

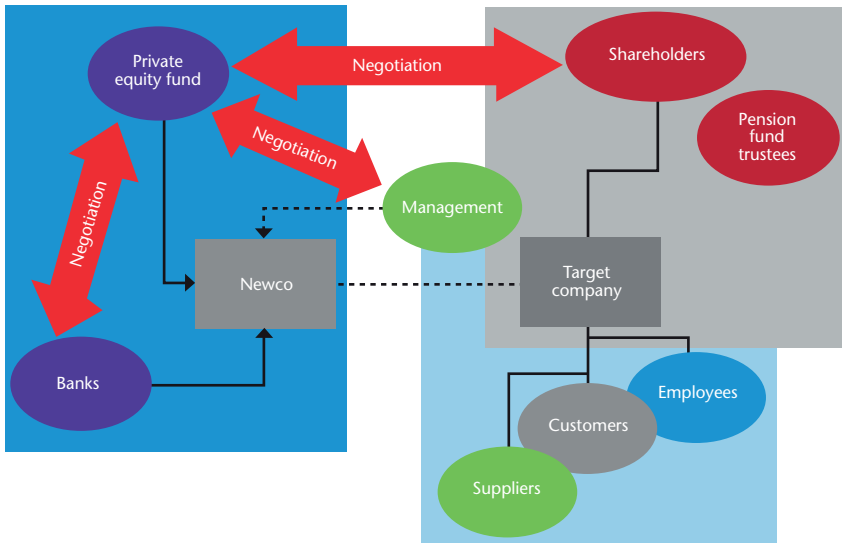
3. Evaluating, structuring and restructuring a private equity investment

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).

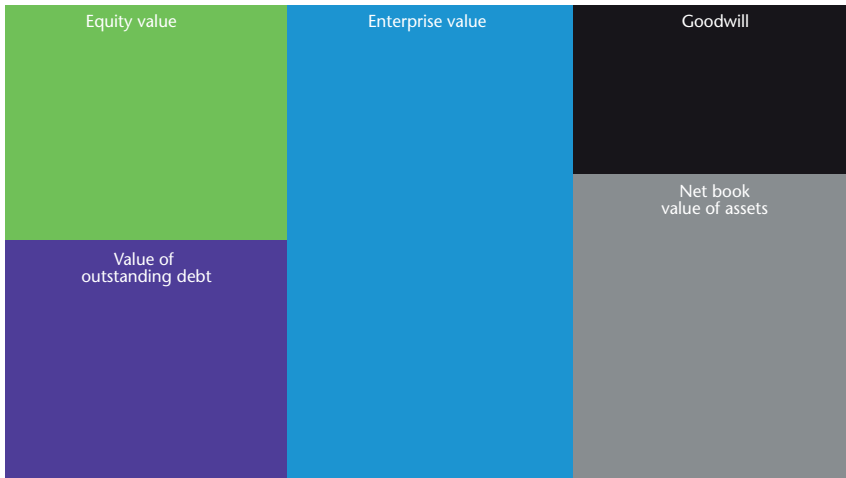
What is 'value'? The difference between enterprise value and equity value

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.

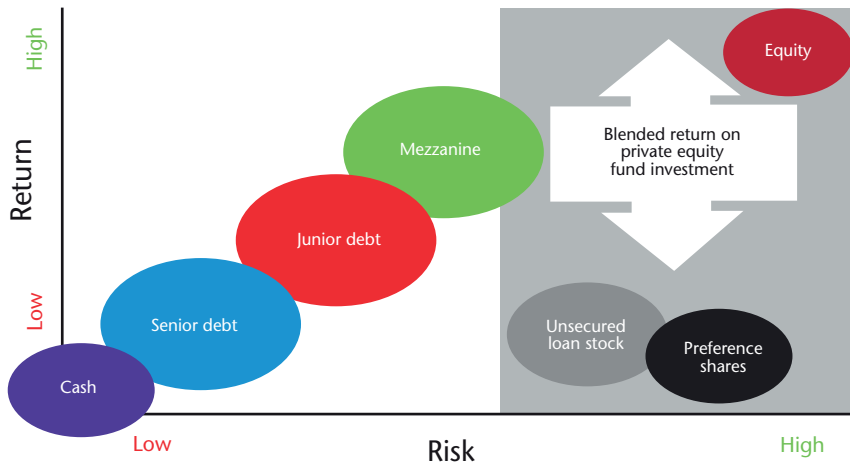
Table 3.2: Pricing ratios

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.

