gilligan and Wright.

### How much debt? Security and cost of funds

The security available to a lender varies significantly from one situation to the next. At a simple level a lender might look at the total assets (value) of a company and assess a loan-to-value ratio, in much the same way as a Freehold property lender will. Of course in reality a more sophisticated approach is applied and each major item in the company's balance sheet should be assessed to establish the security value.

Each line of the balance sheet's assets will be looked at to ascertain the probable security value if a company becomes troubled. One common hierarchy of assets is illustrated in Figure 3.7.

**Figure 3.7: Illustrative security value of a failing company's assets**



Source: Gilligan and Wright.

If we compare two situations with the same total assets and the same loan-to-value assumptions but a different make-up of the asset base, it can be illustrated how risk varies between different industries (Table 3.4).

**Table 3.4: Stylised comparison of security in a retailer and a manufacturer**

| Type of asset               | Realisable value | Manufacturer   |          | Retailer       |          |
|-----------------------------|------------------|----------------|----------|----------------|----------|
|                             |                  | Net book value | Security | Net book value | Security |
| Cash                        | 100%             | –              | –        | –              | –        |
| Land                        | 70%              | –              | –        | –              | –        |
| Freehold property           | 60%              | 150            | 90       | –              | –        |
| Trade debtors               | 50%              | 20             | 10       | –              | –        |
| Machinery and plant         | 40%              | 50             | 20       | –              | –        |
| Finished goods              | 30%              | 10             | 3        | 250            | 75       |
| Work in progress            | 10%              | 10             | 1        | –              | –        |
| Stocks                      | 5%               | 10             | 1        | –              | –        |
| Goodwill                    | 0%               | 50             | –        | 50             | –        |
| Total                       |                  | 300            | 125      | 300            | 75       |
| Total security/Total assets |                  | 42%            |          | 25%            |          |

Source: Gilligan and Wright.

Despite having assets with the same net book value from an accounting perspective, the security values are materially different. This reflects the different loan-to-value ratios applied to each class of assets and the difference in the asset base of the different businesses.

Generally the more assets that are available in the higher loan-to-value categories, the more secure any loans will be. As the loans are more secure, the risk is lower to the banks providing the loans and therefore the cost to the borrower should be lower. As the cost is lower, the amount that can be serviced by any given level of projected cash flows is higher. This was a significant factor in the second buy-out boom. High property prices gave the impression of high levels of security. This increased the amount of low-cost debt available which in turn allowed the total amount of debt to increase.

As the analysis above suggests, when buy-outs began to emerge in the 1980s, they were originally focused on businesses with strong asset backing and predictable cash flows that enabled banks to lend with high levels of confidence and relatively low risk.

High and seasonal security variations may create potentially perverse incentives for banks. Where a business is struggling but a bank has full enforceable security, a banker may be disinclined to lend further. They have the option to call the loan in the knowledge that they will recover all their outstanding debt. For example, in retailers who have significant dependence on Christmas trading the cash balance of the company will often be maximised on Christmas Eve. For this reason, it is not uncommon for retailers to fail close to this Christmas cash maximum.

### 3.2.3 How did banks increase the levels of borrowing in buy-outs? Capital holidays and bullet loans

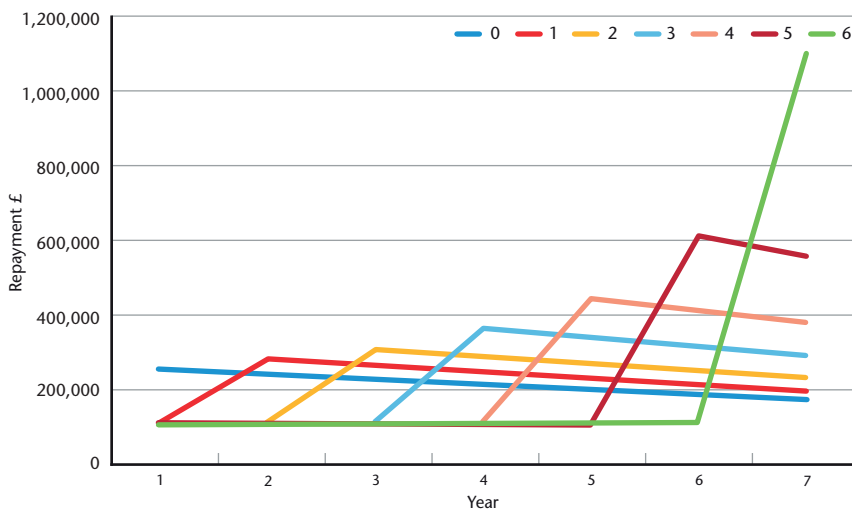
Prior to the credit crunch banks competed to win the lead arranger mandates both by minimising the price and by attempting to maximise the quantity of debt available. As explained above, in a normal loan paying interest and repaying capital in cash each year, the amount of debt can be increased by either extending the term, or reducing the cost.

To increase the amount of debt available beyond what can be funded on an ongoing basis from cash flows, debt structures routinely include a second tranche with a so-called 'bullet repayment'. (A tranche is the term given to each loan in an overall package.) Tranches are usually identified by letters: tranche A, tranche B etc, where each layer is usually senior to the next, so that tranche A takes priority over tranche B and so on.

Prior to the credit crunch, tranche A loans were typically seven-year amortising loans. Amortising is the term for a loan that repays capital according to some pre-agreed schedule, in the same way as a repayment mortgage does.

Capital holidays are periods when interest only is paid. Figure 3.8 illustrates the impact that using a variety of capital holidays has on the cash requirement of any loan.

**Figure 3.8: Impact of capital holidays of various lengths on the cash requirement of loans (seven-year loans)**



Source: Gilligan and Wright.

A bullet loan (typically a tranche B) is the special case of a loan with a full capital holiday that repays the capital in a single repayment at the end of the loan. It is analogous to an interest-only mortgage. Because the capital is not repaid until the end of the loan period, cash is preserved in the business over the life of the loan as long as either the cash retained in the business generates sufficient cash to repay the bullet repayment, or the business is able to refinance the tranche B loan at maturity. The use of a bullet loan increases gearing and therefore equity returns.

Prior to the credit crunch a typical leveraged loan package might consist of a variation around the 'standard' leveraged loan package:

1. Two-thirds seven-year 'A' senior amortising loan: a loan repaid in instalments over seven years.



2. One-third eight-year 'B' senior bullet loan: a loan paying interest only until the capital is repaid in one instalment (a bullet repayment) in eight years.

Today, having contracted at the depths of the recession to low point of a five-year amortising loan being the norm, terms are again extending and a typical structure might be:

1. forty per cent six-year amortising loan; and
2. sixty per cent seven-year bullet repayment.

There is, therefore, a shorter term but a higher non-amortising element.

In general the cash flow requirements of any loan can be sculpted to fit the projected cash flows of a business by using a series of tranches with different capital holiday periods. The key to establishing the risks of any debt structure created is to understand fully the underlying cash dynamics of the business being lent to ie, how vulnerable and volatile cash flows are.

In addition to using capital holidays to defray debt repayments the available debt was increased further by using loans that either rolled up interest to be paid later, or paid no interest at all during their life but paid it all at the end: payment-in-kind (PIK) debt.

Interest margins and fees on leveraged loans increased sharply in the aftermath of the credit crunch. They have both stayed high, albeit that base rates and LIBOR have been artificially low, resulting in relatively cheap debt by historical norms.

### 3.2.4 How did banks increase the levels of borrowings in buy-outs? Payment-in-kind debt

Another way to increase the amount of debt capacity in a business is to roll up the interest rather than pay it in cash. This has an impact on cash, profitability and taxation.

PIK debt is a form of loan that does not receive cash interest. Instead it receives more of the same type of loan. At maturity or on sale or flotation if earlier, the total amount of the original loan plus the PIK notes issued in lieu of interest is repaid. This enables the company to borrow without having the burden of a cash repayment of interest until the end of the loan. Many equity-release mortgages operate on this basis (plus having a share in any property value increase).

For the lender, the attraction is that PIK loans pay higher nominal interest rates than normal cash interest loans. This was especially attractive when investors were seeking higher yield investments prior to the credit crunch. A similar result is achieved if interest is 'rolled up' and repaid at the end of the loan. The only economic difference between PIK and a roll-up is that interest may accrue more rapidly on PIK debt if there is no 'interest-on-interest' on the roll up. PIK debt was often seen as tranche C or D in a debt structure.

### 3.2.5 Why did banks increase the amount of debt?

In the second buy-out boom of the late 2000s, a number of factors came together to increase the banks' willingness to lend to buy-outs. Some were the result of changes in the extent of the market for debt; others were the result of changes in the underlying assumptions regarding volatility and stability within the market. In essence, as noted in the description of advisers' roles above, the constraints on banks' lending failed to operate normally.

The reasons for the growth in the bond market are outside the scope of this work as they relate to globalisation and savings rate differentials between countries and are nothing to do with the private equity industry per se. However, the impact of this growth was to create the opportunity for banks to change their business models in the buy-out market to reduce the proportion of debt held on their own balance sheets and to generate the majority of their income from fees for arranging and syndicating loans. The banks' overall

incentives were to maximise the amount lent and syndicated subject to the constraint that the loans must be acceptable to the primary syndications market.

Well-managed banks separate their credit functions from their origination functions. Within a bank the origination staff were largely incentivised to find and lend to new opportunities. The role of the credit function should be to constrain the origination function from making loans that are too risky or too cheap (or both). With the growth in syndications, the credit question was subtly altered. It was no longer, 'How much should my institution lend to company X?' It became, 'How much can we expect to syndicate to other institutions who wish to lend to company X?' The availability of syndication opportunities therefore increased the appetite of existing participants in the buy-out market to lend at finer margins and in greater amounts.

Essentially the lead banks were calculating that the bubble in the debt market would allow them to offload the majority of their risk, even if it was finely priced.

The emergence of CDOs designed specifically to service the buy-out market introduced the phenomenon of 'slicing and dicing' risk in buy-out loans to be rated and sold on into the wider markets. CDOs provided up to 50% of the debt to larger buy-outs. The incentive of a CDO manager is complicated and changes over time. As the number of new CDOs increased, the number of market participants incentivised to take marginal risks also increased and the exposure of banks to bridging these risks also increased. This is a microcosm of the wider changes in the bond markets.

As asset prices, in particular property prices, increased, the security of loans also apparently increased allowing banks to lend at lower margins. The low interest rates and low margins enabled more to be borrowed per £1 of project cash flow. Furthermore, the assumption of long-term stability and low volatility encouraged banks to fund more lending.

The banks therefore found a ready market for loans that were riskier than would have been written had they had to hold the loans on their own balance sheets and accordingly were prepared to underwrite more debt at keener prices. The constraint on imprudent lending essentially failed to operate because the perceived incentives were misaligned.

### 3.2.6 What is mezzanine?

Mezzanine finance comes in many forms. The common features of all mezzanine instruments and products are that they offer a risk/return profile that lies above that of debt and below that of equity. It may be provided by bankers or by specialist mezzanine funds.

Mezzanine is used to increase the financial leverage of transactions where the lead bankers have no appetite to lend further senior debt but there is still more capacity for long-term borrowings. This may happen for a number of reasons. It might be that the security provided by the assets of the company is fully utilised to support the senior debt package, but the cash flows will support further borrowings. A banker (or other lender) will therefore wish to receive a higher yield on the instrument that has no underlying asset cover.

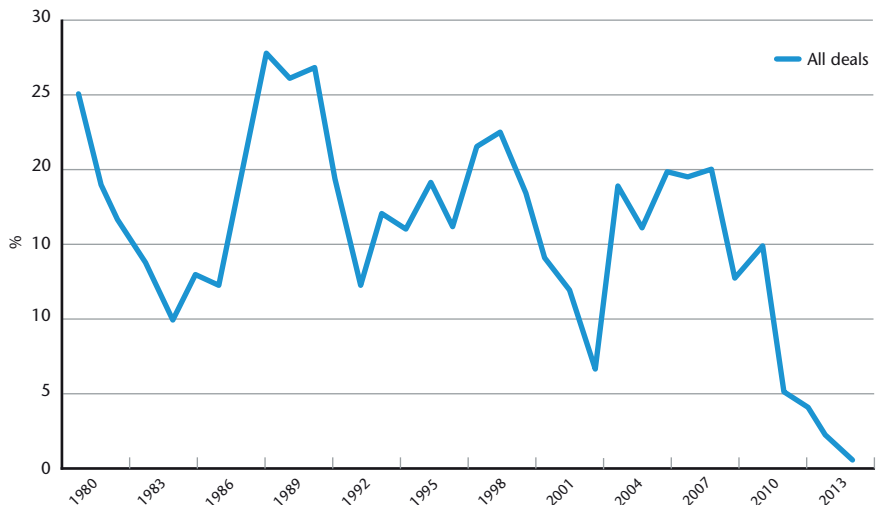
Another example could be where there are large forecast cash flows contingent on executing a particular part of the business plan: for example, reducing excess stocks or selling excess assets or non-core companies in a group. In these circumstances, the banks may take the view that they will lend against these future lumpy cash flows, but require an adequate return to reflect their risk. This is often achieved by attaching warrants (options) to the mezzanine loan which enable the bank to share in the equity value of the business at exit.

Mezzanine therefore typically uses capital holidays and contingent repayments but charges a premium for the risk associated with the deferrals of repayment.

**Findings 3.1: Does higher leverage lead to increased likelihood of failure?  
The academic evidence**

The percentages of private equity-backed buy-outs completed in the UK each year that have entered receivership or administration to date are shown in Figure 3.9, where there is some indication of a higher level of failure for those deals completed during boom years, especially during the first wave of the late 1980s. However, as a general point, the attention given to the claimed dangers of high capital leverage in the debate about private equity is quite misplaced since deals can sustain high capital leverage if they have high and stable interest cover which enables them to service the debt. Studies of larger US buy-outs and UK research provide strong evidence that higher amounts of debt are associated with an increased probability of failure or the need for a restructuring to take place (Appendix Table 8). Higher turnover per employee and the reduction of employment on buy-out is negatively associated with failure; this suggests the importance of measures taken to restructure an underperforming company early in the buy-out life-cycle. P2Ps that subsequently enter receivership have higher initial default probability and distance to default than P2Ps that exited through IPO, trade sale, secondary buy-out or no exit. Recent evidence comprising the population of private firms in the UK finds that after taking into account a large range of financial and non-financial factors, companies with higher leverage, whether a buy-out or not, are significantly more likely to fail. Controlling for other factors including leverage, buy-outs have a higher failure rate 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. However, MBOs and private equity-backed deals completed post 2003 and the introduction of the Enterprise Act 2002 which changed the corporate bankruptcy regime in the UK, are not riskier than the population of non-buy-out private firms if these other factors are controlled for.

**Figure 3.9: Percentage of UK buy-outs ending in receivership/administration by vintage year**



Source: CMBOR/EY/Equistone Partners Europe.

### 3.2.7 Can Newco repay the borrowings?

The ability of Newco to repay borrowings is usually reflected in the ratio of EBITDA to total borrowings.

EBITDA = Earnings (profits) before interest, tax, depreciation and amortisation.

This ratio measures, approximately, the amount of ongoing cash flow available to pay interest (and to make loan repayments on the appointed dates).

Tax will be recalculated on the target company's projected profits based on the new capital structure ie, after interest deductions.

Depreciation and amortisation are excluded because these are non-cash items and have no impact on cash flow. However, any cash required to fund future capital investment will be taken into account in the new capital structure.

The EBITDA ratio has, on average, been rising over the recent past and, as noted above, concerns have been expressed about the prudence of certain leveraged structures with perceived high debt ratios. However, it is important to note that the ratio does not tell the whole story. For example, in businesses that have completed a major investment programme and have no further significant capital expenditure (capex) requirements in the immediate foreseeable future, a higher EBITDA multiple will be more tolerable than in companies with major future capex needs.

Generally the more volatile and uncertain the earnings of the target, the lower the EBITDA multiple should be, and vice versa.

### 3.2.8 What security will the banks\* have?

As discussed above, the ratio of realisable assets to total borrowings is an indication of bank security.

This ratio requires judgement on both the value of the target company's assets and how readily realisable they would be in a forced sale. It is an approximate measure of the total amount of security available to the lender in the event of default on the loans. This is relevant to both the amount of debt lent and the pricing of that debt.

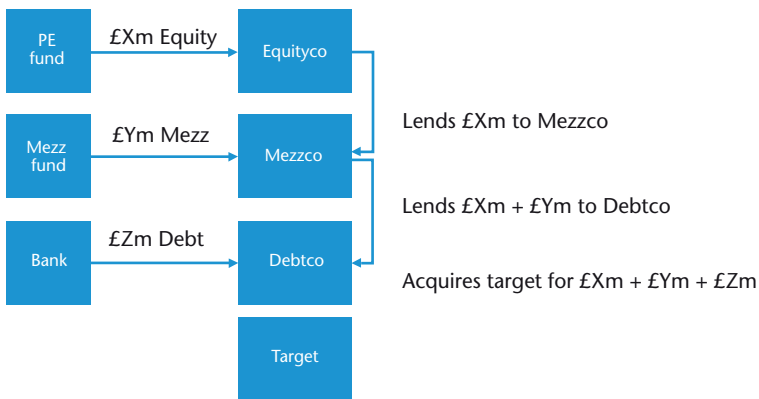
Bankers will typically price debt in layers. The first layer will be the most secure with a first charge over the assets of the borrower, and therefore be regarded as carrying the lowest risk, and priced accordingly.

### Why do you sometimes see two (or more) Newcos?

A bank can obtain its priority either contractually or structurally. In a contractual subordination there is an agreement between the various lenders regarding who is repaid in what order and what rights the banks have if plans go awry. This is the inter-creditor agreement. An alternative is to create structural subordination by using a cascade of Newcos (Figure 3.10).

\* In this context 'banks' or 'bankers' means 'lenders'.

**Figure 3.10: Structural subordination**



Source: Gilligan and Wright.

In the event of the business underperforming, Debtco defaults on its loan to Mezzco, which becomes insolvent. Its directors have to appoint an insolvency practitioner. Mezzco's only assets are its shares in Debtco. These are, in an insolvency, worthless as the banks rank ahead of the shareholders in Debtco. The banks can therefore take 100% control of the target and eliminate Equityco and Mezzco, in an efficient manner.

A further possible reason for the cascades of Newcos is to create structures that are tax efficient in multinational and international businesses. This is discussed below.

### 3.2.9 What are the potential sources of cash flow to repay borrowings?

Companies generate trading cash flows from only three sources:

1. increasing post-tax profits;
2. reducing working capital;
3. selling assets.

All other cash inflows come from the shareholders or external lenders.

Leveraged transactions focus on each source of cash flow and how they interact.

### 3.2.10 Increasing post-tax profits

Increasing profitability can be achieved in five ways, only four of which impact cash flow:

1. increase gross margins.;
2. increase volumes or sales;
3. reduce overheads;
4. reduce the tax charge;
5. change accounting policies or the way they are applied.

The first three of these will flow from strategic and tactical decisions made by management and will involve management skill and hard work by all employees in a business. Such actions are not specific to private equity investment, and therefore they are not discussed further here. They are however absolutely at the centre of any investment and banking decision, and are in many ways the core skill set of any manager and investor.

The tax charge is dealt with in a detailed worked example in section 4.

The appropriate application of accounting policies is a matter for review by the auditors of the business.

### 3.2.11 Reducing working capital

The amount of cash tied up in a business as working capital is broadly determined by the relative speed of being paid by customers compared to the speed at which suppliers are paid.

All private equity investors will look very closely at the working capital of the business. Many will have an explicit plan to reduce the amount of working capital by reducing stocks, or paying suppliers later, or speeding up customer collections, or a combination of all of these. From the perspective of the company, this is unequivocally a positive thing to do; it represents a step change in the efficiency of the business.

From the perspective of the overall economy, if all that happens is that the reduction in working capital in a company creates an equal and opposite increase in the working capital of its suppliers and customers, then there is unlikely to be a gain in efficiency in the supply chain. However, if the pressure to reduce working capital flows up and down the supply chain, it is a net gain in economic efficiency: the product or service is being produced using less valuable capital.

Irrespective of the overall effect on the economy, it is one significant way in which leverage creates the imperative to maximise cash flow.

### 3.2.12 Fixed assets: to own or lease?

Virtually all businesses have a mix of owned and leased assets. The decision to own or lease will be based on attitudes to risk and the strategic importance of owning an asset. In leveraged buy-outs the ownership of all material assets will be reviewed.

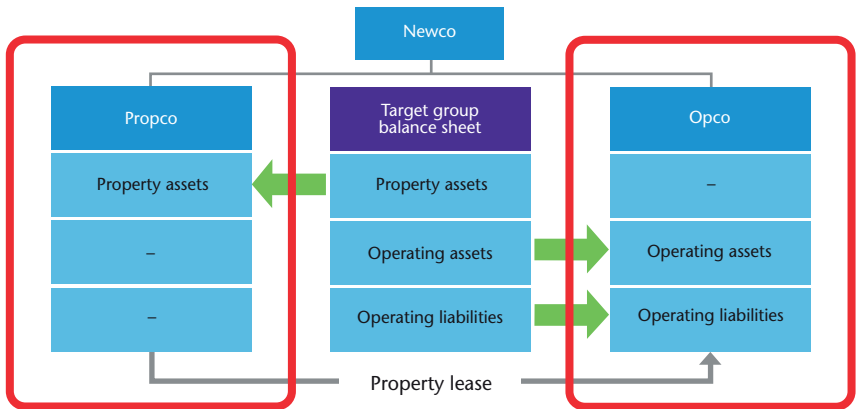
Assets that have no productive worth should always be sold. Other assets need to be reviewed in the context both of business efficiency and the security underlying the debt structure. Banks will usually wish to negotiate that some or all of the proceeds from any asset sales are used to repay borrowings, or they may want a block on asset sales that are not in the agreed business plan.

The decision therefore becomes one of owning a fixed asset or selling it. Often, where the asset is a property, the decision will be taken to sell and lease back the building. It is important to emphasise that selling any particular asset may increase overall economic efficiency, if it can be put to better use under a different owner, especially if the current owner is not using it to its full potential.

### 3.2.13 What are propco/opco structures? A special case

In the early years of the buy-out market most investors would not invest in businesses that generated most of their returns from property investment or development. The precise boundary of what constituted a property-based business was never entirely clear, but in the early 1990s following the collapse in UK property prices, a wave of innovative transactions involving properties were completed. The earliest transactions involved companies operating pubs, following changes brought about by the competition authority's investigation into the pub and brewery industry.

**Figure 3.11: Illustration of the restructuring into a propco/opco structure**



Source: Gilligan and Wright.

The target company's balance sheet was carefully dissected into a company that owned properties and a company that operated businesses in the properties. A lease was then put in place between the two companies. The property company (propco) was structured and financed to appeal to investors seeking property exposure and the operating company (opco) was separately financed (Figure 3.11). The structure capitalised on the different appetites for risk in property investors and non-property investors. Effectively the companies sold and leased back property assets with investment companies owned by their own shareholders.

The structures enabled the group to access separate pools of investment for property assets and to isolate property assets from trading companies at the low point of the property market. As with many innovations seen in private equity, there was nothing particularly new in the ideas behind the structures. The real innovation was the creation of a market for finance to efficiently fund this type of structure.

Once these structures had been created and perfected, markets rapidly utilised the precedent in an array of different situations. It is a general characteristic of the private equity industry that it is an early adopter of many financial innovations that were actually created elsewhere, such as securitisation, propco/opco, CDOs etc.

### **The risks of propco/opco structures**

Propco/opco structures are appropriate for businesses with significant freehold property assets and predictable revenues to service the lease terms. The economics are in principle no different to those of a retailer who leases shops. Most leases are in a relatively standard form. This enables the investment market to be efficient, which helps to reduce the cost of the lease to the lessor. A standard UK institutional lease would:

- be FRI (full, repair and insure). This means that the lessor has to deliver the property back in the same state it was taken on in. Any shortfall needs to be made up by a dilapidations payment.
- have upwards only rent review clauses, meaning that rents never go down. Often there is a clause stating that the periodic increase will be the higher of an independent reviewer's estimate or RPI (inflation).

In the case of Southern Cross Group, a large retirement and care home group, the company was reorganised into a propco/opco structure. The propcos were owned by institutional property investors on institutional, FRI, upwards only leases. The opco was floated on the London Stock Exchange providing an exit for its private equity owners.

Following flotation the group came under intense fee pressure from, among others, public authorities who were paying for the care of many of Southern Cross's residents. The combination of falling fees and upwards only rents led Southern Cross to become insolvent and the company failed. The assets were taken over by a variety of alternative providers and none of the residents was made homeless. Nevertheless, the example is a stark reminder that leases are, in all economic characteristics, off balance sheet obligations that have to be met or the business will lose the premises concerned and in all likelihood fail.

### **Findings 3.2 Where do buy-outs get the cash to pay down the debt? The academic evidence**

Research on US buy-outs during the 1980s indicates substantial average improvements in profitability and cash flow measures over the interval between one year prior to the transaction and two or three years subsequent to it (Appendix Table 9). UK evidence from the 1980s also indicates that the vast majority of buy-outs show clear improvements in profitability and working capital management. These buy-outs generated significantly higher increases in return on assets than comparable firms that did not experience an MBO over a period from two to five years after buy-out. Financial ratio analysis of medium-sized MBOs in the Netherlands showed that they had significantly better ratios than the average financial ratios of the industries in which they were involved in terms of cash flow, sales and return on investment. In France, MBOs outperform comparable firms in the same industry both before and after the buy-out. However, the performance of French MBO firms declines after the transaction is consummated, especially in former family businesses. More recent US and UK evidence from P2Ps, finds significant increases in liquidity but not profitability. Recent UK evidence from other vendor sources provides mixed evidence regarding post buy-out return on assets but demonstrates that divisional buy-outs in particular show significant improvements in efficiency. Intensity of private equity firm involvement is associated with higher levels of profitability.

### **Findings 3.3: What are the effects of buy-outs on productivity and efficiency? The academic evidence**

US plant level data shows that MBO plants had higher total factor productivity (TFP) than representative establishments in the same industry before they changed owners (Appendix Table 10). MBO plants experienced significant improvements in TFP after the MBO, which could not be attributed to reductions in R&D, wages, capital investment, or layoffs of shop floor/blue-collar personnel. More recent US evidence shows that private equity-backed firms increase productivity post-transaction by more than control group firms and that this increase is in large part due to more effective management and private equity being more likely to close underperforming establishments.



**Findings 3.3: What are the effects of buy-outs on productivity and efficiency? The academic evidence (continued)**

UK evidence based on company-level data shows significant improvements in efficiency for up to four years post-buy-out compared to non-buy-out firms, although the main effect appears to be in the first two years. Divisional buy-outs show higher efficiency improvements than private and secondary buy-outs and more experienced private equity firms have a greater impact on post-buy-out efficiency. Data for approximately 36,000 UK manufacturing establishments, of which some 5,000 were buy-outs, show that MBO establishments were less productive than comparable plants before the transfer of ownership but experienced a substantial increase in productivity after buy-out. These improvements appear to be due to measures undertaken by new owners or managers to reduce the labour intensity of production, through the outsourcing of intermediate goods and materials.

**Findings 3.4: To what extent do private equity deals involve strategies to grow the business? The academic evidence**

Buy-outs are associated with refocusing the strategic activities of the firm, especially for deals involving listed corporations (Appendix Table 11). Divestment activity by buy-outs appears to be greater than for comparable non-buy-outs. However, US, UK and Dutch evidence from the 1980s shows that buy-outs are followed by significant increases in new product development and other aspects of corporate activity such as engaging in entrepreneurial ventures, technological alliances, increased R&D and patent citations. Private equity firms also contribute to the development of improved management processes and management control systems that facilitate strategic change in different types of buy-outs. Private equity funders contribute to keeping added-value strategies on track, assisting in new ventures and broadening market focus, and in having the knowledge to be able to assess investment in product development. Majority private equity-backed buy-outs significantly increase entrepreneurial management practices, but increased debt negatively affects entrepreneurial management. More recent evidence shows that higher levels of private equity firm experience and intensity of involvement are associated with higher levels of growth, especially in divisional buy-outs.

**Findings 3.5: To what extent is replacement of management important? The academic evidence**

Recent US evidence indicates that half of CEOs in private equity-backed buy-out are replaced within two years. Unlike public companies, boards in private equity-backed buy-outs are likely to replace entrenched CEOs and are more likely to replace CEOs if pre-buy-out return on assets is low (Appendix Table 11). Larger deals' outperformance is often associated with significant replacement of CEOs and CFOs either at the time of the deal or afterwards and the leveraging of external support.

### **Findings 3.6: Do private equity deals and buy-outs have adverse effects on investment and R&D? The academic evidence**

US evidence from the 1980s strongly supports the view that capital investment falls immediately following the LBO as a result of the increased leverage (Appendix Table 11). The evidence on UK MBOs from the 1980s indicates that asset sales are offset by new capital investment, particularly in plant and equipment. The effect of buy-outs on R&D is less clear, although on balance US evidence suggests that there is a reduction. However, as many LBOs are in low R&D industries, the overall effect may be insubstantial. There is evidence from buy-outs that do have R&D needs that this expenditure is used more effectively, and that private equity buy-outs result in increased patent citations and more focused patent portfolios.

#### **3.2.14 Asset stripping and financial assistance**

Asset stripping as seen in the late 1960s involved buying a company, selling all its assets and keeping all the proceeds. The company would then probably be liquidated and the creditors left unpaid. This can be a criminal offence in the UK. It is illegal to purchase a business with the intention of selling its assets and leaving its creditors (including its employees and pensioners) unpaid.

To prevent asset stripping, prior to October 2008, it was illegal for a private company to give financial assistance for the purchase of its own shares unless it went through a process established in the Companies Act 1981 and commonly known as the 'whitewash' procedure.

Financial assistance arises in leveraged buy-outs when banks, or other lenders, take security on the assets of the target company. The banks would not lend without the security given by the company being acquired. The acquired company is therefore assisting in the raising of the finance to complete the acquisition.

In a whitewash, the directors of the target company at the date of the transaction give a statutory declaration that at the time this is given, the company will continue to be a going concern. 'Going concern' in this context is usually taken to mean it is reasonably expected that it will be able to pay all of its current and future creditors for at least the next year. It is a criminal offence to give a statutory declaration knowing it to be false.

The whitewash procedure is only available to private limited companies, not public limited companies.

Under the Companies Act 2006, the prohibition on financial assistance by private companies was removed with effect from October 2008, but it remains in place for public companies.

#### **3.2.15 What protection exists for publicly quoted companies?**

In a public to private transaction, the plc must be converted into a private limited company prior to giving financial assistance. This can only happen after a company is delisted. Banks therefore cannot perfect their security in a UK P2P until after the company has delisted and been converted to a private limited company.

To delist and convert from a plc to private limited company requires the consent of a majority (75% of all votes) at an extraordinary general meeting. However, a private equity fund will want to acquire 100% of the shares of the target company, which it can do under the Companies Act once 90% of shareholders (by value) have accepted the offer, since the remainder of the shares are then capable of being compulsorily acquired (or 'squeezed out'). Alternatively, a scheme of arrangement may be used as a mechanism

to secure 100% control subject to a vote of qualifying shareholders being supported by a 75% majority by value and 50% majority by number.

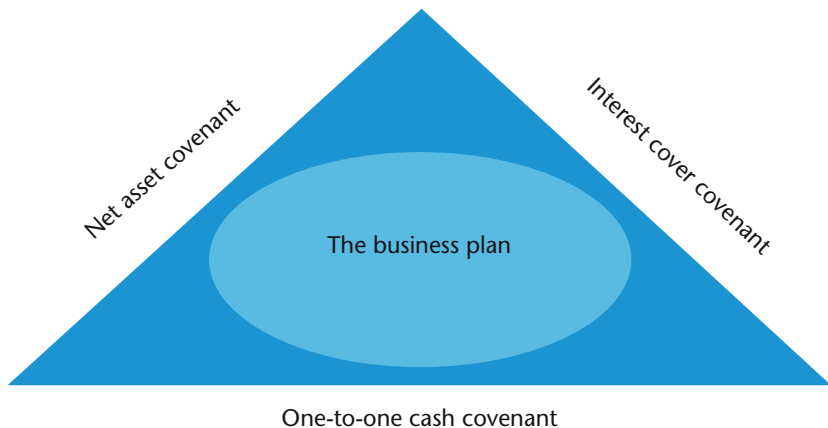
For this reason, leveraged offers for public companies are often conditional upon achieving at least 75% acceptances and may even require 90% acceptance.

The delisting and conversion into a private limited company may be some weeks after the offer has been completed. In the intervening period the bank will be at risk due to the imperfection of the security. It is expensive (and often impossible) to syndicate debt prior to perfecting security. This process therefore extends the period that banks are at risk. Typically there are penalty clauses in the debt package that are triggered if security is not perfected within a given period after completion.

The costs of undertaking a P2P that fails to be completed can be high. Obtaining irrevocable commitments to support the bid from key shareholders can alleviate some of the uncertainties associated with the bid process. The announcement of substantial irrevocable commitments may make other potential bidders less likely to enter the contest with an alternative bid. If they do, a competing bid may have to be made within 21 days of the posting of the offer documents to avoid the irrevocable commitments becoming binding offer acceptances. It may, however, be difficult for an alternative buyer to complete due diligence within the required time. Existing shareholders may have the incentive to give irrevocable commitments as they may be able to negotiate conditions that enable them to sell their shares to a new bidder offering a higher price (so-called 'soft' commitments).

### 3.2.16 The risks of leverage: financial covenants and events of default

Figure 3.12: Schematic illustrating banking covenants



Source: Gilligan and Wright.

A loan is a contractual obligation to repay interest and capital on pre-agreed dates. If the business performance deviates negatively from the business plan around which a debt package has been tailored, the debt structure will be put under pressure. A key part of tailoring the package is to 'stress-test' the scenarios in which the debt structure might become overly burdensome for the company.

### 3.2.17 Incurrence covenants and maintenance covenants

As part of the debt package, the bank will agree a set of covenants that have to be periodically met (Figure 3.12). These covenants can be simply that on a particular day the interest and capital due are paid. These are incurrence covenants found in all term loan agreements. In leveraged loans it is market practice to also see maintenance

covenants that are a series of tests that measure the underlying business performance to establish whether or not the business plan that formed the basis of the debt structure is being met. They operate as both early warning devices to the bank of problems with a customer and as powerful tools in the renegotiation of a company's capital structure if the problems are serious.

Each set of covenants is individually negotiated for each transaction, but there are basic principles common to most.

### **One-to-one cash cover covenant**

As a general rule, banks will not lend money for the purpose of repaying their own borrowings: companies usually cannot repay term loans using an overdraft facility, for example. Therefore there is usually a covenant that states that the borrowing company must be able to pay interest and capital out of cash generated by trading. This is the one-to-one cash cover covenant.

### **Net assets covenant**

Banks also wish to preserve the asset base of the company that provides their security. They will therefore generally impose a covenant stating that the net assets of the business must be greater than an agreed amount based upon the business plan. This is the net assets covenant.

### **Interest cover covenant**

The bank will wish to see that interest is being paid out of profitable trading, not out of capital. They will therefore specify a ratio of interest to pre-interest profit that must be met. This is the interest cover covenant.

A breach of the interest covenant arises due to falling profits (as opposed to cash flow) or increasing interest rates.

The purpose of the various covenants is to monitor cash generation, profitability and the asset base of a company against the business plan on an ongoing basis and to provide lenders with early warning signals if things go wrong.

### **3.2.18 An event of default and corporate failure**

Failure to meet one or more of the covenants is an event of default which gives the banks the right to either increase the cost of the debt or to potentially demand immediate repayment of their loans. It is relatively rare for a bank to seek to recover all the loans as soon as an event of default occurs. Typically they will seek to renegotiate the entire debt package on new terms that reflect what they see as the new circumstances of the business. This might, for example, mean rescheduling the loans to reduce the repayment in each year but charging a higher interest rate (and fees) for doing so. When a restructuring cannot be negotiated, a company may be sold or forced into administration, receivership or liquidation when the assets of the company are realised to repay the debt.

### **3.2.19 How can the risks of leverage be mitigated?**

As illustrated above, banking risk is generally caused by a combination of declining trading performance relative to the business plan and/or interest rate risk.

The risk of declining trading performance is anticipated when the business plan is finalised at the time of the transaction and the most effective way to mitigate this type of risk is therefore to plan prudently.

However, as we shall see when we examine the equity structuring dynamics below, there are also strong incentives for management to produce an optimistic plan to increase

the projected value of the equity and therefore their share of that equity. Furthermore, private equity funders will get higher debt and/or cheaper offers if more positive plans are used by the bankers to the transaction. Untangling the outcome of these powerful but contradictory incentives is a key feature of good due diligence.

Interest rate risk can be managed by borrowing at long-term fixed rates. This is expensive as the cost of fixed-rate loans is higher than variable rate loans to reflect the fact that the lender takes on the interest rate risk of the borrower.

A variety of techniques exist to reduce, but not wholly eliminate, interest rate risk by hedging the interest rate on the loans. These include a variety of financial products including:

- swaps: the borrower of a fixed-rate loan swaps their interest rate exposure with another borrower who has a variable rate loan and pays them a fee to transfer the risk. These are arranged by a bank which will charge a fee for arranging the swap;
- caps: the borrower agrees a limit with the bank on their interest rate exposure. Up to the cap, the borrower still incurs the risk; above the cap the bank takes on the risk. This limits the risk to a known maximum over the term of the cap;
- collars: to reduce the cost of hedging the interest rate risk, a borrower may agree to both a cap with the bank and a collar below which any fall in interest rates will be to the benefit of the lenders not the borrowers. This effectively limits the interest rate to a maximum and minimum over the life of the arrangement.

### 3.2.20 Has anything changed since the banking crisis?

#### **The effects of Basel 3 and capital adequacy**

Banks borrow money from depositors or the market and lend it to borrowers. There is always the risk of a mismatch between giving the depositors the right to withdraw their money as they see fit and the timescales within which the borrowers are contracted to repay. At a very simple level, banks borrow short term from a wide array of depositors and lend long term to a less diverse group of borrowers. A 'run' on a bank happens when depositors want to withdraw their money and the bank cannot force repayment from the borrowers (or find an alternative lender) to cover the cash required. To alleviate this there are requirements to hold a certain proportion of a bank's assets in highly liquid forms (cash, government bonds etc). This capital is held in various tiers with various different types of assets qualifying as tier one, tier two etc: the more liquid the asset, the higher the tier.

After the banking crisis there were two major changes to the capital adequacy requirements that directly impacted (and were targeted on) the leveraged loan market. Firstly, the amount of capital that had to be held against any loan was increased. Secondly, the definition of a leveraged loan was changed to include all loans over five years in length. This meant that banks had to hold much more tier one capital against the traditional seven-year term loans that had been prevalent in the buy-out market for many years.

The banks reacted by reducing the average length of a new loan to any buy-out to less than five years. As we described above, one way to increase leverage is to increase the term of a loan. Conversely, reducing the term of new loan instantly reduced the amount of debt available to fund leveraged transactions from the banks. When this was coupled with a general reluctance to lend and increased margins and fees, the buy-out market ground to a near halt.

The market responded to this unmet demand for debt in two ways as described in the following paragraphs.

### 3.2.21 Restoring leverage: asset-based lenders

Firstly non-amortising debt became very popular. Amortising is simply the term used for repaying capital. A 20-year mortgage amortises, predictably enough, over 20 years. The commonest form of non-amortising debt is invoice discounting. Invoice discounting prepays a proportion of outstanding debtors early and thereby creates a one off reduction in working capital. Thereafter the rate of drawdown or repayment will be determined by the periodic increases and decreases in the debtor book. The risk is that when a business has a fall in sales, and therefore a fall in debtors, the facility will start to require repayment.

Discounting of debtors can be matched with asset finance for other assets such as plant and machinery or vehicles. Again the idea is to trade cash today for the costs of repaying the lease in the future.

### 3.2.22 Alternative debt providers and unitranche debt

A further group of lenders had emerged who are addressing this pent-up demand. They are newly established alternative debt providers. They range from new or revised divisions of investment banks, through to completely new independent providers who are themselves funds.

#### **Findings 3.7: What do secured creditors recover? The academic evidence**

US buy-outs that defaulted on their loans in the 1980s generally had positive operating margins at the time of default and, from pre-buy-out to distress resolution, experienced a marginally positive change in market- or industry-adjusted value (Appendix Table 8). In UK buy-outs that defaulted, secured creditors recovered on average 62% of their investment. In comparison with evidence from a more general population of small firms, MBOs experience fewer going-concern realisations in receivership (30%), make a lower average repayment to secured creditors and make fewer 100% repayments to these creditors. These results appear to contrast with expectations that the covenants accompanying high leverage in buy-outs will signal distress sooner than in firms funded more by equity. That these MBOs entered formal insolvency procedures despite the presence of specialised lender monitoring suggests that these are cases that will have been the ones considered most difficult to reorganise. UK evidence on failed buy-outs shows that coordination problems among multiple lenders do not create inefficiencies resulting in significantly lower secured creditor recovery rates. However, when there are multiple secured lenders, the senior secured lender gains at the expense of other secured creditors as the lender first registering the charge over assets obtains priority. Recovery rates for junior creditors are lower for private equity-backed buy-outs. Private equity-backed firms in distress are more likely to survive as an independent reorganised company.

### 3.3 Institutional and management equity

The process of structuring a debt package is the first step in constructing a financeable offer.

In the second step, there are three questions at the centre of the process.

1. What is the appropriate amount of equity to raise to fund the bid and the future needs of the company?
2. How much equity should be put aside to recruit or retain and then motivate a management team to execute the business plan that underpins the financing structure?
3. How much equity do the banks expect to see invested?

#### 3.3.1 How much institutional equity?

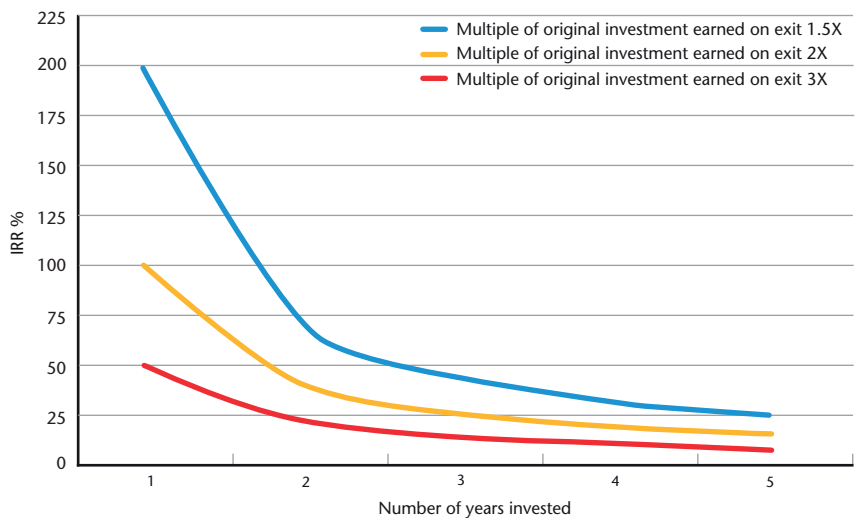
To understand the structuring of an investment we need to understand the interaction between pricing a transaction, financial risk and equity returns.

#### Internal rates of return and short-termism

Private equity funds have rules of thumb regarding acceptable rates of return. To a degree these vary over time as inflation and returns on alternative assets vary. However, due in part to the long-term nature of the funds' commitments, the correlation with the returns of alternative asset classes is very low.

Returns have historically generally been measured and talked about as internal rates of return (IRRs). An IRR is the annualised return on an investment. As illustrated in Table 3.5 (where we have highlighted the area of targeted market norms) and Figure 3.13, IRRs are very sensitive to time.

Figure 3.13: IRR versus time of exit at various exit multiples



Source: Gilligan and Wright.

**Table 3.5: IRRs calculated at varying exit years and varying exit multiples of original investment**

|               |    | Multiple of original investment |      |      |      |      |      |      |      |      |      |      |
|---------------|----|---------------------------------|------|------|------|------|------|------|------|------|------|------|
|               |    | 1.00                            | 1.25 | 1.50 | 1.75 | 2.00 | 2.25 | 2.50 | 2.75 | 3.00 | 3.25 | 3.50 |
| Year invested | 1  | 0%                              | 25%  | 50%  | 75%  | 100% | 125% | 150% | 175% | 200% | 225% | 250% |
|               | 2  | 0%                              | 12%  | 22%  | 32%  | 41%  | 50%  | 58%  | 66%  | 73%  | 80%  | 87%  |
|               | 3  | 0%                              | 8%   | 14%  | 21%  | 26%  | 31%  | 36%  | 40%  | 44%  | 48%  | 52%  |
|               | 4  | 0%                              | 6%   | 11%  | 15%  | 19%  | 22%  | 26%  | 29%  | 32%  | 34%  | 37%  |
|               | 5  | 0%                              | 5%   | 8%   | 12%  | 15%  | 18%  | 20%  | 22%  | 25%  | 27%  | 28%  |
|               | 6  | 0%                              | 4%   | 7%   | 10%  | 12%  | 14%  | 16%  | 18%  | 20%  | 22%  | 23%  |
|               | 7  | 0%                              | 3%   | 6%   | 8%   | 10%  | 12%  | 14%  | 16%  | 17%  | 18%  | 20%  |
|               | 8  | 0%                              | 3%   | 5%   | 7%   | 9%   | 11%  | 12%  | 13%  | 15%  | 16%  | 17%  |
|               | 9  | 0%                              | 3%   | 5%   | 6%   | 8%   | 9%   | 11%  | 12%  | 13%  | 14%  | 15%  |
|               | 10 | 0%                              | 2%   | 4%   | 6%   | 7%   | 8%   | 10%  | 11%  | 12%  | 13%  | 13%  |

Source: Gilligan and Wright.

When investments are rapidly turned, IRRs tend to be higher, but when investments are held longer, other things being equal, IRRs tend to a stable long-term rate.

It is a fact that maximising IRRs does not necessarily maximise the return from an investment portfolio. If, for example, the alternative investments available to the partners in a particular fund have lower than projected returns than the assets that they currently hold, returns are maximised by holding the current investment, even if the IRR declines as a result. In general, maximising the present value of a portfolio is not the same as maximising the IRR of each individual investment.

The impact of using IRR as a measure is therefore to give undue weight to the speed with which returns are realised and may **in extremis** result in severely sub-optimal allocation of resources. In reaction to this and, cynics have argued, the general fall in returns seen in funds, the private equity industry also increasingly uses a cruder measure of ‘cash-on-cash’. This is analogous to the value per £1 invested that we discussed in the valuation section in section 2. Returns of three times the original investment are often quoted in buy-outs.