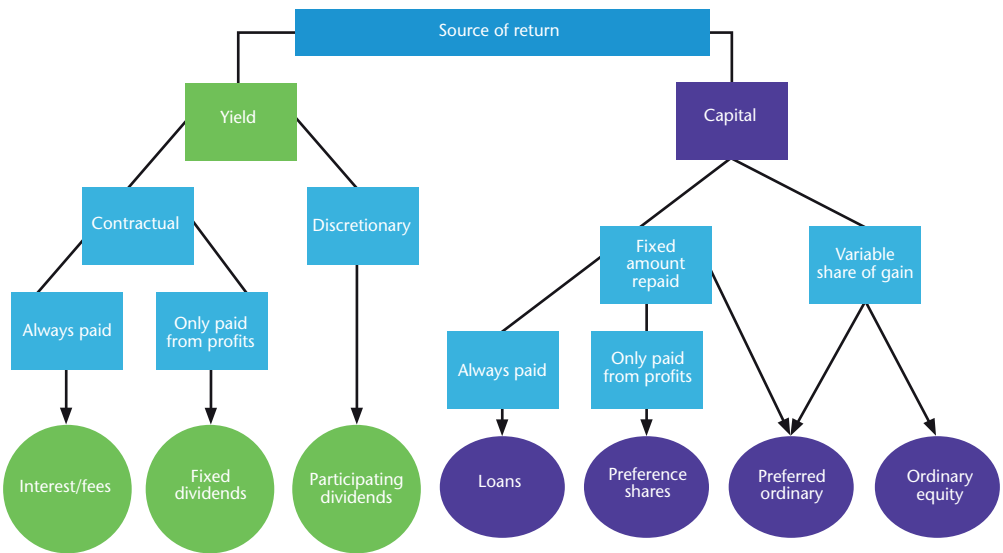
The objective is to minimise the cost of capital used to fund the business subject to the risk profile of the business. Any value created by this minimisation process is available to fund investment and acquisitions or is available to the ordinary equity shareholders who carry the highest risk.

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.

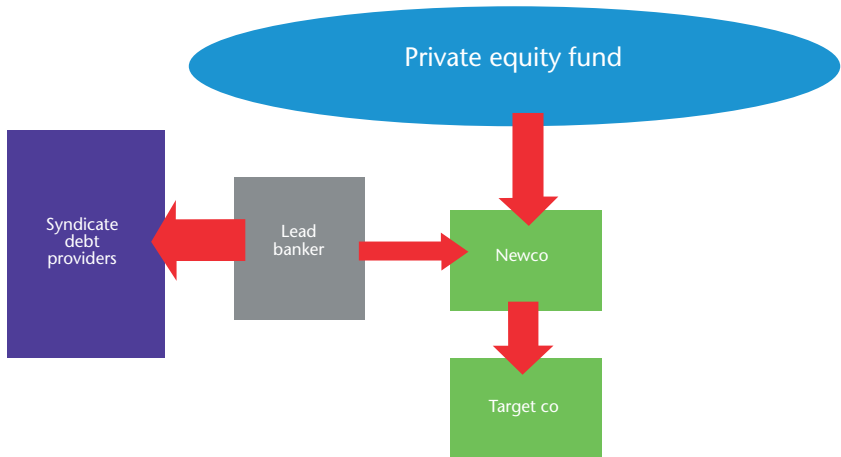
It is important to understand that this structure may materially advantage the private equity investor to the partial detriment of management who rank behind them. Management are only investing in the highest return strip of a capital structure to the extent that the instruments ranking ahead of them 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.

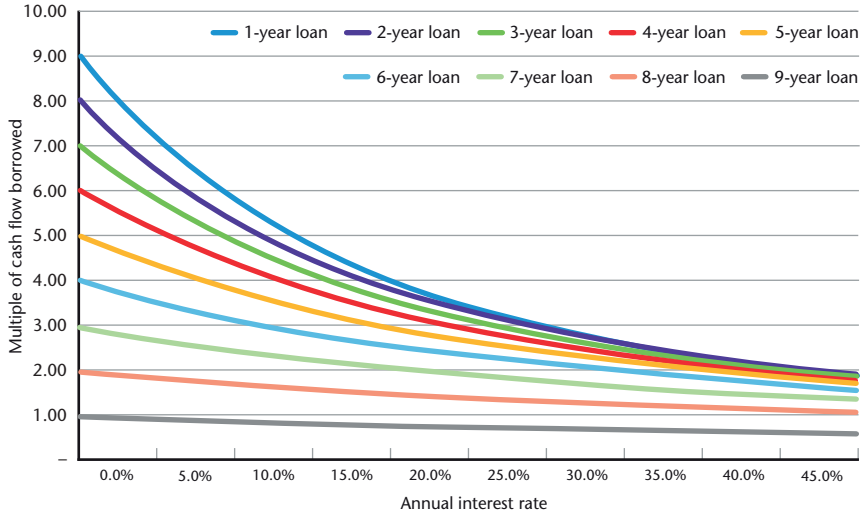
A private equity fund will therefore seek to maximise the term of the loan and minimise the interest rate subject to its appetite for financial risk.