**Table 3.6: Multiple of money calculated at varying years of exit and IRRs**

|               |    | IRR   |       |       |       |       |       |       |       |       |       |       |
|---------------|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|               |    | 15.0% | 17.5% | 20.0% | 22.5% | 25.0% | 27.5% | 30.0% | 32.5% | 35.0% | 37.5% | 40.0% |
| Year invested | 1  | 1.15  | 1.18  | 1.20  | 1.23  | 1.25  | 1.28  | 1.30  | 1.33  | 1.35  | 1.38  | 1.40  |
|               | 2  | 1.32  | 1.38  | 1.44  | 1.50  | 1.56  | 1.63  | 1.69  | 1.76  | 1.82  | 1.89  | 1.96  |
|               | 3  | 1.52  | 1.62  | 1.73  | 1.84  | 1.95  | 2.07  | 2.20  | 2.33  | 2.46  | 2.60  | 2.74  |
|               | 4  | 1.75  | 1.91  | 2.07  | 2.25  | 2.44  | 2.64  | 2.86  | 3.08  | 3.32  | 3.57  | 3.84  |
|               | 5  | 2.01  | 2.24  | 2.49  | 2.76  | 3.05  | 3.37  | 3.71  | 4.08  | 4.48  | 4.91  | 5.38  |
|               | 6  | 2.31  | 2.63  | 2.99  | 3.38  | 3.81  | 4.30  | 4.83  | 5.41  | 6.05  | 6.76  | 7.53  |
|               | 7  | 2.66  | 3.09  | 3.58  | 4.14  | 4.77  | 5.48  | 6.27  | 7.17  | 8.17  | 9.29  | 10.54 |
|               | 8  | 3.06  | 3.63  | 4.30  | 5.07  | 5.96  | 6.98  | 8.16  | 9.50  | 11.03 | 12.78 | 14.76 |
|               | 9  | 3.52  | 4.27  | 5.16  | 6.21  | 7.45  | 8.90  | 10.60 | 12.59 | 14.89 | 17.57 | 20.66 |
|               | 10 | 4.05  | 5.02  | 6.19  | 7.61  | 9.31  | 11.35 | 13.79 | 16.68 | 20.11 | 24.16 | 28.93 |

Source: Gilligan and Wright.



Over the years the target rate of return in a 'vanilla' buy-out has been falling due to increased competition from new entrants to the private equity market as well as reflecting the sustained period of lower interest rates and lower inflation. The rule of thumb is currently 'double your money in three years' and as shown in Table 3.5 and Table 3.6 equates to an IRR of 26%. Trebling the value of an investment in five years equates to an IRR of 25%.

The analysis above ignores the effect of both fees and yields on returns. In general an IRR can be decomposed into two elements:

$$\text{IRR} = \text{Yield to maturity} + \text{Annual capital growth}$$

Thus if an investment yields 10% (on cost) per annum and grows in value by 15% (compound) per annum, the IRR will be 25%. Continuing yield is clearly more certain than unrealised capital gain. Private equity funds will therefore seek to maximise their yield, consistent with the banking structure and investment plans of the business.

Where a cash yield cannot be paid it has become common for private equity funds to specify a preferred yield on their equity that is accrued but not paid until exit. This effectively guarantees a certain annual return to the private equity fund ahead of management. Where the yield is greater than the annual growth in capital value, this mechanism will appropriate capital from management to the private equity fund. Management and their advisers need to be very wary of structures that have a high yield accruing.

While a high yield may appropriate value, a continuing yield also reduces the required capital gain to generate the target IRR, as illustrated in Table 3.7, which may be to the advantage of management.

**Table 3.7: Impact of varying yields on the capital gain required to generate an IRR of 25%**

|               |    | Annual yield on investment |       |       |       |       |       |       |      |      |      |      |
|---------------|----|----------------------------|-------|-------|-------|-------|-------|-------|------|------|------|------|
|               |    | 25.0%                      | 22.5% | 20.0% | 17.5% | 15.0% | 12.5% | 10.0% | 7.5% | 5.0% | 2.5% | 0.0% |
| Year invested | 1  | 1.00                       | 1.03  | 1.05  | 1.08  | 1.10  | 1.13  | 1.15  | 1.18 | 1.20 | 1.23 | 1.25 |
|               | 2  | 1.00                       | 1.05  | 1.10  | 1.16  | 1.21  | 1.27  | 1.32  | 1.38 | 1.44 | 1.50 | 1.56 |
|               | 3  | 1.00                       | 1.08  | 1.16  | 1.24  | 1.33  | 1.42  | 1.52  | 1.62 | 1.73 | 1.84 | 1.95 |
|               | 4  | 1.00                       | 1.10  | 1.22  | 1.34  | 1.46  | 1.60  | 1.75  | 1.91 | 2.07 | 2.25 | 2.44 |
|               | 5  | 1.00                       | 1.13  | 1.28  | 1.44  | 1.61  | 1.80  | 2.01  | 2.24 | 2.49 | 2.76 | 3.05 |
|               | 6  | 1.00                       | 1.16  | 1.34  | 1.54  | 1.77  | 2.03  | 2.31  | 2.63 | 2.99 | 3.38 | 3.81 |
|               | 7  | 1.00                       | 1.19  | 1.41  | 1.66  | 1.95  | 2.28  | 2.66  | 3.09 | 3.58 | 4.14 | 4.77 |
|               | 8  | 1.00                       | 1.22  | 1.48  | 1.78  | 2.14  | 2.57  | 3.06  | 3.63 | 4.30 | 5.07 | 5.96 |
|               | 9  | 1.00                       | 1.25  | 1.55  | 1.92  | 2.36  | 2.89  | 3.52  | 4.27 | 5.16 | 6.21 | 7.45 |
|               | 10 | 1.00                       | 1.28  | 1.63  | 2.06  | 2.59  | 3.25  | 4.05  | 5.02 | 6.19 | 7.61 | 9.31 |

Source: Gilligan and Wright.

It is somewhat paradoxical that the impact of fees on returns is not treated consistently when calculating IRRs. From the perspective of the borrower a fee can be regarded as no different to an advanced payment of interest. Therefore all fees should be included in the calculation of the cost of funds. Private equity funds, however, generally exclude fees received from the calculation in their models. In part this reflects the different treatment of fee income in different funds.

Arguably the most appropriate measure should be to calculate present values using the hurdle rate of return of the fund for the carried interest calculation. Maximising this value would achieve maximised profit over the life of the fund and the personal rewards of the general partners and staff in the carried interest scheme.

A private equity fund manager will therefore have to form a view as to what a reasonable rate of return for a particular investment will be relative to the industry norm of aiming to achieve 25% IRR or above in successes. An acceptable rate of return will reflect the private equity manager's view of the risks, both company specific and of the overall sector and the economy.

### 3.3.2 Debt:equity ratio

The banks will expect to see an appropriate sharing of risk in a financial package. The ratio of total bank debt to equity invested is an approximate measure of this risk. Since the detailed structure of the loan package in any particular transaction is not usually publicly available at the time of a transaction, the ratio of total debt:total equity is used by many commentators as a measure of the aggregate financial risk in the buy-out market.

As discussed and illustrated earlier, the amount of debt usually rises as interest rates fall (and vice versa).

#### **Findings 3.8: Has the debt:equity ratio been increasing in private equity deals?**

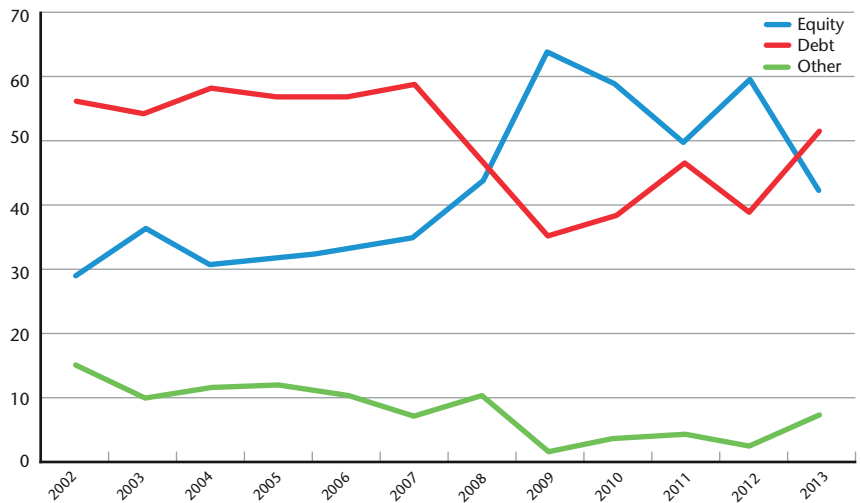
##### **The evidence**

During 2007 and subsequently, some expressed concern that the amount of debt being raised by the largest leveraged buy-outs could pose risks to both the borrowers and lenders of the debt. (See, for example, House of Commons – Treasury Committee, Private Equity, Tenth Report of Session 2006-07.)

Buy-out leverage has been found to be unrelated to the leverage of similar (matched) public companies. Rather, the economy-wide cost of borrowing and availability of debt largely drives leverage in buy-outs.

Despite these concerns and the subsequent banking crisis and recession, to date there has been no catastrophic failure by any of the largest buy-outs. The degree of leverage in private equity-backed deals fell sharply after 2007 and only began to recover in 2013 (Figure 3.14). In 2013, the average senior debt in financing structures for private equity-backed buy-outs with a deal value of €100 million or more rose above 50% for the first time since 2007. The share of mezzanine finance also recovered.

**Figure 3.14: European deal structures (deals €100m or more, %)**



Source: CMBOR/EY/Equistone Partners Europe.

### 3.3.3 Did the largest leveraged buy-outs fail during the recession?

Some transactions will have met plan and prospered despite the recession, whereas others will have underperformed. Of the 10 largest receiverships of private equity-backed buy-outs in the UK, five occurred in 2008 and the first half of 2009 (Table 3.8). However, to date, the only £1bn private equity-backed buy-out to have gone into receivership in the UK is McCarthy & Stone. It needs to be borne in mind that many companies that have no contact with private equity have also filed for protection from their creditors. However, an increasing number of debt for equity swaps have been introduced to avoid highly geared companies entering receivership.

**Table 3.8: Largest private equity-backed receiverships**

| Buy-out                               | Buy-out year | Deal value (£m) | Receivership year |
|---------------------------------------|--------------|-----------------|-------------------|
| McCarthy & Stone (Mother Bidco)       | 2006         | 1,105.3         | 2009              |
| BPC and Watmoughs/Polestar            | 1998         | 737.5           | 2008              |
| Magnet                                | 1989         | 630.7           | 1992              |
| Orchid Pubs                           | 2006         | 571             | 2008              |
| Lowndes Queensway                     | 1988         | 446.8           | 1990              |
| Greycoat/G2 Estates                   | 1999         | 282.5           | 2004              |
| XL Leisure/Excel Airways              | 2006         | 225             | 2008              |
| First Leisure (Nightclubs)/Whizalpha  | 2000         | 210.5           | 2004              |
| Automotive Product Group              | 1995         | 181.2           | 2006              |
| Finelist/Europe Auto Distribution     | 2000         | 159.2           | 2000              |
| Landhurst                             | 1990         | 157             | 1992              |
| International Leisure Group           | 1987         | 155             | 1991              |
| The Sweater Shop                      | 1995         | 150             | 1998              |
| Lambert Fenchurch/HLF Insurance/Heath | 1999         | 130.9           | 2003              |

**Table 3.8: Largest private equity-backed receiverships (continued)**

| Buy-out                               | Buy-out year | Deal value (£m) | Receivership year |
|---------------------------------------|--------------|-----------------|-------------------|
| Tempo/KF Group                        | 1999         | 130             | 2001              |
| Ethel Austin                          | 2004         | 122.5           | 2008              |
| Hollis                                | 1988         | 119.8           | 1991              |
| Yardley (Old Bond Street Corporation) | 1990         | 110             | 1998              |
| Response Group                        | 1988         | 102.8           | 1990              |
| ESM/Wafer-Fab                         | 1999         | 100             | 2002              |

Source: CMBOR/EY/Equistone Partners Europe.

### 3.3.4 How much equity do management get in a buy-out?

There are two principal determinants of how much equity management get in a buy-out structure:

- the residual claimant: the maximum a management team can get is what is left after all the other providers of finance have received their returns; and
- the motivational minimum: there will also be a minimum required in order to retain and incentivise management to deliver the business plan and hence generate the returns of all parties to the transaction.

In most buy-outs where management do not hold equity prior to the transaction, the amount of money they have to invest rarely has a significant influence on the amount of equity they receive. In many buy-outs, management are required to invest what is often called 'hurt money' ie, money that is material in the context of the individual's wealth. Although in recent years the traditional rule of thumb has begun to break down, it used to be the case that the senior manager in a team might be expected to invest in the region of the greater of one year's gross salary or a third of their net wealth in a typical buy-out (whichever was greater).

In transactions where management have a significant equity stake pre-buy-out, the position is different. The key is again to understand the impact on incentives and alignment of interests. The private equity firm will not wish to see substantial 'cash out' for the manager/shareholders who are key to the ongoing achievement of the investment thesis. They will argue that this reduction in cash at risk reduces the incentives of the management team to maximise value growth.

Conversely management will often argue that taking 'money off the table' reduces their personal risk allowing them to pursue a higher risk/higher reward strategy with their remaining wealth to the mutual benefit of themselves and the new investors.

### 3.3.5 What is a ratchet?

Where agreement cannot be reached between the private equity fund manager and management on a simple equity split, a performance ratchet may be put in place. A ratchet is a mechanism that varies the equity share of management depending on the achievement of certain objectives, typically driven by exit valuation or the IRR of the private equity fund on exit. There are two types of ratchet:

- positive ratchets increase the equity stake of the management team if certain things are achieved; and
- negative ratchets reduce the equity stake of the management team if certain things are not achieved.

Taxation of ratchets is complicated and needs careful consideration in structuring any agreement. The area has been subject to an agreement between HMRC and the BVCA and is outside the scope of this publication.

### **Findings 3.9: To what extent are managerial equity, leverage and private equity board involvement responsible for performance changes? The academic evidence**

Early studies show that management team shareholding size had by far the larger impact on relative performance compared to leverage in both US and UK MBOs (Appendix Table 12). More recent studies suggest a weaker or negative relationship. Private equity firms create active boards involving high levels of private equity firm interaction with executives during the initial typically 100-day value creation plan. Private equity firm board representation and involvement partly depends on style but is higher when there is CEO turnover and in deals that take longer to exit. Private equity boards lead strategy through intense engagement with top management, whereas PLC boards accompany the strategy of top management.

Active monitoring and involvement by private equity firms is also an important contributor to improved performance. In particular, previous experience and industry specialisation, but not buy-out stage specialisation, of private equity firms adds significantly to increases in operating profitability of private-equity backed buy-outs over the first three buy-out years. More experienced private equity firms help build better businesses as their deep experience in making buy-out deals helps them take the right decisions during the deal and after the acquisition. A clear strategic focus on specific target industries enables these private equity firms to build up and leverage expertise. Early and honest communication of what the buy-out means for the company and its employees, including targets, risks and rewards, is important in creating the motivation necessary to meet ambitious business plans. A strong and trust-based relationship between company management and private equity investors is the basis for value added involvement in strategic and operational decisions. Board size and director sector experience are positively associated with growth, while director age and the number of directorships held are negatively associated with growth.

## **3.4 Distress and restructuring**

What happens when businesses do not achieve the plans upon which the investment structure was based? There are many books written on this subject and we will therefore describe the high-level mechanisms that are put in place in many private equity structures to anticipate and deal with distressed situations and highlight the tools and negotiating positions of the various parties.

Distress is the symptom; the cause is failure to meet the business plan projections. In this section we draw a distinction between 'financial distress' and 'operating distress' which we explain below.

### **3.4.1 What are the types of company distress?**

The finances of a business are more complicated than, but in principle no different to, the finances of a household. Distress arises because of three inter connected but separate outcomes.

- **Operating distress** occurs when cash flows from day-to-day operation before financing are negative. This is due to loss making, absorbing working capital or investing in projects that do not generate cash. In household terms you spend more

than you earn before finance costs. Unless rectified, operating distress leads inevitably to insolvency.

- **Financial distress** is a special case of operating distress. It occurs when a company generates positive cash flows in its day-to-day operations, but they are insufficient to service the cash requirements of its funding structure. In household terms, you have borrowed more than you can afford to repay.
- **Insolvency** occurs when a company cannot pay its debts as they fall due to be paid (or its assets are less than its liabilities). There is a legal obligation on directors of all companies not to trade if a business is, or may reasonably be expected to become, insolvent.

Recalling the definitions of enterprise value and equity value, operating distress is the process that results in the enterprise value falling to zero. Where companies have significant borrowings, enterprise value may be positive but less than the value of the total borrowings. Financial distress is therefore when equity value is (or will become) zero or negative.

### What are the early signs of financial distress?

Earlier we described the structure of banks' financial covenants and how they interact to provide an early warning system of impending financial problems. Within a company, the first signs of distress are therefore often either a reduction of headroom against a covenant or a breach of a particular covenant or series of covenants.

Where loans are cov-lite, this early warning mechanism may be non-existent or impaired in its operation.

One particular form of weakened covenant loan emerged in the past five years or so. These loans contain covenants but also have a so-called 'equity cure provision'.

#### 3.4.2 What is equity cure?

Equity cure is the name given to the right of a shareholder to address a covenant breach by injecting further equity capital into a business to redress the covenant breach. For example, we discussed earlier the importance of the one-to-one cash covenant. This covenant ensures that a business does not create new borrowings in order to pay its existing funders. If a company breaches the one-to-one cash covenant it must either renegotiate with its banks to increase borrowings or renegotiate with all of its funders to delay payments due on the overall financing package. As a covenant breach may be an event of default (which allows a bank to seek repayment of all their loans and/or charge penalty interest) the bank will have significant power to determine the outcome of those negotiations. Equity cure allows the shareholders to pre-empt that negotiation by having the right (but not the obligation) to invest money that will address the covenant breach, typically prior to, but sometimes immediately after, it occurring. The equity injection 'cures' the covenant breach and immunises the penalties that would have been available to the banks had the covenant been breached.

In effect the parties have pre-agreed a process to address financial distress.

#### 3.4.3 What is financial restructuring?

Financial restructuring is the renegotiation of a company's financial structure to allow it to alleviate financial distress. It consists of changing the financing structure of a company's balance sheet to increase the possibility of generating positive cash flows. In many ways the questions being asked in a restructuring are exactly the same as those being asked in structuring a buy-out: 'How much debt can prudently be borrowed?' 'How much equity does a company need?' 'Are the returns on the equity requirement satisfactory?'

However, the difference in the scenario lies in the dynamics of the negotiation. Restructuring is a process of renegotiation, not recalculation, and the relative strengths of the negotiating positions are as significant as the financial arithmetic.

In a new investment each financier must compete to win the mandate to finance the investment opportunity within the constraint of an acceptable price demanded by the vendor. In a restructuring, in the absence of the option of selling their investment or simply getting another institution to refinance the position, the incumbent financiers must decide whether to invest further new money and how to reprice the existing investment to take account of the changed risks and rewards. They must therefore negotiate among themselves regarding the new financial structure that will enable the business to continue to pursue its strategic goals, or agree to a process of corporate failure.

### **When is financial restructuring possible?**

Broadly speaking, restructuring is possible when a company has a positive enterprise value but a negative (or falling) equity value ie, it is in financial distress but not in irreversible operating distress.

Prior to any investment much effort and resource is put into examining the range of possible outcomes in any investment (see section 4.9 on sensitivity analysis). Similarly much due diligence is undertaken to attempt to verify the assumptions that underlie the business plan. However, no matter how much due diligence and sensitivity analysis is undertaken, a judgement on the likely variance around the company's base plan may turn out to be incorrect.

Financial structures are engineered with an often implicit assumption about the range of possible future environments that they will have to withstand. If the world turns out to be more hostile, the structures will not operate efficiently. In general there is a trade-off between flexibility (which is the ability to withstand volatility) and cost.

Typically distress arises from one or a combination of three reasons:

- the company's internal inability to achieve its objectives;
- the external market for the company's goods and services changes; or
- the external market for finance changes.

Similarly problems may manifest themselves along the spectrum between two extremes:

- failure to achieve a given target ie, 'missing a target'; or
- a delay in the rate of progress towards achieving a target ie, 'being too slow'.

Irrespective of which source of distress is manifested, the first step in addressing the problem is to prudently reassess the business plan of the company and the available resources, including management resources.

#### **3.4.4 What is a 'hair cut' and who bears it?**

When a company fails to generate sufficient cash to service its trading liabilities it is in danger of being insolvent. Trading insolvency can only be rectified by rescheduling a company's liabilities or by injecting new cash into the business. Generally banks will not lend money to rectify cash flow problems that arise from trading difficulties unless they can be persuaded that the shortfall has arisen because of a timing delay that will be rapidly rectified. Banks will normally expect the equity investors to make good any shortfall in operating cash flows by injecting new equity.

However, in many situations the complex interaction of incentives and threats results in a sharing of the cost of any shortfall thus decreasing their return. Those bearing these costs are said to have 'taken a hair cut'.

### 3.4.5 What powers does a secured lender have?

In general, since banks have security over the assets of the company, nothing can be done to restructure a company with borrowings without agreeing the restructuring with the banks. They therefore hold an extremely strong negotiating position in any restructuring.

However, banks do not have the resources to actively manage the companies that have borrowed and they must therefore accommodate the reasonable aspirations and motivations of management who will manage the company out of distress.

Furthermore, as banks have traditionally been reliant on private equity firms for new transactions, the broader commercial inter relationships must also be borne in mind by any bank during any restructuring.

There are a number of alternatives open to a bank with security.

#### **Receivership**

A secured lender whose loan is in default can seek to recover their debt by selling the assets over which they have security in a receivership. It is extremely rare that equity holders receive anything in a receivership. This is therefore the end of an attempt to restructure and effectively represents the failure of the business. The threat of receivership is, in most circumstances, more powerful than the actual receivership.

The banks' decision to appoint a receiver will be driven by their perceptions of the prospects for the business and their assessment of the amount of their lending that is at risk if a receiver is appointed.

#### **Enforce priorities**

The layering of debt, mezzanine and equity were illustrated earlier. The agreements between the parties will contain provisions to ensure that if the lenders with the highest priority over the company's cash resources (the senior secured lenders) are not receiving either their interest or capital repayments, then the lenders and investors that have lower priorities (or are 'subordinated' to them) will also not be paid. Thus the financial pain of underperformance falls first upon the holders of financial instruments with the lowest priority.

However, as we have seen, in many buy-outs yield is rolled up and capital repayments on the least secure redeemable instruments (unsecured loans and redeemable preference shares) are made in a single bullet repayment after all the debt has been repaid.

Therefore, there is no cash cost to the equity holders until the repayments are due.

This leaves management in a position where the cost of the capital structure is increasing with no compensatory increase in their projected rewards. At some point the incentive of management will fall below the minimum necessary to retain and/or motivate them. In this scenario the equity illusion is stripped away and management are highly motivated to initiate a restructuring. The private equity investor continues to roll up yield throughout the negotiations, albeit that the yield may be written off as part of the restructuring.

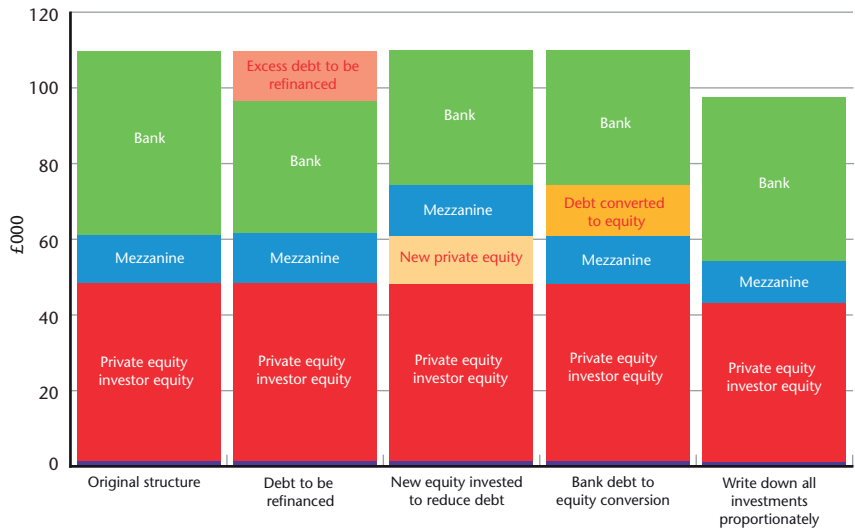
#### **Increased cost of funds**

Where companies breach agreements, banks will always seek to increase the cost of funds to compensate for the increased risk. However, financial distress is characterised by an inability to service a capital structure and therefore increased interest costs may make the overall company situation more perilous.



### 3.4.6 What tools are available to restructure a balance sheet?

Figure 3.15: The limits of the most common restructuring options



Source: Gilligan and Wright.

In Figure 3.15 above we illustrate the various options that are available to restructure a balance sheet that has too much debt. In practice these are the limits of what could be achieved and most reconstructions would use a hybrid solution incorporating elements of each approach depending upon how the parties to the restructuring discussions judge the individual circumstances and prospects of the company and, equally importantly, the balance of power within the negotiations.

#### Reschedule and reprice the existing debt

If a lender believes that a solution can be found it is possible to alleviate the cash burden of the higher cost of funds by rescheduling debt repayments. However, increasing the term of a loan further lengthens the duration of the risk that the lender is exposed to and the banks will therefore seek further compensation either in the form of fees or increased margins (or both). This repricing may include a so-called 'equity kicker'. This is a mechanism (typically warrants or options to purchase equity) that allow the loans to earn a return that reflects the increased risks of the structure. Essentially a part of the debt package is repriced as a mezzanine risk.

#### Inject new equity

It is unlikely that a private equity fund would simply invest new equity to reduce debt as illustrated, but if there is a plan that justifies new equity, or the banks require an increase in equity to continue to support the business, then this may be required. Recall that equity cure is simply a pre-agreed injection of new equity that enables a rapid restructuring to occur.

#### Debt for equity swap and 'loan-to-own'

Where the bank perceives the risks that it is taking are closer to those of an equity investor than a bank, it is common to reschedule and reprice debt to include the conversion of a portion of the debt into equity. This will dilute the equity holding of the existing shareholders, including management, and the impact on incentives requires careful consideration. The pricing of the equity will need to reflect the changed

circumstances of the company. Ultimately, a bank may take control of the equity in the company with the private equity fund being completely removed from the ownership of business. The bank moves from being a lender to being a shareholder; so-called 'loan-to-own'.

### **Write off a portion of the loans**

If a company simply has too much debt then at some point this will have to be recognised. In the traditional banking model where loans were held by the arranging banks and a few syndicate banks, the company and equity investors could negotiate with the banks to write off a portion of the debt as part of an overall restructuring. This will normally be accompanied by an injection of new equity or other such contribution from the other funders.

#### **3.4.7 Summary**

Any restructuring is a negotiation in which the debt holders have a strong influence. It will typically involve a series of questions, starting with the assessment of the prospects of the business in its changed circumstances. The parties to the restructuring will negotiate with each other to redistribute the changed risks and seek to receive an appropriate reward in the riskier environment.

#### **3.4.8 What are the differences in restructuring publicly traded debt?**

##### **The paradox of syndication**

As the banking model has changed to include the issuing of more publicly quoted bonds in support of buy-outs the number of participants in a restructuring has multiplied. Since any restructuring is a process of negotiation and creation of a revised consensus often against a severe time constraint, the proliferation of holders of debt in buy-outs makes any restructuring significantly harder to achieve. Even where there are designated syndicate leaders who represent and negotiate on behalf of all bond holders, they must influence the broad church of the syndicate members which often slows and complicates any renegotiation.

It is widely accepted that the growth in the issuance of publicly traded debt in larger buy-outs has made restructuring slower and more difficult to achieve.

Therefore, in widely syndicated transactions, especially those involving publicly traded debt, negotiating any form of restructuring can be significantly more time consuming and problematic. This has resulted in a paradoxical situation: wide syndication of debt is used as a risk mitigation mechanism for the lenders, who reduce their exposure to any one company, and borrowers, who reduce dependence on a single borrower. However, when the risks that are being mitigated start to crystallise, wide syndication makes timely response to those risks more difficult and costly, which in itself increases the risks to both the lender and the borrower.

##### **Why is there a growing use of distressed debt funds?**

There have always been specialist investment funds that only invest in distressed debt (and sometimes distressed publicly traded equity). In some cases these funds are based on a trading strategy that argues that the debt is undervalued. In others they adopt an 'active value' model whereby the fund actively engages in the negotiations to restructure the company. Following the credit crunch many private equity funds have either launched distressed debt funds or are actively evaluating the possibility of doing so. Many private equity funds have sought to acquire the debt that supported their own original buy-outs either through direct purchases of the debt or by setting up specialist distressed debt funds exclusively targeting underperforming loans.

The growth of traded buy-out bonds has also resulted in the emergence of new mechanisms to reduce debt for individual companies. In particular it has become possible for companies to buy back publicly traded debt at values below par using free cash and/or an equity injection. For example, Alliance Boots, the largest ever UK buy-out, reported that it had repurchased £468m of its debt at prices below 70p in the pound financed by a mixture of cash generated by the business and £60m of new shares issued to the investors.

### **What are credit default swaps? A perverse new set of incentives**

Credit default swaps (CDS) are a form of hedging instrument. They allow a lender to swap their risk of default with another party. They are often described as a form of insurance that will pay out if the original borrower defaults on the loan agreement. However, despite being described as a form of insurance, there are significant differences in both the operation and regulation of a CDS. As with most financial terminology, the term 'CDS' covers an array of different contractual arrangements and each situation is potentially different.

A CDS is actually closer to a third-party guarantee of a loan agreement than a hedge policy. The guarantor receives a guarantee fee and underwrites the default risk but is not regulated, financed or accounted for like an insurance company.

However, one of the important differences between CDS and insurance for the restructuring market is the fact that CDS are tradable securities. In a genuine insurance contract the insured must be able to show a loss to receive a pay out. With CDS, institutions can trade their positions with those who have no risk of loss. In effect it allows institutions to hedge against losses that they will not incur.

This creates the opportunity to acquire CDS cover and to frustrate the restructuring of otherwise viable companies. For example, any holder of a loan benefiting from a credit default swap with a strong counterparty may have more incentive to seek the default on the loan it holds than to agree to a restructuring that may require debt holders to take a hair cut. To complicate matters further, a restructuring itself may be defined in the CDS as an event of default.

As noted earlier, restructurings are often time critical and a failure to achieve a restructuring may result in the evaporation of confidence in an organisation, making a previously viable company fail. The existence of CDS positions has created concerns that the time taken to negotiate with those who hold these guaranteed positions may stop otherwise agreed restructurings. There may be many market participants who have a perverse incentive to seek a bankruptcy rather than rescue a business, whether it is viable or not.

#### **3.4.9 Equity investors: the impact of distress**

The first impact of financial distress should be recognised in the valuation of the investment within the fund. A reduction in portfolio value generally reduces fee income.

The second impact of falling valuations is to reduce the pro-forma returns of the fund (ie, the returns to date based on current valuations). This will make any contemporaneous fund-raising, which will be based among other things on the latest fund returns, proportionately more difficult.

It should also be appreciated that falling investment valuations reduce the prospective value, or increase the risks to the value, of any carried interest. Where an investment is a material part of the fund's portfolio value this can be a severe impact on the ability to recruit and retain key people, especially readily marketable non-partners who will see their share of any carried interest reduce.

There are therefore a strong set of incentives to restructure any investment to recover value both in the short and longer term.

#### 3.4.10 Equity investors: what are the options?

As active investors, private equity funds have the contractual ability to make changes to the company that bankers generally do not have. Banks may have strong negotiating positions as a result of their security arrangements and the threat of receivership, but the private equity investors have contractual levers that are readily available to effect rapid change in management and/or strategy.

In any restructuring, it is universally recognised that something must change. Businesses that are failing to perform to plan stretch their funding packages and if the underperformance is outside the tolerances of the scheme design then either the company must be changed to fit the capital structure or vice versa, or a combination of the two.

##### **Change the company**

Changing the company may mean the same people adopting a new strategy, but it also often means changing elements of the management team. Private equity funds will actively replace management team members, including chief executives and chairmen, and replace them with people who are believed to have turnaround expertise.

This process has created an entirely new market in professional company doctors whose careers are a series of either part-time non-executive roles or full-time turnaround roles for private equity-backed companies. Incentivising the new management and realigning the incentives of any existing management is a key part of any restructuring proposition.

Similarly they will use external consultants and advisers to evaluate the options going forward. The investment agreement will allow the costs of these external analyses to be charged to the company rather than being borne by the fund or the manager.

##### **Change the finance structure**

###### **Inject new equity**

If a business simply has too much debt, it may be reasonable to inject new equity and restructure the banks' debt. Since the existing equity structure will have been predicated on a required return (and an assumption of risk) there will need to be at least one of the following:

- an increase in the equity stake of the investors, or equivalently a reduction in management's equity;
- an increase in the preferred yield of the investment; or
- an increase in the expected value of the business at exit.

The first two will, other things being equal, reduce the return to management and may create significant disincentive effects that need to be managed. The latter is unlikely to be a key driver due to the dynamics of the negotiation. It is difficult to argue successfully that the terminal value of a company in distress has increased since the original investment.

###### **Purchase the debt**

Debt purchase has been more common in the current recession than ever before. This reflects two unrelated facts: firstly there is more publicly traded LBO debt in larger buy-outs, and secondly the unrelated failure and distress of many banks active in the buy-out market has provided unprecedented opportunities to acquire debt in even mid-market

buy-outs. Debt repurchases can be achieved in two different ways: either the company can use its own resources to buy in and cancel debt, or the investors, through a separate fund, can buy debt. When debt is bought by the company and cancelled the full costs and benefits of purchasing the debt accrue to the company and all of its shareholders.

In the case of a separate fund purchase the costs and benefits are more complicated. Purchasing debt at the fund level can be preferable to injecting new equity into the company to purchase debt as the private equity fund gains access to the security of the existing senior debt, becoming part of the banking syndicate. They can therefore influence the behaviour of the debt syndicate directly. They will of course also benefit from any uplift in the value of the debt acquired. However, unless the debt is cancelled or restructured, no benefit accrues to the company.

There are, therefore, potentially significant conflicts of interest where investors in an equity fund are not minded to become investors in a distressed debt fund designed to acquire debt in existing equity investments. The control of this type of potential conflict is a matter for the fund agreement.

### **Reprice the equity**

Irrespective of how the restructuring is undertaken, it would normally be expected that the equity would be repriced using the tools noted above ie, a higher equity stake or a higher preferred yield.

#### **3.4.11 What is the position of management in a restructuring?**

We have explained above that in any restructuring the bank will almost always have very significant influence over the outcome. Furthermore, if the private equity investor is to invest further equity this will generally have a higher cost than the existing equity, either in yield or equity percentage or both.

We have also explained earlier that management's equity stake is determined as either the residual amount available after the private equity fund has achieved a satisfactory return or as the minimum necessary to retain and motivate key people.

Furthermore we have argued that to change the company it is often necessary to change the management team or its strategy.

In these circumstances management's negotiating position is apparently weak. However, the commercial position depends upon whether or not the individuals concerned are part of the plan to turn the business around or if they are going to leave the company as part of the restructuring.

If management are to stay (or, in the case of new management, join) the position is essentially a repetition of the position at the date of the original investment, adjusted for the new risks. Given the equity return requirements outlined above it is not uncommon to see extremely high risk/reward structures in rescues, often with very aggressive ratchets to strongly reward recovery and generation of value.

If management are to leave, there will almost always be a 'good leaver/bad leaver' clause in the original shareholders' agreement.

#### **3.4.12 What is a good leaver/bad leaver?**

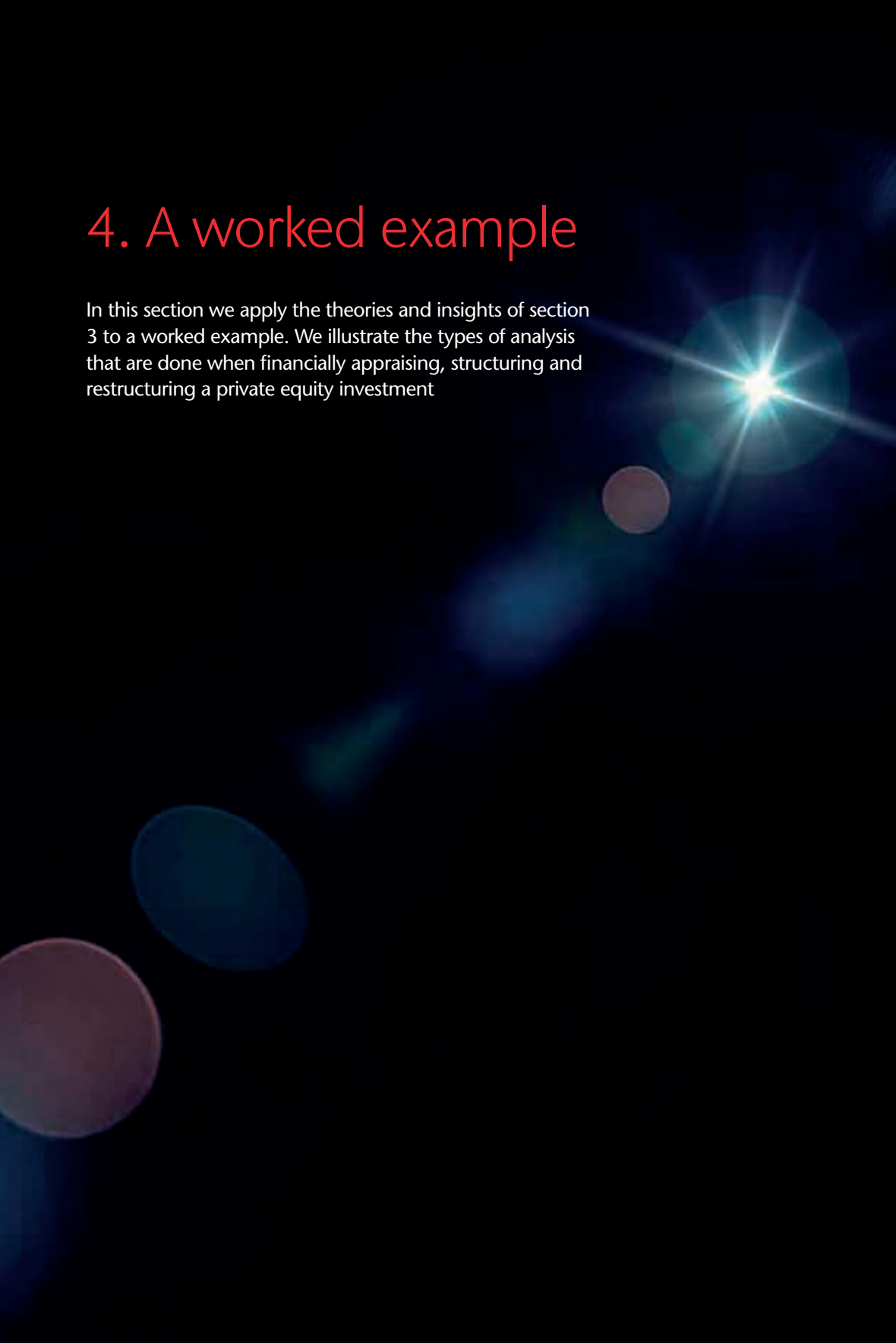
It is normal in a private equity deal that there will be a clause in the contract that will state that if a key person leaves the business they must sell their shares back to the company. The contract will go further and state that a 'good leaver' will receive market value for their shares, whereas a 'bad leaver' will receive the lower of cost or market value. The definition of a bad leaver is negotiated as part of the initial transaction but

will typically, at a minimum, include both some definition of dishonesty and lack of competence. Therefore, in contrast to some public companies, in the vast majority of private equity-backed companies there are no golden parachutes for senior managers who do not perform as expected.

There is no academic research examining the effect of this difference in the risk profile of senior management between public and private equity-backed companies. It is however a material and important difference in the corporate governance model.

# 4. A worked example

In this section we apply the theories and insights of section 3 to a worked example. We illustrate the types of analysis that are done when financially appraising, structuring and restructuring a private equity investment



## 4.1 A detailed worked example of a leveraged buy-out

This section presents a necessarily detailed, but fictional, worked example of a transaction structure. It is intended to illustrate a financial structure and explain both the logic of the tailoring of the financial package and the complicated tax impacts of financial engineering. Our intention is to give an insight into the questions being asked and the analyses undertaken prior to and during an investment.

### 4.1.1 Operating profit projections

The operating projections of the target company are summarised in Table 4.1 and Figure 4.1 below.

The fictional business plan of a company is being evaluated by a private equity investor and bankers. The actual figures represent the performance in the year prior to the proposed investment. The subsequent years are forecasts.

**Table 4.1: Operating profit projections**

| Operating projections | Actual<br>£000s | Year 1<br>£000s | Year 2<br>£000s | Year 3<br>£000s |
|-----------------------|-----------------|-----------------|-----------------|-----------------|
| Turnover              | 167,250         | 158,888         | 163,654         | 168,564         |
| Cost of goods         | (91,988)        | (87,388)        | (83,464)        | (85,968)        |
| Gross margin          | 75,263          | 71,499          | 80,191          | 82,596          |
| Overheads             | (62,500)        | (60,938)        | (61,547)        | (63,393)        |
| Lease costs           |                 | (400)           | (800)           | (800)           |
| EBITDA                | 12,763          | 10,162          | 17,844          | 18,403          |
| Depreciation          | (5,000)         | (4,167)         | (2,639)         | (2,616)         |
| Restructuring costs   | 0               | (3,500)         | 0               | 0               |
| EBIT                  | 7,762           | 2,495           | 15,205          | 15,787          |
| Growth in turnover    |                 | -5.0%           | 3.0%            | 3.0%            |
| Gross margin          | 45.0%           | 45.0%           | 49.0%           | 49.0%           |
| Overhead inflation    |                 | -2.5%           | 1.0%            | 3.0%            |
| EBITDA %              | 7.6%            | 6.4%            | 10.9%           | 10.9%           |
| EBIT %                | 4.6%            | 1.6%            | 9.3%            | 9.4%            |

Sales fall due to increased pricing and stock clearances at lower prices

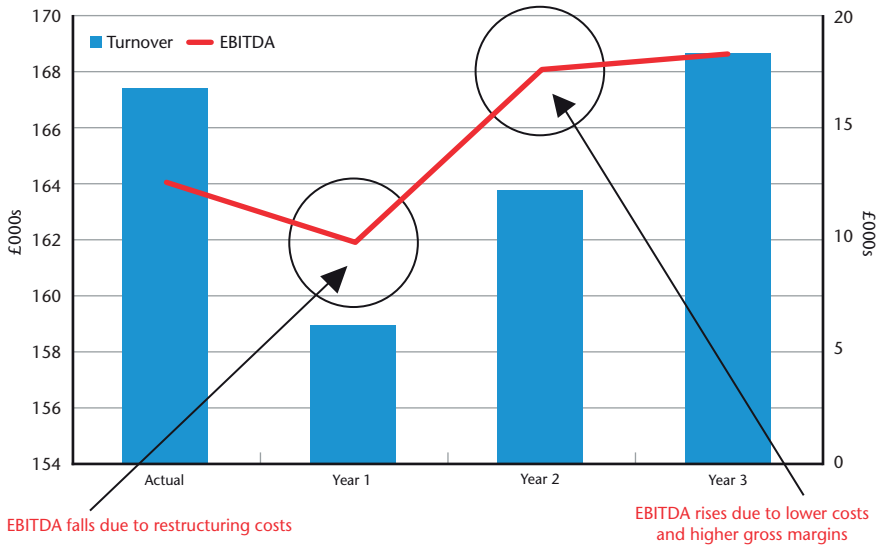
Gross margins rise after stock clearances due to increased pricing

Lease charges arise from the sale and leaseback of properties

Restructuring costs of £3.5m reduce overheads by £1.6m per annum



**Figure 4.1: Actual and forecast sales and profit**



The cash flows of the business reflect one-off costs and gains, followed by the ongoing cash generation of the restructured business. The one-off costs and gains are:

- the restructuring of overheads;
- the inflow from the sale and leaseback of £10m of freehold properties; and
- material changes in the working capital profile of the business.

The ongoing changes include both the resulting changes in margins and the costs associated with the new lease arrangements put in place as part of the sale and leaseback.

#### 4.1.2 A note on valuations

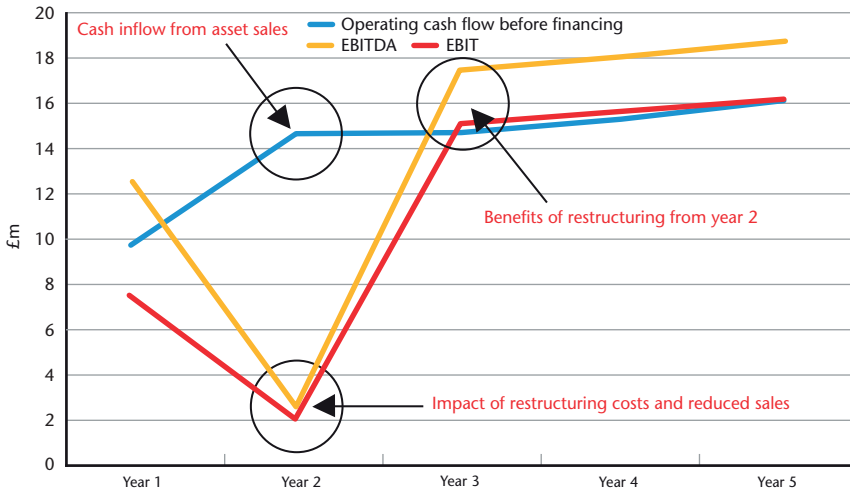
Note that in this example any valuation completed at the end of year 2 based upon an earnings multiple or net assets would result in a reduction in the investment's value. This is clearly a planned consequence of the investment strategy. In consequence, despite the valuation discussion above, this investment could be argued to be carried at cost. The example highlights the difficulties that mechanistic valuations can create.

#### 4.1.3 Cash flow projections

**Table 4.2: Actual and forecast operating cash flows**

| £000                             | Actual  | Year 1  | Year 2  | Year 3  |
|----------------------------------|---------|---------|---------|---------|
| EBITA                            | 7,762   | 2,495   | 15,205  | 15,787  |
| Ongoing capex                    | (2,000) | (2,500) | (2,500) | (2,500) |
| One-off capex                    | –       | (2,500) | –       | –       |
| Depreciation                     | 5,000   | 4,167   | 2,639   | 2,616   |
| Working capital                  | (500)   | 3,262   | (292)   | (301)   |
| Proceeds of sale of fixed assets | 0       | 10,000  | 0       | 0       |
| Operating cash flow              | 10,263  | 14,924  | 15,052  | 15,602  |

Figure 4.2: EBITDA and operating cash flows



The illustration is based upon a number of structural and strategic changes to the business acquired that are commonly seen in private equity transactions, including the following.

- **Asset disposals:** the plan assumes a sale and leaseback of £10m of assets during the first year after the transaction. This creates a new lease charge in the profit and loss account as well as a cash inflow from the sale. Note that the depreciation charge falls in year 2 because of the sale of assets.
- **Overhead reduction:** there is a planned reduction of overhead costs by £1.6m (-2.5%) in year 1. It is assumed that the restructuring costs will be £3.5m in year 1. The reduction might be achieved by simple cost cutting but might also involve staff redundancies.
- **Price increases:** the plan projects an increase in gross margins from 45% to 49% by increasing prices. This price rise is projected to result in a 5% fall in sales in year 1. Year 1 also includes a stock clearance sale that temporarily holds gross margin at 45% by changing the mix of products sold.
- **Increased investment:** to achieve efficiency gains, a one-off increase in capital expenditure of £2.5m is included to update the assets of the business.
- **Working capital improvement:** the amount of working capital in the business is also forecast to reduce in year 1, generating a positive cash flow. This reflects a step change in the rate at which debtors are collected and creditors are paid and the stock clearance noted above.

Thereafter, both costs and revenues are forecast to grow at 3.0% pa and working capital grows proportionate to sales growth.

#### 4.1.4 A profit bridge

A common analysis undertaken in most major restructurings is to construct what is known as a profit bridge. This seeks to isolate the impact of each of the various actions on overall profitability. It always needs to be appreciated that the arithmetic presentation necessarily disguises the interaction of the various factors; for example, restructurings

impact morale which may impact the motivation and productivity of the people of a business in complex and unpredictable ways. No profit bridge can illustrate these interconnections.

While recognising its limitations, it is very commonly used by financial analysts, investors and accountants.

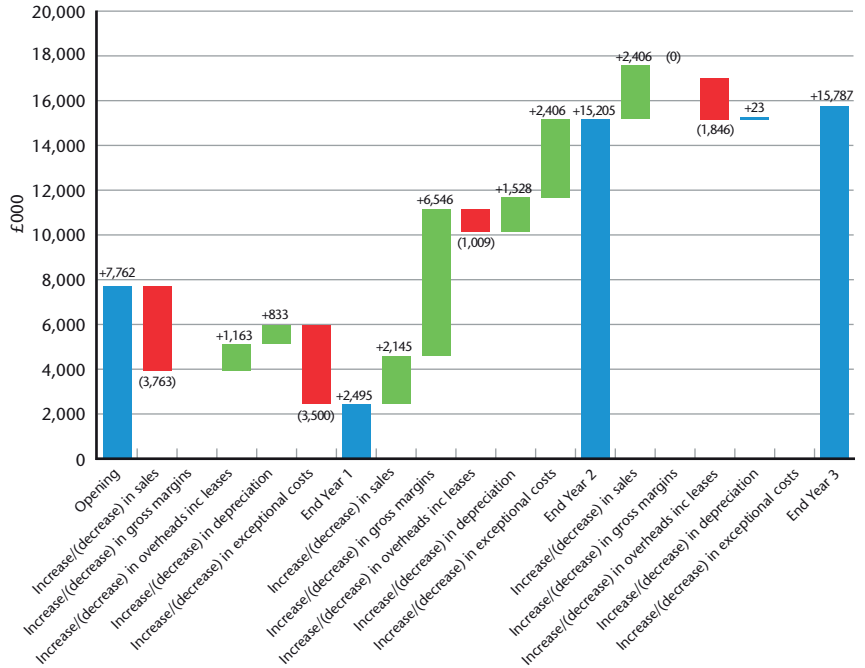
**Table 4.3: Profit bridges**

| £000                                | Year 1  | Year 2  | Year 3  |
|-------------------------------------|---------|---------|---------|
| Incr/(Decr) in sales                | (3,763) | 2,145   | 2,406   |
| Incr/(Decr) in gross margins        | 0       | 6,546   | (0)     |
| (Incr)/Decr in overhead inc. leases | 1,163   | (1,009) | (1,846) |
| Incr/Decr in EBITDA                 | (2,601) | 7,682   | 559     |
| (Incr)/Decr in depreciation         | 833     | 1,528   | 23      |
| (Incr)/Decr in exceptional costs    | (3,500) | 3,500   | 0       |
| Incr/Decr in EBIT                   | (5,267) | 12,710  | 582     |
| Opening EBITDA                      | 12,763  | 10,162  | 17,844  |
| Incr/Decr in EBITDA                 | (2,601) | 7,582   | 559     |
| Closing                             | 10,162  | 17,844  | 18,403  |

Step change in profit is driven by higher gross margins

One-off restructuring costs

**Figure 4.3: EBIT: profit bridge**



The profit bridge highlights the salient features of this investment proposal. The business is restructured to achieve higher gross margins. Thereafter it grows at a broadly inflationary rate. This is important in structuring the investment since the vast majority of value will be created by the implementation of the plan in the early years of the investment. Thereafter, unless a new strategy is put in place that will accelerate growth in profitability, value accrues more slowly.

#### 4.1.5 Funding requirement

The task for investors is to structure an investment proposal against these projections (and the sensitivities) and offer an assumed purchase price (enterprise value) of £100m to the shareholders, representing a ratio of enterprise value/EBIT of 12.9 times. The purchaser must also fund ongoing periodic working capital requirements (overdrafts, letters of credit, hedging etc) and pay the costs of the funders and advisers. Furthermore, if UK shares are acquired, stamp duty may be payable at 0.5% of the value of the offer.

**Table 4.4: Funding requirement**

| Requirements                 | £000    |   |
|------------------------------|---------|---|
| Purchase of 100% of shares   | 90,000  | ← Equity value or market capitalisation |
| Refinance 100% existing debt | 1,000   |   |
| Enterprise value             | 100,000 | ← Enterprise value                      |
| Periodic working capital     | 2,500   |   |
| Stamp duty @ 0.5%            | 450     | ← 0.5% of the price paid                |
| Transaction fees inc. VAT    | 5,550   |   |
| Total requirement            | 108,500 |   |
| Enterprise value             | 100,000 |   |
| Current EBIT                 | 7,762   |   |
| EV/EBIT                      | 12.9    |   |
| Equivalent P/E ratio         | 17.9    |   |

#### 4.1.6 What are the transaction fees and expenses?

Transactions costs are a significant element in the funding requirement. These fall into a number of categories.

##### Transaction taxes

Any acquisition potentially creates a number of taxes that have to be paid at completion; the most common of which is, in the UK, stamp duty. In the UK stamp duty is a tax payable on share purchases at 0.5% (subject to certain exemptions and reliefs) .

In addition to stamp duty there is VAT payable on many of the advisory fees, some recoverable, some not, that are discussed below.

##### Investors' and lenders' fees

**Arrangement fees:** all lenders and investors generally charge fees as upfront payments when they invest. As discussed earlier these fees may result in changes in incentives and risk/reward profiles.

**Monitoring fees:** many lenders and investors charge further ongoing fees to recover the costs of their ongoing monitoring of any investment or loans.

**Underwriting fees:** where a lender or investor is prepared to temporarily take on the full amount of the loans and/or investment prior to a later syndication, this underwriter will charge an underwriter's fee.

From the perspective of the borrower all of these fees are simply costs of doing the transaction, and in assessing the overall cost of funding the transaction should be treated in the same way as interest or any other costs.

### Advisers' fees

We saw in section 2 that there are a number of legal and financial advisers in any transaction. Each will require payment from the acquirer or vendor. The acquirer's costs will be recharged to the Newco set up to make the acquisition.

#### 4.1.7 What are contingent fee arrangements?

Contingent fees are fees that are only payable on the successful conclusion of a transaction. They transfer the risks (and rewards) of providing a particular service from the private equity funder of a transaction to their advisers. They also reduce the fixed costs of the users of advisers, but increase their variable costs.

Where the advisers are retained to advise whether or not to pursue a particular investment, contingent fees create conflicts of interest for the advisers: the adviser has no incentive to advise against doing any particular deal, but strong incentives to promote a transaction. The constraint on promoting poor transactions is two-fold. Firstly, there is a direct liability issue for poor advice. The limit of the liability of advisers who give poor advice is defined in the terms of their engagement with their client. Secondly, there is the impact of reputational risk on the ability of an organisation to generate new business.

Over the years there has been a great deal of discussion between the professionals providing services and banks and private equity houses regarding contingency and the amount and form of the liabilities of advisers. In the UK, the Financial Reporting Council, ICAEW and other professional bodies place limits on the services that may be provided on a contingent basis.<sup>1</sup>

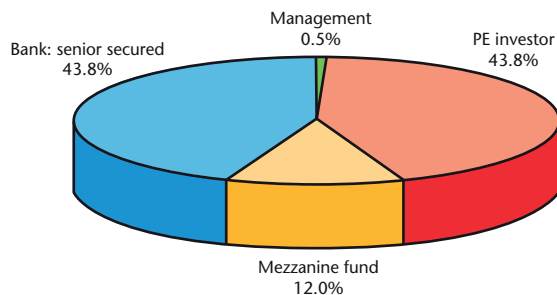
#### 4.1.8 A funding structure

The funding structure needs to accommodate:

1. the purchase price of the shares;
2. the treatment of the expected proceeds from the planned sale of assets, which will enable some of the loans to be repaid early;
3. working capital requirements; and
4. fees and other costs associated with the transaction.

A wide array of potential funding solutions could be constructed. The version presented here is illustrative only.

Figure 4.4: Sources of funds



<sup>1</sup> See APB Ethical Standard 5 (Revised) *Non-Audit Services Provided To Audited Entities*, April 2008 and *Ethical Standards for Reporting Accountants*, October 2006, published by the Financial Reporting Council.

**Table 4.5: Sources of funding**

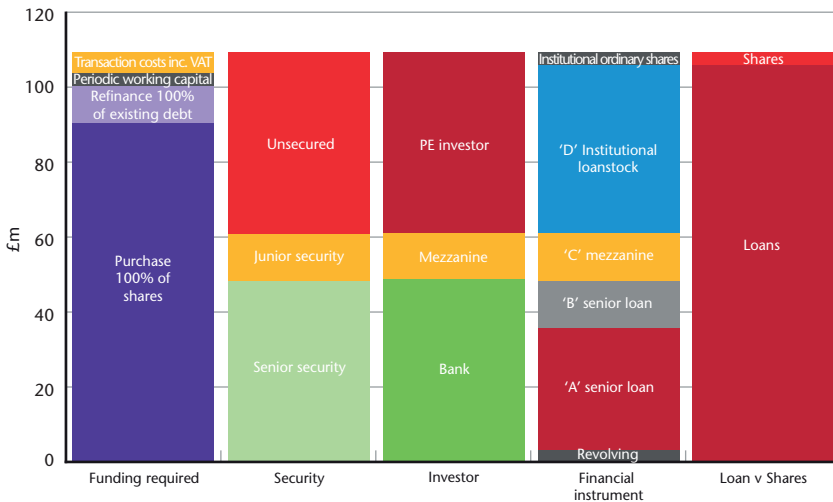
| Funding structure       | £000    | %     |
|-------------------------|---------|-------|
| Management              | 500     | 0.5   |
| Private equity investor | 47,500  | 43.8  |
| Mezzanine               | 13,000  | 12.0  |
| Bank                    | 47,500  | 43.8  |
| Total                   | 108,500 | 100.0 |

Around 44% of all funding in the example comes from the private equity investors. The same amount (including working capital facilities) comes from secured banking and the balance (12%) is in the form of mezzanine finance, which would probably be provided by a specialist mezzanine fund.

In section 3, we explained how the layers of finance are structured to take account of the available security and cash flows. Using these methods and analytical techniques a detailed structure of the transaction is given below. It is important to understand that there may be a number of different capital structures that are appropriate to the business and that there is no one right answer to this type of analysis. There is an intimate relationship between the capital structure chosen and, for example, the future strategy of the business, as well as the expectations of the parties to the deal regarding the future volatility and growth in the external market and the appetite of all parties for risk.

Figure 4.5 shows the progression from the funding requirement to the detailed financial structure and finally the share:loan split. The graphic illustrates how risk is allocated between banks, mezzanine providers and equity investors, but nevertheless most of the invested monies are in loans, not shares.

**Figure 4.5: The funding package is analysed by funding requirement, security available, source of funds, detailed financial instrument and type of financial instrument**



**Table 4.6: Illustrative financing structure**

| Funding structure             | £000    | % of funding | % of equity |
|-------------------------------|---------|--------------|-------------|
| Management                    | 500     | 0.5          | 17.5%       |
| Private equity investor       |         |              |             |
| Institutional ordinary shares | 2,300   |              | 80.5%       |
| 'D' institutional loanstock   | 45,200  |              |             |
|                               | 47,500  | 43.8         |             |
| Mezzanine                     | 13,000  | 12.0         | 2.0%        |
| Bank acquisition finance      |         |              |             |
| 'A' senior loan               | 32,000  |              |             |
| 'B' senior loan               | 13,000  |              |             |
|                               | 45,000  | 41.5         |             |
| Acquisition price + costs     | 106,000 |              |             |
| Periodic working capital      | 2,500   | 2.3          |             |
| Total funding                 | 108,500 | 100.0        | 100.0%      |

Management 'hurt money' has no impact on equity percentage

Private equity invests in a mix of shares and loans

Mezzanine generates returns from both yield and capital gain using warrants

Bank invests in layers of debt

The overall structure contains seven different layers of finance as explained below.

The banking and mezzanine package (including the working capital facility) provides 55.8% of the total funding package and consists of four layers.

1. A revolving facility to fund periodic working capital movements during the trading year. This is in effect an overdraft facility and is secured alongside the senior loans.
2. 'A' senior loan: a loan at an interest rate of LIBOR<sup>2</sup> + a margin, generally with a flat repayment profile repaid in equal annual instalments. In this example there is a significant cash inflow from asset disposals which will be used to repay part of the 'A' loan in year 2. This payment is calculated using a so-called 'cash sweep' mechanism whereby all operating cash flow in the particular period is applied to repaying the loan.
3. 'B' senior loan: this is a loan that is repaid after the 'A' loan at a higher margin above LIBOR to reflect its longer term. For security purposes it ranks alongside the 'A' senior loan. Typically this would have been a 'bullet loan' ie, repayable in a single instalment after the 'A' Loan, but in this example it starts to be repaid after year 3 reflecting the early repayment of part of the 'A' loan.
4. 'C' mezzanine loan: a long-term loan ranking after the 'A' and 'B' senior loans for security purposes, and repayable after the senior debt has been repaid. To reflect the increased risk of this loan, the interest rate is higher and the loan also has an equity warrant entitling the mezzanine providers to subscribe for 2% of the equity of the group.

The private equity fund provides funding in two layers.

5. 'D' PIK institutional loanstock: this loan ranks after the senior debt and mezzanine, is unsecured and therefore carries significant risk. The loan is a PIK loan which, as explained in section 3, rolls up its interest by issuing further loan notes rather than paying interest in cash.

<sup>2</sup> See glossary for definition.

6. Institutional 'A' preferred ordinary shares: these shares will have preferential rights when compared to the other ordinary shares invested in by management.

As we illustrated in section 3, the private equity fund is seeking to maximise the blended return on their total investment in the scheme. The relative cost of each layer provided by the private equity fund is therefore less significant than the blended cost of the layers taken together.

As noted above, the management provide a nominal investment which is not significant in the total funding structure, but represents the 'hurt money' commitment of the key people that the private equity investor wishes to incentivise. This is provided as the following.

7. Ordinary shares: these have none of the preferred rights of the 'A' ordinary shares other than to share in capital gains.

#### 4.2 The impact of leverage on profits and cash

The proposed funding structure is overlaid on the operating projections in Table 4.7 showing the projected profit and loss account ('P&L account') after funding costs.

Table 4.7: Summary of projected profit and loss after funding\*

| Summary of projected consolidated profit and loss accounts | Actual<br>£000 | Year 1**<br>£000 | Year 2<br>£000 | Year 3<br>£000 | Year 4<br>£000 |
|--|----------------|------------------|----------------|----------------|----------------|
| Turnover   | 167,250        | 158,888          | 163,654        | 168,564        | 173,621        |
| EBITA  | 7,762          | 2,495            | 15,205         | 15,787         | 16,383         |
| Goodwill amortisation                                      |                | (3,148)          | (3,148)        | (3,148)        | (3,148)        |
| EBIT   | 7,762          | (652)            | 12,057         | 12,640         | 13,245         |
| Interest   |                |                  |                |                |                |
| 'A' senior   |                | (1,440)          | (1,200)        | (763)          | (572)          |
| 'B' senior   |                | (715)            | (715)          | (715)          | (715)          |
| 'C' mezzanine  |                | (1,560)          | (1,755)        | (1,755)        | (1,755)        |
| 'D' institutional loanstock                                |                | (4,520)          | (4,972)        | (5,469)        | (6,016)        |
| Overdraft/cash on deposit                                  |                | 117              | 17             | 25             | (35)           |
|  | (800)          | (8,118)          | (8,625)        | (8,677)        | 4,203          |
| Profit before tax  | 6,962          | (8,770)          | 3,432          | 3,962          | 4,203          |
| Tax  | (1,950)        | (1,750)          | (3,371)        | (3,751)        | (4,039)        |
| Deferred tax   |                | (298)            | (355)          | (263)          | (194)          |
| Retained profit  | 5,013          | (10,818)         | (294)          | (51)           | (31)           |

PIK interest rolled up

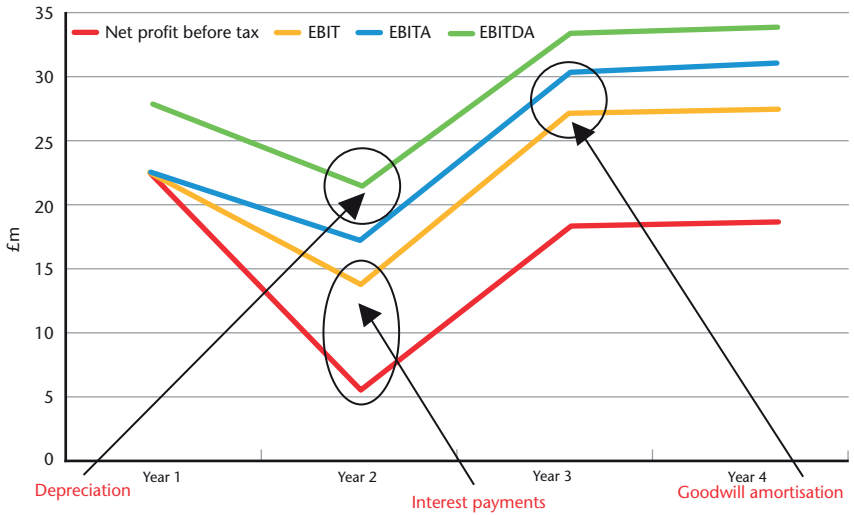
Simplifying assumptions:

\* all costs are treated as being recognised at completion. This would not normally be the case. Costs of issuing debt instruments are accounted for under IAS 39, and costs of issuing equity instruments are accounted for under IAS 32. All other costs associated with the acquisition must be expensed; and

\*\* all transaction fees have been omitted from the analysis.

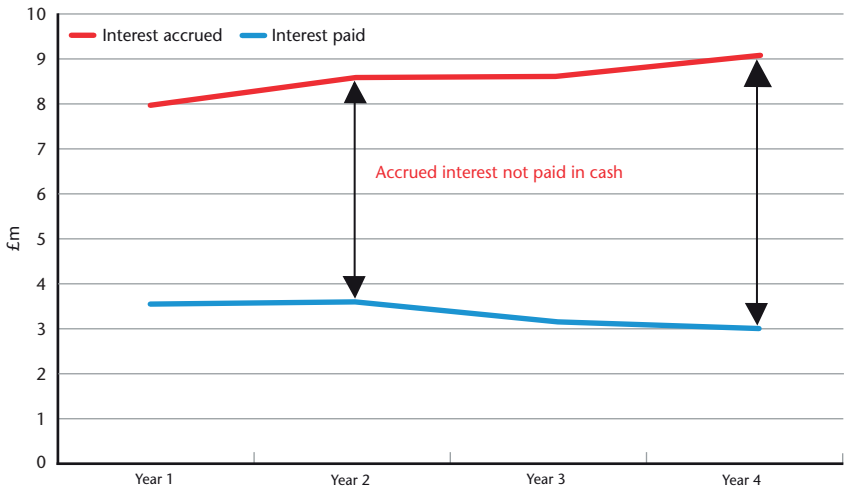


**Figure 4.6: Profit: EBITA, EBIT, NPBT**



The business thus projects a fall in net profit before tax from £6,962k profit before tax in the year prior to the transaction to a (£14,770k) loss in year 1. However, this apparent reversal of performance reflects both the accounting treatment of goodwill, transaction fees and costs and interest charges (both paid in cash and rolled up) which are summarised in Figure 4.7 and Table 4.8.

**Figure 4.7: Difference between interest accrued and interest paid**



**Table 4.8: Reconciliation of interest charges**

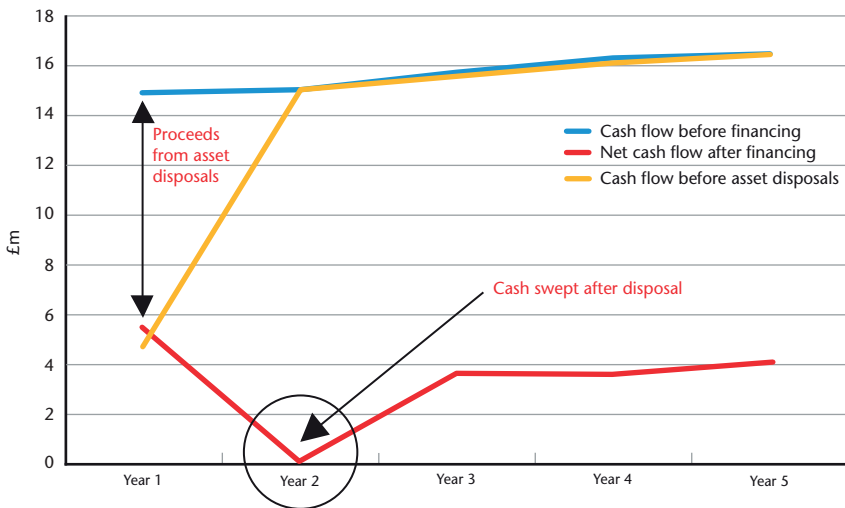
|                                 | Actual<br>£000 | Year 1<br>£000 | Year 2<br>£000 | Year 3<br>£000 | Year 4<br>£000 |
|---------------------------------|----------------|----------------|----------------|----------------|----------------|
| Profit and loss charge          | (800)          | (8,118)        | (8,622)        | (8,694)        | (9,077)        |
| Interest rolled up and not paid | 0              | 4,250          | 4,972          | 5,469          | 6,016          |
| Interest paid                   | (800)          | (3,598)        | (3,650)        | (3,225)        | (3,060)        |

The actual cash interest paid in each year is lower than the interest charge shown in the profit and loss account. The interest rolled up preserves the cash flows of the business and mitigates the financial risks of the highly geared structure to the company during the roll-up period.

The PIK interest increases as interest-on-interest is charged.

The cash flows of the business are therefore materially different to the reported profits, as shown in Figure 4.8 and Table 4.9.

**Figure 4.8: Cash flows – before and after finance costs**



**Table 4.9: Summary of cash flows after funding**

| Summary of projected cash flows       | Actual £000   | Year 1 £000   | Year 2 £000   | Year 3 £000   | Year 4 £000   |
|---------------------------------------|---------------|---------------|---------------|---------------|---------------|
| EBITA                                 | 7,762         | 2,495         | 15,205        | 15,787        | 16,383        |
| Capex                                 | (2,000)       | (5,000)       | (2,500)       | (2,500)       | (2,500)       |
| Depreciation                          | 5,000         | 4,167         | 2,639         | 2,616         | 2,596         |
| Working capital                       | (500)         | 3,262         | (292)         | (301)         | (310)         |
| Proceeds of sale of fixed assets      | 0             | 10,000        | 0             | 0             | 0             |
| <b>Operating cash flow</b>            | <b>10,262</b> | <b>14,924</b> | <b>15,052</b> | <b>15,602</b> | <b>16,169</b> |
| Interest                              | (800)         | (3,598)       | (3,650)       | (3,225)       | (3,060)       |
|                                       | 9,462         | 11,326        | 11,401        | 12,378        | 13,109        |
| Tax                                   | (1,950)       | (490)         | (1,321)       | (3,250)       | (3,957)       |
| <b>Draw down/ (repayment) of debt</b> |               |               |               |               |               |
| 'A' senior                            | –             | (5,333)       | (9,715)       | (4,238)       | (4,238)       |
| 'B' senior                            | –             | 0             | 0             | (1,096)       | (1,096)       |
| 'C' mezzanine                         | –             | 0             | 0             | 0             | 0             |
| 'D' institutional loanstock – PIK     | –             | 0             | 0             | 0             | 0             |
| Net inflow/(outflow)                  | 7,512         | 5,503         | 365           | 3,794         | 3,818         |
| Opening cash/ (overdraft)             | (17,512)      | 0             | 5,503         | 5,867         | 9,662         |
| Closing cash/ (overdraft)             | (10,000)      | 5,503         | 5,867         | 9,662         | 13,480        |

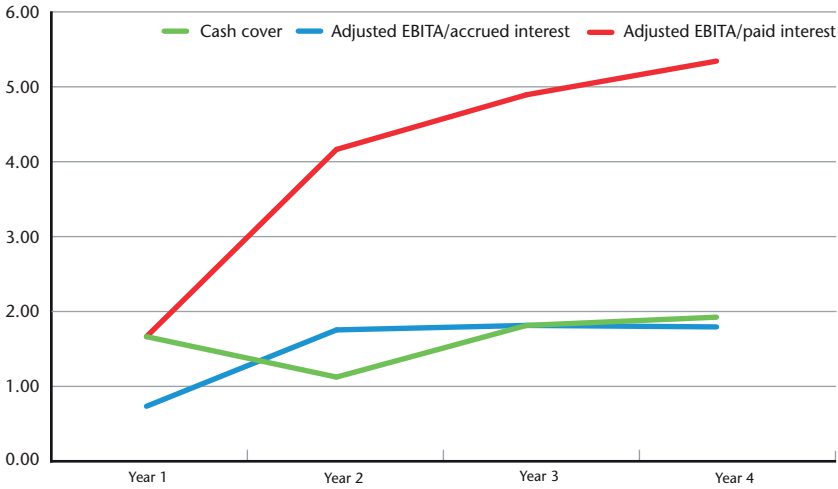
Proceeds from asset sale used to repay 'A' senior loan using a cash sweep mechanism

The business is acquired cash free/debt free therefore the borrowings are refinanced and the group has zero opening cash

Despite recording an accounting loss the business still has an increased liability to corporation tax. (This is explained in detail in section 4.5.)

In section 2, the basic banking financial covenants were explained and described. Figure 4.9 shows the projected values of three key ratios: cash generation to total debt service (cash cover), and two calculations of interest cover, one based on the charge in the profit and loss account, the other reflecting the actual interest payment made. Note that the definition used is adjusted to add back budgeted restructuring costs. It is not uncommon for the bank and company/private equity investors to negotiate the exact definition of each covenant, as well as the level at which it is set, so that it is tailored precisely to the individual assumptions that underlie the transaction.

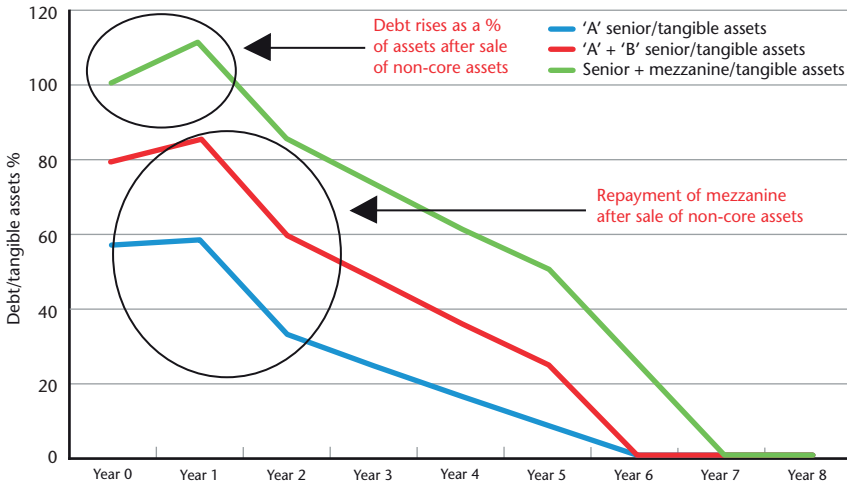
**Figure 4.9: Forecast values of interest cover and cash cover**



The ratio of total debt service to cash flow is analogous to the ratio of salary to total mortgage repayment in a house purchase: it measures the ability to service the loan.

Similarly the ratio of tangible assets (ie, excluding goodwill) to secured borrowings is analogous to loan-to-value ratios in a mortgage. It is summarised in Figure 4.10, showing each loan layered on the next separately. The bank 'A' and 'B' senior loans become progressively less risky as they are repaid.

**Figure 4.10: Forecast security cover**



These projected values of the various financial ratios would form the basis of the negotiation around setting the levels of the financial covenants in the banking agreements. Typically one might expect to set covenants with headroom of 20–50% before a breach would occur depending on the particular ratio and the dynamics of the business.

### 4.3 Restructured balance sheet

The output of the financial engineering process is a restructured balance sheet that is tailored to accommodate the plan of the business. The forecast balance sheet of the business is shown in Table 4.10. The rolled up PIK interest has been shown as an increase in the loanstock.

**Table 4.10: Summary of projected balance sheets**

| £000                                 | Opening   | Year 1   | Year 2   | Year 3   | Year 4   |
|--------------------------------------|-----------|----------|----------|----------|----------|
| <b>Fixed assets</b>                  |           |          |          |          |          |
| Goodwill                             | 62,950    | 59,503   | 56,055   | 52,608   | 49,160   |
| Tangible fixed assets                | 25,000    | 15,833   | 15,694   | 15,579   | 15,482   |
|                                      | 87,950    | 75,336   | 71,749   | 68,187   | 64,642   |
| <b>Working capital</b>               |           |          |          |          |          |
| Stocks                               | 15,000    | 13,815   | 14,229   | 14,656   | 15,096   |
| Trade debtors                        | 20,000    | 18,565   | 19,122   | 19,695   | 20,286   |
| Other current assets                 | 2,500     | 2,375    | 2,446    | 2,520    | 2,595    |
| Creditors                            | (22,500)  | (22,246) | (22,913) | (23,600) | (24,308) |
| Other creditors                      | (2,000)   | (2,771)  | (2,854)  | (2,939)  | (3,028)  |
|                                      | 13,000    | 9,738    | 10,030   | 10,332   | 10,641   |
| <b>Other creditors</b>               |           |          |          |          |          |
| Corporation tax                      | (490)     | 0        | (440)    | (937)    | (1,007)  |
| Deferred tax                         | (460)     | (758)    | (1,113)  | (1,376)  | (1,571)  |
|                                      | (950)     | (758)    | (1,553)  | (2,313)  | (2,578)  |
| Closing cash/<br>(overdraft)         | (10,000)  | 5,503    | 5,867    | 9,662    | 13,480   |
| <b>Net borrowings</b>                |           |          |          |          |          |
| 'A' senior                           | (32,000)  | (26,667) | (16,951) | (12,714) | (8,476)  |
| 'B' senior                           | (13,000)  | (13,000) | (13,000) | (11,905) | (10,809) |
| 'C' mezzanine                        | (13,000)  | (13,000) | (13,000) | (13,000) | (13,000) |
| 'D' institutional<br>loanstock – PIK | (45,200)  | (49,720) | (54,692) | (60,161) | (66,177) |
| Cash/overdraft                       | 0         | 5,503    | 5,867    | 9,662    | 13,480   |
|                                      | (103,200) | (96,884) | (91,776) | (88,117) | (84,982) |
| <b>Net assets</b>                    | (3,200)   | (12,568) | (11,550) | (11,913) | (12,276) |
| Ordinary shares                      | 2,800     | 2,800    | 2,800    | 2,800    | 2,800    |
| Reserves                             | (6,000)   | (15,368) | (14,350) | (14,713) | (15,076) |
|                                      | (3,200)   | (12,568) | (11,550) | (11,913) | (12,276) |

Sale of £10m property

Impact of fees paid at completion

Impact of rolling up interest on PIK debt

The presentation of the company's balance sheet above shows net assets as negative at completion. An alternative presentation commonly used in the management accounts of private equity-backed companies shows the loanstock as if it were equity as shown in Table 4.11. This presentation is justified because while the loan stock in isolation is a debt-like instrument, it is in fact part of the overall equity investment and has equity-like risks.

The presentation highlights a fundamental feature of many private equity-backed transactions: the net assets of the business attributable to the equity holders remain broadly constant in the medium term as profits are used to service the funding structure put in place to acquire the business. In a quoted company context this would be conceptually equivalent to distributing all profits as dividends at the year end.

**Table 4.11: Alternative balance sheet presentation**

| £000s                                   | Opening | Year 1   | Year 2   | Year 3   | Year 4   |
|---|---------|----------|----------|----------|----------|
| Net assets per the accounts             | (3,200) | (12,568) | (11,550) | (11,913) | (12,276) |
| 'D' institutional loanstock             | 45,200  | 49,720   | 54,692   | 60,161   | 66,177   |
| Net assets attributable to shareholders | 42,000  | 37,152   | 43,142   | 48,249   | 53,902   |

#### 4.4 PIK loanstock: What is the 'equity illusion'?

The representation of the balance sheet in Table 4.12 highlights a feature that has become increasingly common over the past decade: the growth in net assets is almost entirely paid to the holders of the PIK loan note, typically the private equity investor.

**Table 4.12: PIK debt and the equity illusion**

| Alternative presentation of balance sheet    | Opening £000 | Year 1 £000 | Year 2 £000 | Year 3 £000 | Year 4 £000 |
|--|--------------|-------------|-------------|-------------|-------------|
| Net assets per the accounts                  | (3,200)      | (12,568)    | (11,550)    | (11,913)    | (12,276)    |
| 'D' institutional loanstock                  | 45,200       | 49,720      | 54,692      | 60,161      | 66,177      |
| Net assets attributable to shareholders      | 42,000       | 37,152      | 43,142      | 48,249      | 53,902      |
| Increase/(decrease) in net assets            |              | (4,848)     | 5,991       | 5,106       | 5,653       |
| (Increase) in accrued value of 'D' loanstock |              | (4,520)     | (4,972)     | (5,469)     | (6,015)     |
| % of value accruing to loanstock             |              | N/A         | 83%         | 107%        | 106%        |

In this type of structure the management only benefit from a high equity percentage if the business can grow more rapidly than the PIK debt accrues interest. When businesses cease to grow, value flows from the ordinary shareholders (ie, management) to the loanstock holders (the private equity investors) due to the rolling up interest-on-interest. This may be a deliberate trigger mechanism designed to force the earliest consideration of an exit, but in practice it can erode the managers' incentives significantly if it is, or is perceived to be, inequitable.

This issue may also arise in secondary buy-outs and recapitalisations where management roll over their original equity stake into a higher equity stake in the business, but a layer of high-cost PIK debt ranks ahead of that new equity. Integrated finance structures where one institution provides all the layers of capital are often characterised by high yield to the institution and higher equity stake to the management team. The structure increases the risks and rewards of the management while protecting the institutional investor against some of the risks of the investment.

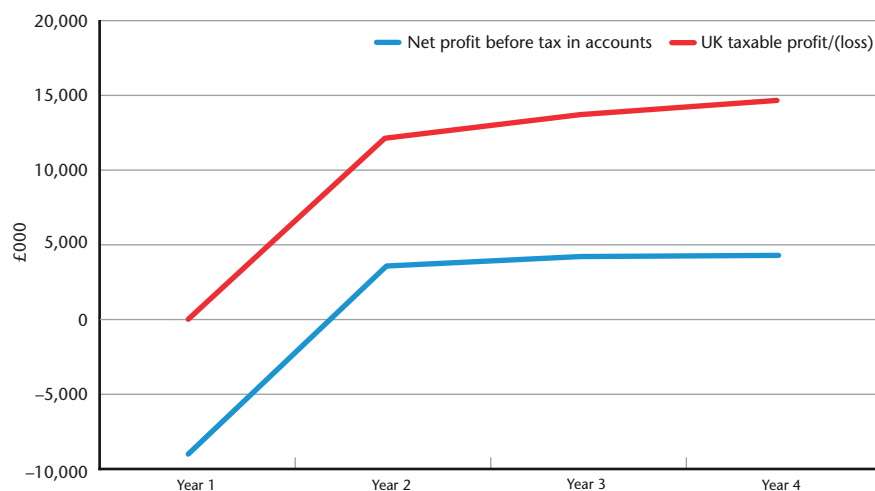
We call the situation when managers have a high-equity percentage but a low share in the growth of the value of the business, the ‘equity illusion’.

#### 4.5 Taxation: how much tax is paid by a private equity-backed company?

It is of the utmost importance for any commentator or analyst to clearly understand that there is almost always a difference between the profits reported in a company’s audited accounts and the profits calculated for taxation purposes. Failure to understand this results in misconceptions in the public understanding of how businesses are taxed and incentivised to act by the taxation system.

In the example, the profit for tax purposes is materially different from the pre-tax profit recorded in the accounts, and this is explained in detail below.

**Figure 4.11: Taxable profit and accounting profit are different**



**Table 4.13: Restatement of profit for tax purposes**

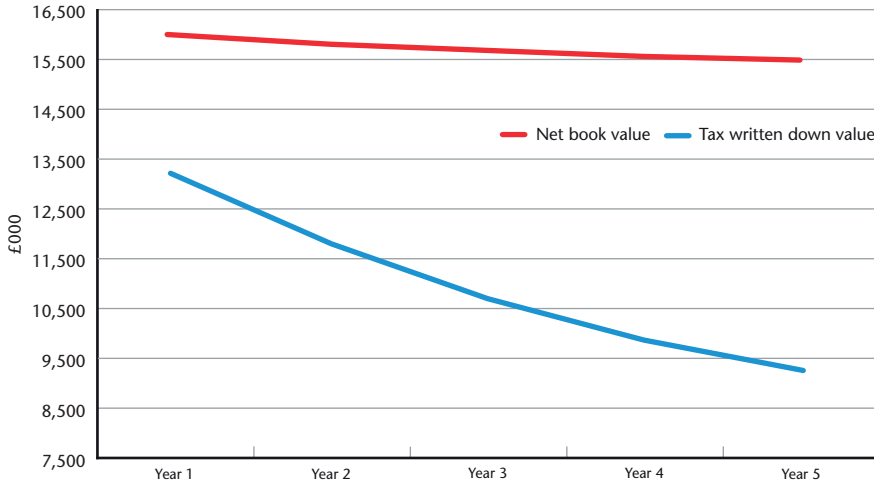
| Tax computations        | Notes | Year 1<br>£000 | Year 2<br>£000 | Year 3<br>£000 | Year 4<br>£000 |
|-------------------------|-------|----------------|----------------|----------------|----------------|
| Net profit before tax   |       | (8,770)        | 3,432          | 3,962          | 4,203          |
| Depreciation            | 1     | 4,167          | 2,639          | 2,616          | 2,596          |
| Writing down allowances | 2     | (4,375)        | (3,906)        | (3,555)        | (3,291)        |
| Disallowable interest   | 3     | 6,080          | 6,727          | 7,224          | 7,771          |
| Disallowable fees       |       | 6,000          |                |                |                |
| Goodwill amortisation   | 4     | 3,148          | 3,148          | 3,148          | 3,148          |
| Taxable profit/(loss)   |       | 6,249          | 12,039         | 13,395         | 14,427         |
| Tax rate                | *     | 28.0%          | 28.0%          | 28.0%          | 28.0%          |
| Tax payable             | 5     | 1,750          | 3,371          | 3,751          | 4,039          |

\* Assumption: a main rate of corporation tax of 28% has been used for the purpose of the case study. Actual rates can be found at [www.hmrc.gov.uk](http://www.hmrc.gov.uk).

#### Notes 1 and 2 – depreciation and capital allowance

Depreciation is calculated differently for accounting and tax purposes. Typically, capital investment is allowed to be deducted more rapidly for corporation tax purposes than it is depreciated in a company’s accounts, thus creating a positive tax incentive to invest in qualifying assets. This accelerated depreciation is achieved by adding back depreciation and replacing it with writing down or accelerated capital allowances.

**Figure 4.12: The book value of assets is different to the tax written down value because of accelerated capital allowances**



This is common to all companies. The timing difference between recognising depreciation and writing down allowances may give rise to a deferred tax asset/liability. This lies outside the scope of this discussion, but reflects future tax charges that have been deferred, not current ones.

### **Note 3 – interest accrued but not paid**

Interest is generally allowed to be deducted when it is accrued in the company's accounts, but there are a number of regulations that are designed to prevent the artificial creation of timing differences between when interest is paid and when it is accrued. As the interest on the PIK debt is not paid within a year of the date that it is accrued, in this example it is assumed that it would not be allowed to be deducted for tax purposes.

### **Thin capitalisation and the arm's-length test**

In tax terms a UK company may be said to be thinly capitalised when it has excessive debt in relation to its arm's-length borrowing capacity, leading to the possibility of excessive interest deductions. Since March 2005, interest on loans from connected parties that are not on arm's-length commercial terms is not allowed to be deducted for corporation tax.

In some countries there is a strict limit imposed which defines the amount of debt on which interest is allowed to be deducted against corporation tax. In the UK HMRC often uses rules of thumb relating to debt/equity and interest cover, but there is no strictly defined limit.

In this example, the debt capacity of the business is fully utilised to support the funding from the bank and mezzanine provider. It is therefore assumed that no third-party bank would provide the loanstock on the terms provided by the private equity investor and thus it is assumed that the interest would not be allowed to be deducted.

It is important for commentators and analysts to understand that the rules on interest deductibility have changed significantly to reduce the deductibility of interest in most leveraged buy-outs.



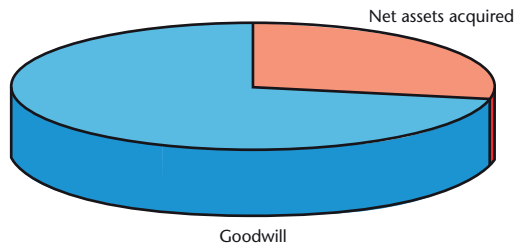
#### Note 4 – goodwill deductibility

In section 3, we explained that goodwill is the difference between the acquisition cost of a business and its net asset value. The calculation of the value of goodwill in the worked example is illustrated in Table 4.14.

**Table 4.14: Calculation of goodwill**

|                            | £000     |
|----------------------------|----------|
| Purchase of 100% of shares | 90,000   |
| Net assets acquired        | (27,050) |
| Goodwill                   | 62,950   |

**Figure 4.13: Representation of goodwill**



In this example, the goodwill is written down in 20 equal annual instalments of £3.1m. When qualifying assets are acquired rather than shares, some or all of the goodwill may be deductible against corporation tax. However, when shares are acquired, goodwill amortisation is not allowed to be deducted against corporation tax and is added back to calculate the tax charge.

Note that if a company's goodwill is impaired, a company will report a loss in the year equal to the reduction in the value of the goodwill. A distressed company may therefore report both reduced trading profits and a significant increase in losses due to the one-off impairment in goodwill. This one-off impairment charge has no impact on taxation.

#### Note 5 – overseas profit and double taxation

Where profits have been earned and taxed in another country, there are treaties between countries that are designed to avoid the same income being taxed a second time.

For most companies, the payment of corporation tax is due nine calendar months and one day after the end of the accounting period. Large companies must pay their tax by quarterly instalments. The first of these is due six months and 13 days from the start of the accounting period. Therefore, three payments are made before or immediately after the accounting year end and one three months later.

When shares are acquired the purchaser is responsible for the payment of tax relating to the prior year, but in most cases the acquisition price is adjusted to reflect this.

#### 4.6 Summary of company corporation tax

The detailed worked example is intended to illustrate a number of important facts about the taxation of UK corporations, including buy-outs.

- Writing off goodwill may materially reduce reported profits/increase reported losses, but does not reduce corporation tax where shares are being acquired.
- Not all interest in leveraged buy-outs is deductible against corporation tax, only arm's-length interest is deductible.

- As a result of these disallowances, even companies reporting a pre-tax loss may nevertheless still pay significant UK corporation tax.
- Corporation tax paid by a company may be materially different to the tax liability recorded in its profit and loss account. This difference is disclosed in the notes to the audited accounts of all larger companies.
- When a strategy is implemented that improves profitability, generally more corporation tax will be paid, even in highly leveraged structures.

To appreciate fully the impact on UK tax revenues it is necessary to track the cash paid to advisers and bankers by the new company. The strength of the UK banking and professional services industry in private equity makes it likely, but not certain, that a high proportion of the tax revenues is generated by interest and fees.

#### 4.7 What is investment due diligence?

Due diligence is the process that is employed to check, to the extent that it is possible, that the assumptions that underpin the value of an offer are not incorrect. The private equity industry has been instrumental in the development of best practice in pre-acquisition due diligence. It is argued by some that these processes gave the industry a material advantage in the overall market for corporate control. The focus of pre-deal investigations on the cash flows of the target not only underpins a valuation, but also enables the private equity fund to avoid many expensive investment mistakes by withdrawing from deals that are not viable.

Due diligence will cover all material relationships, contracts and assets of the target company using a combination of legal, accounting, market, insurance, environmental and any other specialist advisers.

Typically full due diligence will take not less than three or four weeks to complete and will be a condition of any initial offer a private equity fund makes.

The outputs of the due diligence process will be extensive and have often enabled private equity purchasers to use their enhanced knowledge to negotiate from a position of strength after the completion of diligence. This may have contributed to the reputation of private equity buyers for ‘chipping’ the agreed price prior to completion.

#### 4.8 What is vendor due diligence and how does it impact risks/rewards?

To address the problems that can arise if due diligence is performed by the acquirer, it became increasingly common for vendors to commission due diligence on behalf of the purchasers: so-called ‘vendor due diligence’.

Vendor due diligence is provided and addressed to the purchaser by the authors once a headline transaction is agreed, but the initial scope of the review is set by the vendor who has the opportunity to review the reports before the purchaser does. Arguably, this reduces the risk of diligence-backed price chips close to completion. Furthermore, as it can be completed prior to agreeing a deal, it enables the process to be streamlined by several weeks. The counter argument is that any purchaser will wish to choose their own advisers and the terms on which they are working, which may not be those that would have been chosen by the potential purchaser.

The use of vendor due diligence increased as market activity increased. When transaction activity is low, it is widely expected to decrease as funders of acquirers, particularly banks, wish to use their own advisers rather than have them imposed by the vendors. This seems to be consistent with a view that vendor due diligence transfers risk to the purchaser or equivalently captures a greater share of the rewards of a transaction for the vendor rather than the purchaser.

## 4.9 Sensitivity analysis

Sensitivity analysis is often completed by the providers of due diligence services, but it is strictly not a diligence activity as it relates to the impact of changing assumptions rather than the evaluation of the realism of those assumptions.

Prior to any transaction, a wide array of sensitivity analyses will be undertaken on the financial projections to ensure that the financing structure is robust to all reasonable outcomes. Sensitivities in the particular example above might include:

- failure to achieve, or a delay in, the planned asset sales at the assumed price;
- delay or failure to reduce overheads or greater costs of restructuring;
- greater sales loss due to increased prices, or failure to achieve higher pricing resulting in failure to achieve enhanced gross profit margins;
- delay in, or failure to achieve, improved working capital management;
- a combination of any or all of the above timing differences and changes in outcome.

An alternative approach is to test the financing package by finding the limits at which the business is unable to service its capital structure. For instance, one might analyse by how much sales can reduce before the banking covenants are breached or, conversely, by how much sales can grow within the working capital facilities of the structure.

It can be seen that even in this relatively simple stylised model, there are a wide variety of potential outcomes against which a financial structure needs to be stress tested. This process entails a great deal of analysis by the various advisers to the transaction (for example accountants, industry consultants and market researchers) and the outputs of the analyses will form a key part of the negotiation between the private equity investors, the management and the bankers.

If the due diligence process results in the private equity investor having to make material changes to the assumed risks and returns there may be a renegotiation with the vendor. This may result in:

- a simple price reduction;
- deferring payment, possibly contingent upon achieving a certain outcome (eg, winning a particular revenue stream or selling a particular asset);
- the vendor co-investing alongside the funders to reduce the funding requirement and to share a portion of the risk identified;
- a failure to complete the transaction.

## 4.10 Exits and returns

In this final section, we illustrate the combined effects of financial engineering and value creation on the returns to the various participants in the transaction.

There are three questions to address.

1. How much is the enterprise value changed by the trading improvements within the company?
2. How much is the enterprise value changed by market conditions outside the company?
3. How is the value apportioned between the various participants in the transaction?

Table 4.15 below shows the projected value of the business each year on the assumption that it was sold on a debt free/cash free basis at a value calculated using a P/E ratio of 12 (ie, 12 times forecast EBITA less a full tax charge).

**Table 4.15: Enterprise value and equity value at exit**

| Exit value                            | Year 1<br>£000 | Year 2<br>£000 | Year 3<br>£000 | Year 4<br>£000 | Year 5<br>£000 |
|---------------------------------------|----------------|----------------|----------------|----------------|----------------|
| EBITDA                                | 5,995          | 15,205         | 15,787         | 16,383         | 16,399         |
| Notional tax charge                   | (1,679)        | (4,257)        | (4,420)        | (4,588)        | (4,592)        |
|                                       | 4,317          | 10,947         | 11,367         | 11,795         | 11,807         |
| P/E ratio                             | 12.00          | 12.00          | 12.00          | 12.00          | 12.00          |
| Gross capitalisation                  | 51,799         | 131,369        | 136,402        | 141,546        | 141,684        |
| Less:                                 |                |                |                |                |                |
| 'A' senior                            | (26,667)       | (16,951)       | (12,714)       | (8,476)        | (4,238)        |
| 'B' senior                            | (13,000)       | (13,000)       | (11,905)       | (10,809)       | (9,714)        |
| 'C' mezzanine                         | (13,000)       | (13,000)       | (13,000)       | (13,000)       | (13,000)       |
| 'D' institutional loanstock – PIK     | (49,720)       | (54,692)       | (60,161)       | (66,177)       | (72,795)       |
| Cash/(overdraft)                      | 4,190          | 2,908          | 6,313          | 10,165         | 14,360         |
| Net debt                              | (98,196)       | (94,736)       | (91,467)       | (88,297)       | (85,387)       |
| Net equity value                      | (46,398)       | 36,633         | 44,935         | 53,248         | 56,298         |
| Equity value as % of enterprise value | na             | 28%            | 33%            | 38%            | 40%            |

Adding back restructuring costs

Assumed to be lower than entry P/E ratio for prudence

Note PIK roll-up increases value

Some models deduct exit fees and costs

The equity value initially reduces sharply then is projected to rise due to operational improvements. Thereafter equity value grows slowly and is due primarily to the accumulation of cash surpluses and debt repayment.

**Table 4.16: Allocation of net equity value**

| Split of proceeds                         | % equity value | Year 1<br>£000 | Year 2<br>£000 | Year 3<br>£000 | Year 4<br>£000 | Year 5<br>£000 |
|---|----------------|----------------|----------------|----------------|----------------|----------------|
| Management                                | 17.5           | 0              | 6,411          | 7,864          | 9,318          | 9,852          |
| Private equity investor                   | 80.5           | 0              | 29,490         | 36,173         | 42,865         | 45,320         |
| 'C' mezzanine                             | 2.0            | 0              | 733            | 899            | 1,065          | 1,126          |
| Equity value                              | 100            | 0              | 36,633         | 44,935         | 53,248         | 56,298         |
| Management percentage of enterprise value | n/a            |                | 4.9%           | 5.8%           | 6.6%           | 7.0%           |

As we have emphasised throughout the analysis, it is the blended return on the total amount invested that concerns the private equity fund, not the return on the equity element of their investment. The effect on incremental value growth of the total investment including the PIK loanstock is summarised below.

**Table 4.17: Projected share of exit enterprise value by investor**

| Split of proceeds                    | Year 1<br>£000 | Year 2<br>£000 | Year 3<br>£000 | Year 4<br>£000 | Year 5<br>£000 |
|--------------------------------------|----------------|----------------|----------------|----------------|----------------|
| Net debt including mezzanine warrant | 48,476         | 40,776         | 32,204         | 23,185         | 13,717         |
| Private equity investor              | 3,322          | 84,182         | 96,334         | 109,042        | 118,115        |
| Management                           | 0              | 6,411          | 7,864          | 9,318          | 9,852          |
| Total value                          | 51,799         | 131,369        | 136,402        | 141,546        | 141,684        |
| Debt                                 | 94%            | 31%            | 24%            | 16%            | 10%            |
| Private equity investor              | 6%             | 64%            | 71%            | 77%            | 83%            |
| Management                           | 0%             | 5%             | 6%             | 7%             | 7%             |
|                                      | 100%           | 100%           | 100%           | 100%           | 100%           |

It can be seen that the absolute value and the proportion of value that accrues to the private equity fund increases over time due to a combination of the effects of increasing enterprise value, de-leveraging by repaying bank debt and the effect of the PIK roll-up on loanstock values.

The increase in value can be analysed further to isolate the impact of operational performance improvements and the impact of the financial engineering.

**Table 4.18: Reconciliation of the cumulative effects of operating performance and financial engineering on projected equity value at exit in years 2 and 3**

|                                | Year 2<br>£000 | Year 3<br>£000 |
|--------------------------------|----------------|----------------|
| Change of multiple             | 5,469          | 6,356          |
| Change in EBITDA               | 25,900         | 30,046         |
| Change in enterprise value     | 31,369         | 36,402         |
| Change in net debt             | 8,464          | 11,733         |
| Change in equity value         | 39,833         | 48,135         |
| % due to operating performance | 79%            | 76%            |
| % due to financial engineering | 21%            | 24%            |
| Total                          | 100%           | 100%           |

The majority of return comes from efficiency improvements not financial engineering

The analysis in Table 4.18 shows that by year 3, approximately three-quarters of the increase in value is attributable to an increase in enterprise value and one-quarter to the effects of financial engineering. This is despite assuming a reduction in the exit EBITDA multiple when compared to the acquisition price. There are further analyses that can be undertaken to more fully understand the interconnection of operating performance, external market conditions and financial engineering, but these are outside the scope of this report.

**Table 4.19: Split of proceeds on exit**

| Split of proceeds                    | Year 1<br>£000 | Year 2<br>£000 | Year 3<br>£000 | Year 4<br>£000 | Year 5<br>£000 |
|--------------------------------------|----------------|----------------|----------------|----------------|----------------|
| Net debt including mezzanine warrant | 48,476         | 40,776         | 32,204         | 23,185         | 13,717         |
| Private equity investor              | 3,322          | 84,182         | 96,334         | 109,042        | 118,115        |
| Management                           | 0              | 6,411          | 7,864          | 9,318          | 9,852          |
| Total value                          | 51,799         | 131,369        | 136,402        | 141,546        | 141,684        |
| Debt                                 | 94%            | 31%            | 24%            | 16%            | 10%            |
| Private equity investor              | 4,190          | 2,908          | 6,313          | 10,165         | 14,360         |
| Management                           | 0%             | 5%             | 6%             | 7%             | 7%             |
|                                      | 100%           | 100%           | 100%           | 100%           | 100%           |

The initial decrease in enterprise value falls on the equity and loan stock

Table 4.19 summarises the projected capital returns to each party at the end of each of the first three years. At the end of year 1, management’s equity has nil value, but by the end of year 2 it has accrued value. However, achievement of the forecasts thereafter does not significantly enhance their equity value. This is due to the fact that almost all the projected value increase after the bank has been serviced is appropriated by the loanstock interest roll up. This position will either encourage management to exit after the achievement of the turnaround, or create the incentives to take the business forward with a strategy that continues to generate above normal value, perhaps by acquisition or by new product development.

Whichever route is chosen, the objective of the capital structure is to create the circumstances that will encourage both the creation and the realisation of value in the business with an acceptable level of risk.

**Table 4.20: Projected returns (IRRs) by participant (exit year 3, P/E = 12)**

| Projected rates of return | %     |
|---------------------------|-------|
| Senior debt               | 4.9   |
| Mezzanine                 | 16.2  |
| Private equity investment | 25.4  |
| Management                | 150.5 |
| Weighted cost of capital  | 15.5  |

The project rates of return to the various participants based upon an exit in year 3 on a P/E ratio of 12 are summarised in Table 4.20. The higher returns are correlated to the higher risks that each participant takes.

The final table shows the sensitivity of the returns to the private equity investor in this particular example to achievement of exit in a timely manner and highlights the performance against a target rate of return of 25%. Exit at a lower price or after a longer time period will have a significant impact on returns.

**Table 4.21: Private equity investor blended returns – sensitised by year of exit and exit P/E ratio**

| IRR sensitivities<br>Years of exit | Exit private equity ratio |       |       |
|------------------------------------|---------------------------|-------|-------|
|                                    | 10.00                     | 12.00 | 14.00 |
| Exit in year 3                     | 16.3%                     | 25.4% | 33.3% |
| Exit in year 4                     | 16.2%                     | 22.3% | 27.6% |
| Exit in year 5                     | 15.0%                     | 19.3% | 23.1% |

Investment 'base case' forecast returns

#### 4.11 Closing remarks

In this section we have described in some detail the process and logic of a particular fictional, but nevertheless realistic, leveraged buy-out. We have attempted to illustrate the way that each of the financial parties to the transaction layers their investment and how the risk and returns increase as each layer is structured.

We have briefly discussed how due diligence is used to verify the assumptions behind the plan and how sensitivity analysis is used to stress test the financial structure.

We have provided a detailed example showing why loss-making private equity backed companies nevertheless often pay corporation tax. We highlight the fact that contrary to some less well-informed commentaries, interest on buy-out debt is not all tax deductible, and the rules on tax deductibility have significantly tightened, mainly prior to the more recent interest in private equity.





## 5. Critics and the research

In this section, 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 this publication.

Several years ago, we published an assessment of the criticisms levelled at the private equity sector in *Private Equity Demystified – An explanatory guide*. In this, the third edition of that work, we are able to further evaluate the criticisms using evidence and experience accumulated since then. That evidence is also summarised in this publication.

### **5.1 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.

### **5.2 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.

### **5.3 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.

### **5.4 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.

### **5.5 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 Figure 5.1 we try to simplify this variety contrasting timescales and strategies.

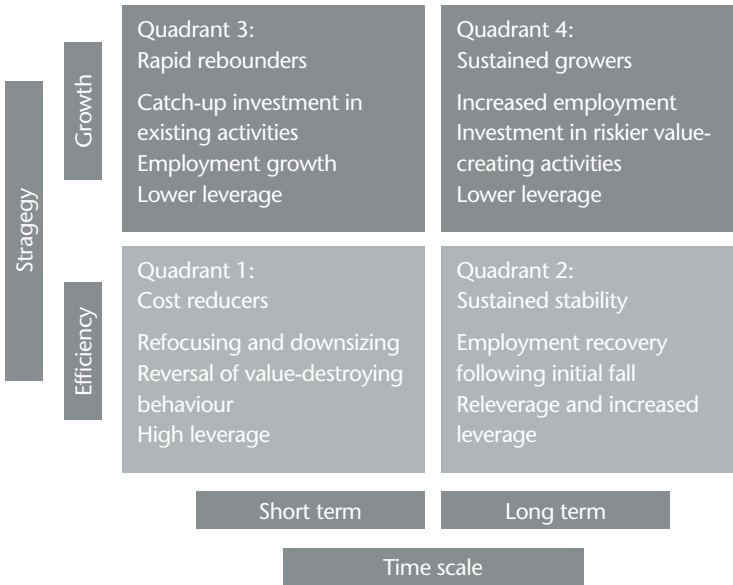
Some investments do involve cost reduction. This may be the reversal of value-destroying behaviour in order to improve efficiency over a short time period (quadrant 1). This type of 'one-off' shock therapy was probably more typical of the first wave of private equity-backed buy-outs. In these types of 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 5.1: Buy-out types, strategy and timescale**



**5.6 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. This criticism gets caught up with the TUPE issue (see section 2.3). 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?

### 5.7 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.

### 5.8 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.

### 5.9 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.

## 5.10 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.

## 5.11 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.

### 5.11.1 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.

### 5.11.2 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.

### 5.11.3 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 2.1.16. 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.

### 5.11.4 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.

### 5.11.5 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.

### 5.11.6 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.

### 5.11.7 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.

### 5.11.8 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.

### 5.11.9 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.

## 5.12 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.

## 5.13 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?

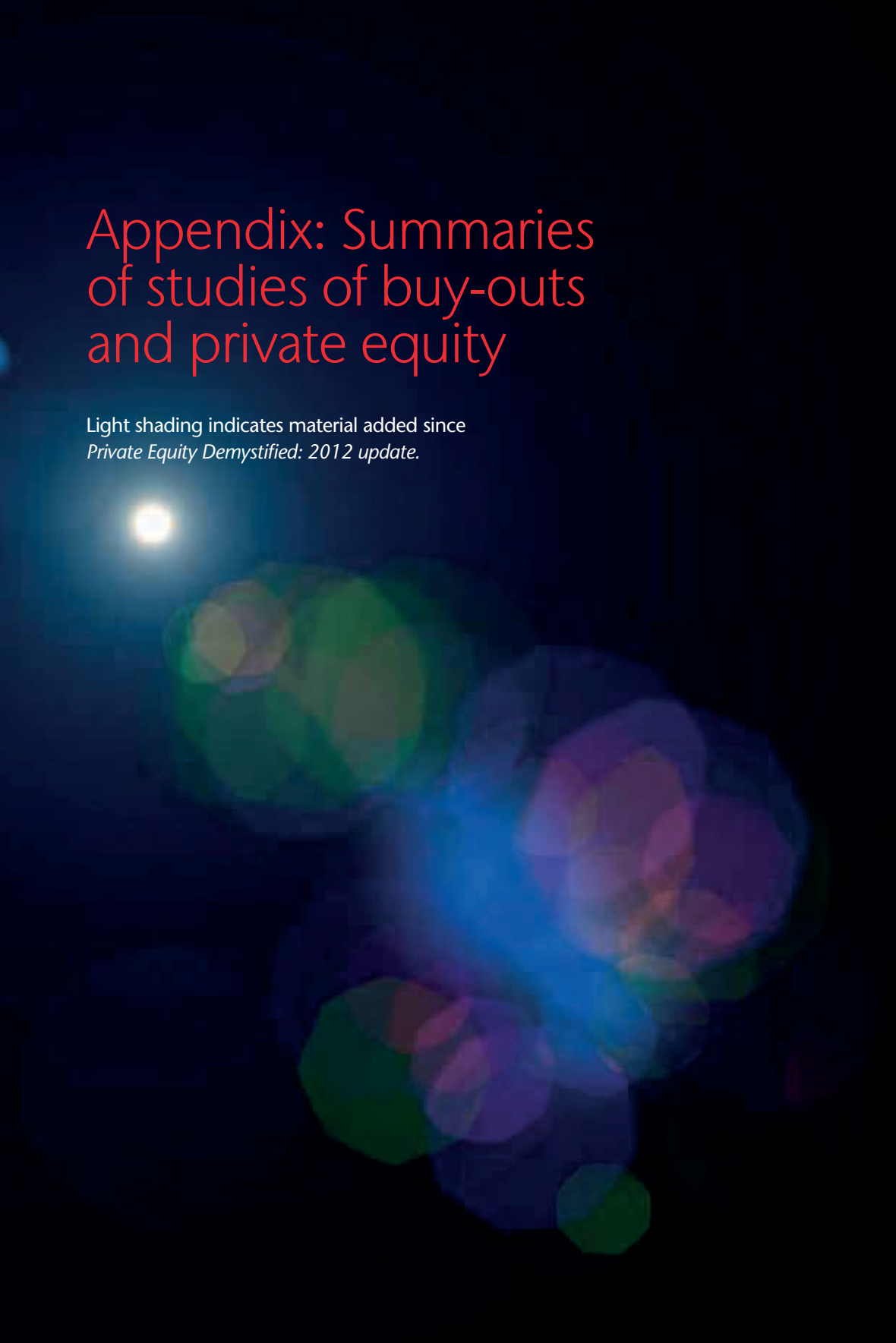


- What are the relative contributions of different forms of innovation versus cost restructurings to the growth of private equity-backed buy-outs?
- To what extent do private equity firms learn from their experience over time to enhance the effectiveness of their involvement in portfolio firms?
- How 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?



# Appendix: Summaries of studies of buy-outs and private equity

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

The background of the page is dark blue/black. In the upper left, there is a bright, circular light source that creates a lens flare effect. Below and to the right of this light source, there are several large, overlapping, out-of-focus circles in shades of green, blue, and purple, resembling bokeh or light trails.

**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   |
|--|---------|------------------|---|--|
| <b>Panel A: Employment effects</b>                           |         |                  |   |  |
| 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   |
|-------------------------------------|---------|----------------------|--|--|
| <b>Panel A: Employment effects</b>  |         |                      |  |  |
| 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 & establishment | 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 equity 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.  |
| <b>Panel B: Wages</b>               |         |                      |  |  |
| 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  |
|--|----------------|--------------------|---|---|
| <b>Panel B: Wages</b>                      |                |                    |   |   |
| 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.   |
| <b>Panel C: HRM effects</b>                |                |                    |   |   |
| 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  |
|--|--------------------|------------------|---|---|
| <b>Panel C: HRM effects</b>                        |                    |                  |   |   |
| 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, 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   |
|---|---------|------------------------|--|
| <b>Effects on debt holders</b>          |         |                        |  |
| 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.   |
| <b>Taxation effects</b>                 |         |                        |  |
| 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/ establishment | 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 recapitalisations | 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.  |

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# Glossary

**Source** This glossary is adapted from one originally published by the European Private Equity and Venture Capital Association.

**Absolute return** The return an asset achieves over time, without comparison to the overall market, other assets or benchmarks.

**Acquisition** The obtaining of control, possession or ownership of a company.

**Acting in concert** Persons acting in concert are persons who, pursuant to an agreement or understanding (whether formal or informal), actively cooperate, throughout the acquisition by any of them acquiring shares in a company, to obtain or consolidate control of that company.

**Alternative Investment Market (AIM)** The London Stock Exchange's market for new, fast-growing companies. AIM offers the benefit of operating both an electronic quote and order trading facility. It commenced trading in June 1995.

**Alternative investments/assets** Investments covering among others private equity and venture capital, hedge funds, real estate, infrastructure, commodities, or collateralised debt obligations (CDOs).

**Anchor LP** An investor in a private equity/venture capital fund that commits a significant amount of the total fund-raising to the fund upfront.

**Arm's-length** The relationship between persons (whether companies or not) who deal on purely commercial terms, without the influence of other factors such as common ownership; a parent/subsidiary relationship between companies; existing family or business relationships between individuals.

**Asset allocation** A fund manager's allocation of his investment portfolio into various asset classes (eg, stocks, bonds, private equity).

**Asset class** A category of investment, which is defined by the main characteristics of risk, liquidity and return.

**Asset cover** One of the indicators used by banks to calculate debt ceiling. It is the extent to which debt is secured against the company's assets. Banks apply different weighting factors to various classes of asset, depending on their liquidity and the typical reliability of the valuation.

**Asset deal** A sale of assets not essential for the vendor's core business.

**Asset stripping** Dismantling an acquired business by selling off operational and/or financial assets.

**Auction** A process in which an investment bank or other corporate finance adviser invites several private equity houses to look at a particular company that is for sale and to offer a bid to buy it.

**Basis point or bps** One hundredth of a per cent (0.01%).

**Beauty parade** An accepted mechanism for an investee company to select a provider of financial and professional services. The investee normally draws up a shortlist of potential providers, who are then invited to pitch for the business.

**BIMBO** Buy-in-management-buyout. A combination of a management buy-in (MBI) and a management buy-out (MBO).

**Bond** A debt obligation, often secured by a mortgage on some property or asset of the issuer.

**Break fee** A break fee (also referred to as an inducement fee) is a sum agreed between the offeror and the target company to be paid to the offeror by the target only if specified events occur which prevent the offer from proceeding or if the offer fails.

**Bridge financing** Financing made available to a company in the period of transition from being privately owned to being publicly quoted.

**Bridge vehicle** A fund raised by a general partner on an interim basis, before launching a new fund. Bridge vehicles are often of a smaller size, compared to the normal fund.

**Broker** One who acts as an intermediary between a buyer and a seller of securities.

**Business model** The underlying model of a company's business operation.

**Business plan** A document which describes a company's management, business concept and goals. It is a vital tool for any company seeking any type of investment funding, but is also of great value in clarifying the underlying position and realities for the management/owners themselves.

**Buy-and-build strategy** Active, organic growth of portfolio companies through add-on acquisitions.

**Buyback** A corporation's repurchase of its own stock or bonds.

**Buy-out** A transaction in which a business, business unit or company is acquired from the current shareholders (the vendor).

**BVCA** British Private Equity and Venture Capital Association.

**Capital gains** If an asset is sold at a higher price than that at which it was bought, there is a capital gain.

**Capital markets** A marketplace in which long-term capital is raised by industry and commerce, the government and local authorities. Stock exchanges are part of capital markets.

**Capital under management** This is the total amount of funds available to fund managers for future investments plus the amount of funds already invested (at cost) and not yet divested.

**Captive fund** A fund in which the parent organisation of the management company contributes most of the capital ie, where the parent organisation allocates money to a captive fund from its own internal sources and reinvests realised capital gains into the fund.

**Carried interest** An entitlement accruing to an investment fund's management company or individual members of the fund management team. Carried interest becomes payable once the investors have achieved repayment of their original investment in the fund plus a defined hurdle rate.

**Cash alternative** If the offeror offers shareholders of the target company the choice between offeror securities and cash, the cash element is known as the cash alternative.

**Cash flow** EBITDA +/- Working Capital Movement – capital expenditure – taxation.

**Chinese walls** Deliberate information barriers within a large company to prevent conflict of interest between different departments.

**Class of securities** Classes of securities are securities that share the same terms and benefits. Classes of capital stock are generally alphabetically designated (eg, Class C Common Stock, Class A Preferred Stock etc).

**Clawback option** A clawback option requires the general partners in an investment fund to return capital to the limited partners to the extent that the general partner has received more than its agreed profit split. A general partner clawback option ensures that, if an investment fund exits from strong performers early in its life and weaker performers are left at the end, the limited partners get back their capital contributions, expenses and any preferred return promised in the partnership agreement.

**Closed-end fund** Fund with a fixed number of shares. These are offered during an initial subscription period. Unlike open-end mutual funds, closed-end funds do not stand ready to issue and redeem shares on a continuous basis.

**Closing** A closing is reached when a certain amount of money has been committed to a private equity fund. Several intermediate closings can occur before the final closing of a fund is reached.

**Club deal** A deal where several buyout houses pool their resources together when buying a company of significant size, which would be otherwise inaccessible for them alone, either due to the purchase price or fund investment restrictions.

**Co-lead investor** Investor who has contributed a similar share to the lead investor in a private equity joint venture or syndicated deal.

**Collateral** Assets pledged to a lender until a loan is repaid. If the borrower does not pay back the money owed, the lender has the legal right to seize the collateral and sell it to pay off the loan.

**Commercial paper** An unsecured obligation issued by a corporation or bank to finance its short-term credit needs (eg, accounts receivable or inventory). Maturities typically range from two to 270 days.

**Commitment** A limited partner's obligation to provide a certain amount of capital to a private equity fund when the general partner asks for capital.

**Competent Authority** A term used within Directives produced by the European Commission to describe a body identified by a member state of the EU as being responsible for specified functions related to the securities market within that member state. Areas of competence include the recognition of firms permitted to offer investment services; the approval of prospectuses for public offerings; the recognition and surveillance of stock markets. A member state may nominate different Competent Authorities for different areas of responsibility.

**Completion** The moment when legal documents are signed, normally also the moment at which funds are advanced by investors.

**Compliance** The process of ensuring that any other person or entity operating within the financial services industry complies at all times with the regulations currently in force. Many of these regulations are designed to protect the public from misleading claims about returns they could receive from investments, while others outlaw insider trading. Especially in the UK, regulation of the financial services industry has developed beyond recognition in recent years.

**Concert parties** Any persons or parties acting in concert (see definition of acting in concert).



**Conditions precedent** Certain conditions that a private equity firm may insist are satisfied before a deal is completed.

**Confidentiality agreement (or non-disclosure agreement)** An agreement in which an employee, customer or vendor agrees not to disclose confidential information to any third party or to use it in any context other than that of company business.

**Conflict of interest** For example, in a public to private transaction, a potential conflict of interest invariably arises if the directors of the target company are (or will be) directors of the offerer, in which case their support for the offer gives rise to a potential conflict with the interests of the shareholders of the target company.

**Connected persons** Companies related by ownership or control of each other or common ownership or control by a third person or company, and individuals connected by family relationships or, in some instances, by existing business relationships (such as individuals who are partners).

**Contributed capital** Contributed capital represents the portion of capital that was initially raised (committed by investors) which has been drawn down in a private equity fund.

**Conversion** The act of exchanging one form of security or common stock equivalent for another security of the same company (eg, preferred stock for common stock, debt securities for equity).

**Convertible security** A financial security (usually preferred stock or bonds) that is exchangeable for another type of security (usually ordinary shares) at a fixed price. The convertible feature is designed to enhance marketability of preferred stock as an additional incentive to investors.

**Covenant lite (cov-lite) loan** A loan with lighter or no covenants, providing the borrower more operational flexibility while limiting the lender's protection against strong changes in his/her financial performance.

**Covenants** An agreement by a company to perform or to abstain from certain activities during a certain time period. Covenants usually remain in force for the full duration of the time a private equity investor holds a stated amount of securities and may terminate on the occurrence of a certain event such as a public offering. Affirmative covenants define acts which a company must perform and may include payment of taxes, insurance, maintenance of corporate existence etc. Negative covenants define acts which the company must not perform and can include the prohibition of mergers, sale or purchase of assets, issuing of securities etc.

**Credit spread** The difference in yield between two securities that are identical (in maturity and duration) except for their credit quality. Often the credit spread is used to compare corporate bonds with government bonds.

**Cumulative dividend** A dividend which accumulates if not paid in the period when due and must be paid in full before other dividends are paid on the company's ordinary shares.

**Cumulative preferred stock** A form of preference shares which provide that, if one or more dividends is omitted, those dividends accumulate and must be paid in full before other dividends may be paid on the company's ordinary shares.

**Deal flow** The number of investment opportunities available to a private equity house.

**Debenture** An instrument securing the indebtedness of a company over its assets.

**Debt service** Cash required in a given period to pay interest and matured principal on outstanding debt.

**Debt:equity ratio** A measure of a company's leverage, calculated by dividing long-term debt by ordinary shareholders' equity.

**Defined Benefit Plans** A pension plan that promises a specified benefit to be paid to the employee at retirement. In a Defined Benefit Plan the company bears the risk of the pension scheme being under-funded.

**Defined Contribution Plans** A pension plan that does not promise a specific amount of benefits at retirement. Both employee and employer contribute to a pension plan, the employee then has the right to the balance of the account. This balance may fluctuate over the lifetime of the pension plan.

**Delisting** The removal of a company from a listing on an exchange.

**Derivative or derivative security** A financial instrument or security whose characteristics and value depend upon the characteristics and value of an underlying instrument or asset (typically a commodity, bond, equity or currency). Examples include futures, options and mortgage-backed securities.

**Dilution** Dilution occurs when an investor's percentage in a company is reduced by the issue of new securities. It may also refer to the effect on earnings per share and book value per share if convertible securities are converted or stock options are exercised.

**Distribution** The amount disbursed to the limited partners in a private equity fund.

**Dividend cover** A ratio that measures the number of times a dividend could have been paid out of the year's earnings. The higher the dividend cover, the safer the dividend.

**DPI (Distribution to Paid-In)** The DPI measures the cumulative distributions returned to investors (limited partners) as a proportion of the cumulative paid-in capital. DPI is net of fees and carried interest. This is also often called the 'cash-on-cash return'. This is a relative measure of the fund's 'realised' return on investment.

**Drag-along rights** If the venture capitalist sells his shareholding, he can require other shareholders to sell their shares to the same purchaser on the same terms.

**Drawdown** When investors commit themselves to back a private equity fund, all the funding may not be needed at once. Some is used and drawn down later. The amount that is drawn down is defined as contributed capital.

**Due diligence** For private equity professionals, due diligence can apply either narrowly to the process of verifying the data presented in a business plan/sales memorandum, or broadly to complete the investigation and analytical process that precedes a commitment to invest. The purpose is to determine the attractiveness, risks and issues regarding a transaction with a potential investee company. Due diligence should enable fund managers to realise an effective decision process and optimise the deal terms.

**Earn-out** An arrangement whereby the sellers of a business may receive additional future payments for the business, conditional to the performance of the business following the deal.

**EBIT** Earnings before interest and taxes – a financial measurement often used in valuing a company (price paid expressed as a multiple of EBIT).

**EBITDA** Earnings before interest, taxes, depreciation and amortisation – a financial measurement often used in valuing a company (price paid expressed as a multiple of EBITDA).

**Envy ratio** The ratio between the effective price paid by management and that paid by the investing institution for their respective holdings in the Newco in an MBO or MBI.

**Equity** Ownership interest in a company, represented by the shares issued to investors.

**Equity kicker** In a mezzanine loan, equity warrants payable on exit.

**Equity ratio** One of the indicators used by banks to calculate debt ceiling. It consists of net equity divided by the company's total assets. Banks apply yardstick ratios for different industry sectors to arrive at a minimum level of funding that shareholders are required to contribute.

**EVCA** European Private Equity and Venture Capital Association. European trade body representing the venture capital and private equity industry.

**Exercise price** The price at which shares subject to a stock option may be purchased. Also known as the strike price.

**Exit** Liquidation of holdings by a private equity fund. Among the various methods of exiting an investment are trade sale; sale by public offering (including IPO); write-offs; repayment of preference shares/loans; sale to another venture capitalist; sale to a financial institution.

**Exit strategy** A private equity house or venture capitalist's plan to end an investment, liquidate holdings and achieve maximum return.

**Expansion capital** Also called development capital. Financing provided for the growth and expansion of a company. Capital may be used to finance increased production capacity; market or product development; or provide additional working capital.

**Financial secondaries** A secondary deal involving a fund's portfolio of companies that are relatively mature (five to seven years old), with some exits already realised, but not all capital drawn down.

**Financial Conduct Authority (FCA)** A UK independent non-governmental body which exercises statutory powers under the Financial Services and Markets Act 2000. The FCA is the Competent Authority which regulates the securities industry in the UK.

**Free cash flow** Free cash flow is defined as the after-tax operating earnings of the company, plus non-cash charges (eg, depreciation), less investment in working capital, property, plant and equipment, and other assets.

**Fund** A private equity investment fund is a vehicle for enabling pooled investment by a number of investors in equity and equity-related securities of companies (investee companies). These are generally private companies whose shares are not quoted on any stock exchange. The fund can take the form either of a company or an unincorporated arrangement such as a limited partnership.

**Fund-of-funds** A fund that takes equity positions in other funds. A fund-of-funds that primarily invests in new funds is a primary or primaries fund-of-funds. One that focuses on investing in existing funds is referred to as a secondary fund-of-funds.

**Fund size** The total amount of capital committed by the limited and general partners of a fund.

**Fund-raising** The process in which private equity firms themselves raise money to create an investment fund. These funds are raised from private, corporate or institutional investors, who make commitments to the fund which will be invested by the general partner.

**General partner (GP)** A partner in a private equity management company who has unlimited personal liability for the debts and obligations of the limited partnership and the right to participate in its management.

**General partner's commitment** Fund managers typically invest their personal capital right alongside their investors' capital, which often works to instil a higher level of confidence in the fund. The limited partners look for a meaningful general partner investment of 1% to 3% of the fund.

**Goodwill** The value of a business over and above its tangible assets. It includes the business's reputation and contacts.

**Grandfather rights** Special rights given to a limited partner to access a follow-on fund, after having been invested in the previous fund.

**Hedge fund** An investment vehicle, where managers invest in a variety of markets and securities, to achieve the highest absolute return. Investments could be either made in financial markets, using stocks, bonds, commodities, currencies and derivatives, or by using advanced investment techniques such as shorting, leveraging, swaps and using arbitrage.

**Hedging** An investment that is made to offset the risk of price movements of one security, by taking an opposite position in a different security, hence balancing the risk of the first investment. Examples are derivatives, such as options and futures, linked to a certain security.

**High-yield bonds** These play a similar role to mezzanine finance in bridging the gap between senior debt and equity. High-yield bonds are senior subordinated notes not secured against the assets of the company, and which therefore attract a higher rate of interest than senior debt.

**Hurdle rate** A rate of return that must be achieved before a private equity fund manager becomes entitled to carried interest payments from a fund; usually set as an IRR (internal rate of return) but related to the risk free rate of return an investor could obtain in the same country as the fund is investing in.

**Independent fund** One in which the main source of fund-raising is from third parties.

**Information rights** A contractual right to obtain information about a company, including, for example, attending board meetings. Typically granted to private equity firms investing in privately held companies.

**Institutional buy-out (IBO)** Outside financial investors (eg, private equity houses) buy the business from the vendor. The existing management may be involved from the start and purchase a small stake. Alternatively, the investor may install its own management.

**Interest cover** One indicator used by banks to calculate debt ceiling. It consists of EBIT divided by net interest expenses. This ratio is a measure of the company's ability to service its debt.

**IPO (Initial Public Offering)** The sale or distribution of a company's shares to the public for the first time. An IPO of the investee company's shares is one of the ways in which a private equity fund can exit from an investment.

**IRR (Internal Rate of Return)** The IRR is the net return earned by investors (limited partners) from the fund, from inception to a stated date. The IRR is calculated as an annualised effective compounded rate of return using monthly cash flows to and from investors, together with the residual value as a terminal cash flow to investors. The IRR is therefore net ie, after deduction of all fees and carried interest. In cases of captive or semi-captive investment vehicles without fees or carried interest, the IRR is adjusted to create a synthetic net return using assumed fees and carried interest.

**IRR, definition of** An IRR is the value of  $r$  that satisfies this equation where  $C_t$  is the annual cash flow in year  $t$  and  $NPV$  is the net present value (equal to zero).

$$NPV = \sum_{t=0}^N \frac{C_t}{(1+r)^t} = 0$$

**J curve** The curve generated by plotting the returns generated by a private equity fund against time (from inception to termination). The common practice of paying the management fee and start-up costs out of the first drawdowns does not produce an equivalent book value. As a result, a private equity fund will initially show a negative return. When the first realisations are made, the fund returns start to rise quite steeply. After about three to five years the interim IRR will give a reasonable indication of the definitive IRR. This period is generally shorter for buy-out funds than for early stage and expansion funds.

**Junk bond** A junk bond is a bond or company debt, which is rated as 'BB' or lower, indicating a higher risk of 'not' being repaid by the company. Junk bonds are also known as 'high-yield bonds'. Within the private equity market, junk bonds are related to buyout investments, when bonds of a transaction are rated as 'BB' or lower. See also high-yield bonds.

**LBO (leveraged buyout)** A buy-out in which the Newco's capital structure incorporates a level of debt, much of which is normally secured against the company's assets.

**Lead investor** Investor who has contributed the majority share in a private equity joint venture or syndicated deal.

**Leverage loan market** The market in which leverage loans are syndicated by a lead bank and hence sold on to other borrowers.

**Leveraged recapitalisation** Transaction in which a company borrows a large sum of money and distributes it to its shareholders.

**LIBOR** See London Inter-bank Offer Rate.

**Limited partner (LP)** An investor in a limited partnership (ie, private equity fund).

**Limited partnership** The legal structure used by most venture and private equity funds. The partnership is usually a fixed-life investment vehicle, and consists of a general partner (the management firm, which has unlimited liability) and limited partners (the investors, who have limited liability and are not involved with the day-to-day operations). The general partner receives a management fee and a percentage of the profits. The limited partners receive income, capital gains and tax benefits. The general partner (management firm) manages the partnership using policy laid down in a partnership agreement. The agreement also covers, terms, fees, structures and other items agreed between the limited partners and the general partner.

**Listing** The quotation of shares on a recognised stock exchange.

**London Inter-bank Offer Rate (LIBOR)** The interest rate that the largest international banks charge each other in the London inter-bank market for loans. This is used as a basis for gauging the price of loans outside the inter-bank market.

**Management buy-in (MBI)** A buy-out in which external managers take over the company. Financing is provided to enable a manager or group of managers from outside the target company to buy into the company with the support of private equity investors. Where many of the non-managerial employees are included in the buy-out group it is called a management/employee buyout (MEBO).

**Management buyout (MBO)** A buy-out in which the target's management team acquires an existing product line or business from the vendor with the support of private equity investors.

**Management fees** Compensation received by a private equity fund's management firm. This annual management charge is equal to a certain percentage of investors' initial commitments to the fund.

**Market capitalisation (or market cap)** The number of shares outstanding multiplied by the market price of the stock. Market capitalisation is a common standard for describing the worth of a public company.

**Mezzanine finance** Loan finance that is halfway between equity and secured debt, either unsecured or with junior access to security. Typically, some of the return on the instrument is deferred in the form of rolled-up payment-in-kind (PIK) interest and/or an equity kicker. A mezzanine fund is a fund focusing on mezzanine financing.

**Net debt** Net debt is calculated as short- and long-term interest-bearing debt minus cash (and equivalents). The concept of net debt is the same under cash- and accrual-based financial reporting. High levels of net debt impose a call on future revenue flows to service that debt.

**Newco** A generic term for a new company incorporated for the purpose of acquiring the target business, unit or company from the vendor in a buy-out transaction.

**Non-Executive Director (NED or NXD)** A member of the board of directors of a company who has no management or executive function within the underlying company.

**Offer** The offer (or bid) made for the target company by the Newco offeror established by the private equity provider and the participating directors of the target company (those directors who are part of the management buy-out team).

**Open end fund** A fund which sells as many shares as investors demand.

**Option** A contractual right to purchase something (such as stock) at a future time or within a specified period at a specified price.

**Ordinary shares (or common shares:stock)** Owners of ordinary shares are typically entitled to vote on the selection of directors and other important issues. They may also receive dividends on their holdings, but ordinary shares do not guarantee a return on the investment. If a company is liquidated, the owners of bonds and preferred stock are paid before the holders of ordinary shares.

**PE ratio** Price/earnings ratio – the market price of a company's ordinary share divided by earnings per share for the most recent year.

**Payment in kind (PIK)** A feature of a security permitting the issuer to pay dividends or interest in the form of additional securities of the same class.

**Permanent establishment** A permanent establishment is, according to the OECD definition, a fixed place of business through which the business of an enterprise is wholly or partly carried on. Within private equity, permanent establishment refers to the possibility that a limited partner, either owning or having a stake in a private equity or venture capital fund, is considered as a resident of that country and hence liable for the national taxation.

**Pillar one pension** Pillar one refers to the public pension provisions, which are provided by the government.

**Pillar two pension** Pillar two refers to the occupational pension provisions, which are provided by the employer.

**PIPE** Generally referring to a private investment in public equity.

**Placement agent** A person or entity acting as an agent for a private equity house in raising investment funds.

**Portfolio company (or investee company)** The company or entity into which a private equity fund invests directly.

**Preference shares (or preferred stock)** Shares which have preference over ordinary shares, including priority in receipt of dividends and upon liquidation. In some cases these shares also have redemption rights, preferential voting rights, and rights of conversion into ordinary shares. Venture capitalists generally make investments in the form of convertible preference shares.

**Primary loan market (or syndicated loan market)** Market in which a new loan is syndicated/sold. See syndicated loan.

**Public offering** An offering of stock to the general investing public. For a public offering, registration of prospectus material with a national competent authority is generally compulsory.

**Public-to-private** A transaction involving an offer for the entire share capital of a listed target company by a new company – Newco – and the subsequent re-registration of that listed target company as a private company.

**Quartile** The IRR which lies a quarter from the bottom (lower quartile point) or top (upper quartile point) of the table ranking the individual fund IRRs.

**Ratchet/sliding scale** A bonus where capital can be reclaimed by managers of investee companies, depending on the achievement of corporate goals.

**Recapitalisation** Change in a company's capital structure. For example, a company may want to issue bonds to replace its preferred stock in order to save on taxes. Recapitalisation can be an alternative exit strategy for venture capitalists and leveraged buyout sponsors.

**Redemption** Repurchase by a company of its securities from an investor.

**Representations and Warranties ('Reps and Warranties')** Declarations made by the seller of one or more target companies in relation to the financial, legal and commercial status of the target companies, the financial instruments to be issued, the assets owned or used and the liabilities due, and whereby such persons represent and warrant that such declarations are true and correct as of a certain date.

**Retail investor** A non-institutional investor who purchases securities for his own account.

**Revolving facilities** A committed loan facility allowing a borrower to draw down and repay amounts (up to a limit) for short periods throughout the life of the facility. Amounts repaid can be re-borrowed, thereby combining some of the flexibility of the overdraft facility with the certainty of a term loan.

**RVPI (Residual Value to Paid-In)** The RVPI measures the value of the investors' (limited partners') interest held within the fund, relative to the cumulative paid-in capital. RVPI is net of fees and carried interest. This is a measure of the fund's 'unrealised' return on investment.

**SEC** Securities and Exchange Commission in the US.

**Secondary investment** An investment where a fund buys either a portfolio of direct investments of an existing private equity fund or limited partners' positions in these funds.

**Secondary loan market** Market in which loans trade after their primary market syndication.

**Secondary market** A market or exchange in which securities are bought and sold following their initial sale. Investors in the primary market, by contrast, purchase shares directly from the issuer.

**Secured debt** Loans secured against a company's assets.

**Semi-captive fund** A fund in which, although the main shareholder contributes a large part of the capital, a significant share of the capital is raised from third parties.

**Senior debt** A debt instrument which specifically has a higher priority for repayment than that of general unsecured creditors. Typically used for long-term financing for low-risk companies or for later-stage financing.

**Share purchase agreement** Agreement further to which one or more purchasers buy shares issued by one or more target companies from one or more sellers. The agreement will set out the type and amount of shares sold, the representations and warranties, the indemnification in the event of misrepresentation and may also include post-closing covenants (such as the obligation for the sellers not to compete with the purchasers).

**Squeeze-out** Statutory provisions entitling an offeror who has acquired the support of a certain percentage of shareholders to acquire the balance of shares in the target company.

**Staple financing** A prearranged financing package that a financial adviser or investment bank offers to the potential buyer in an auction process, when putting up a company for sale.

**Subordinated debt (junior debt)** Debt that ranks lower than other loans and will be paid last in case of liquidation.

**Subscription agreement** Agreement further to which one or more investors undertake to subscribe for shares. The agreement will set out the type and amount of instruments to be issued, the representations and warranties, the indemnification in the event of misrepresentation and may also include post-closing covenants (such as further investment obligations or restrictions on the transfer of the instruments that will be acquired).

**Syndicated loan** A very large loan in which a group of banks work together to provide funds for one borrower. There is usually one lead bank that takes a small percentage of the loan and syndicates the rest to other banks.

**Target company** The company that the offeror is considering investing in. In the context of a public-to-private deal this company will be the listed company that an offeror is considering investing in with the objective of bringing the company back into private ownership.

**Tax transparency** A fund structure or vehicle is tax transparent when the fund itself is not liable to taxation and the investment in an underlying company is treated as if it would be a direct investment for the initial investor (the LP), who is taxed only when the investment structure distributes its gains and revenues.

**Trade sale** The sale of company shares to industrial investors.

**TUPE** Transfer of Undertakings (Protection of Employment) Regulations 2006. UK legislation designed to protect employees' interests when either assets are sold or operations are transferred by employers without selling a company's shares.



**TVPI (Total Value to Paid-In)** TVPI is the sum of the DPI and the RVPI. TVPI is net of fees and carried interest.

**Unsecured debt** Loans not secured against a company's assets.

**Upper quartile** The point at which 25% of all returns in a group are greater and 75% are lower.

**Vesting** The process by which an employee is granted full ownership of conferred rights such as stock options and warrants (which then become vested rights). Rights which have not yet been vested (unvested rights) may not be sold or traded and can be forfeited.

**Vintage year** The year of fund formation and first drawdown of capital.

**Warrants** Type of security usually issued together with a loan, a bond or preferred stock. Warrants are also known as stock-purchase warrants or subscription warrants, and allow an investor to buy ordinary shares at a predetermined price.

**Warranty** Statement, usually contained in a share subscription or purchase agreement, as to the existing condition of the company which, if not true, supports a legal action for compensation by way of money damages.

**Weighted average cost of capital** Weighted average cost of capital is a discount rate used in valuation models reflecting the opportunity cost of all capital providers, weighted by their relative contribution to the company's total capital.

**Write-down** A reduction in the value of an investment.

**Write-off** The write-down of a portfolio company's value to zero. The value of the investment in the portfolio company is eliminated and the return to investors is zero or negative.

**Write-up** An increase in the value of an investment. An upward adjustment of an asset's value for accounting and reporting purposes.

**Yield** The rate of return on a debt instrument if the full amount of interest and principal are paid on schedule. Current yield is the interest rate as a percentage of the initial investment.

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