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



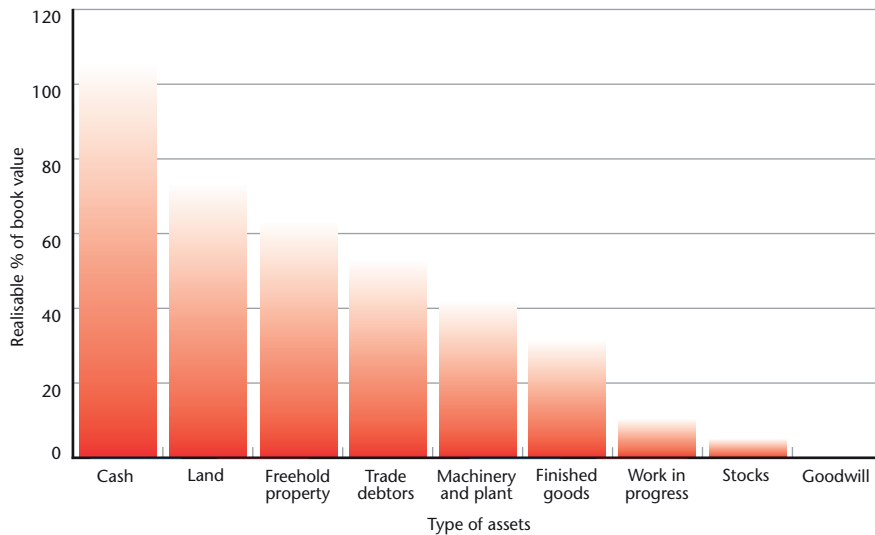
Source: Gilligan and Wright.

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

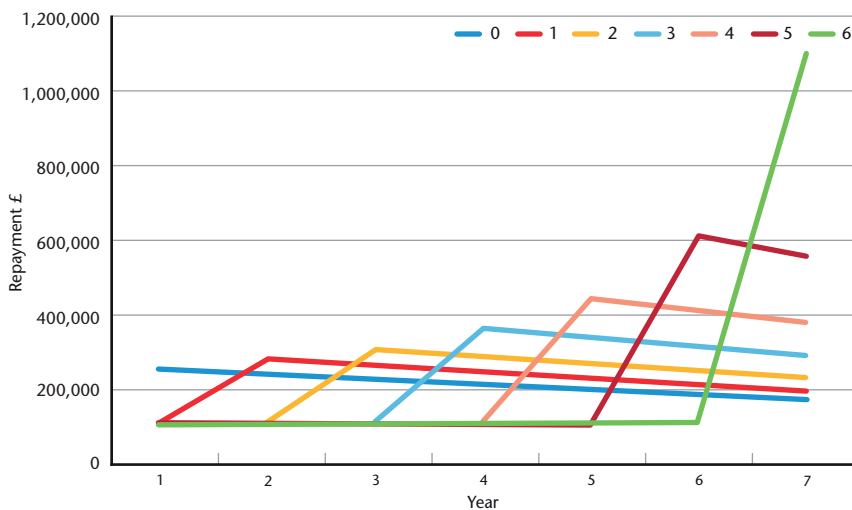
Prior to the credit crunch banks competed to win the lead arranger mandates both by minimising the price and by attempting to maximise the quantity of debt available. As explained above, in a normal loan paying interest and repaying capital in cash each year, the amount of debt can be increased by either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

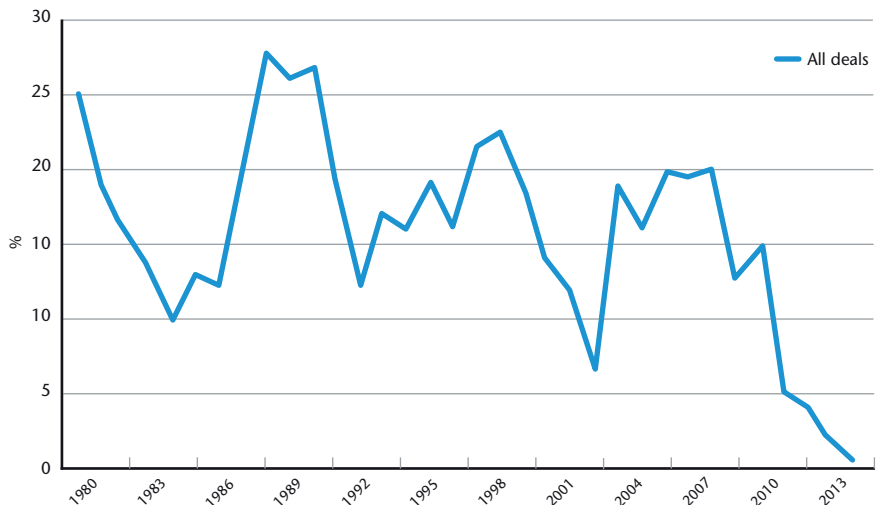
Another example could be where there are large forecast cash flows contingent on executing a particular part of the business plan: for example, reducing excess stocks or selling excess assets or non-core companies in a group. In these circumstances, the banks may take the view that they will lend against 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.

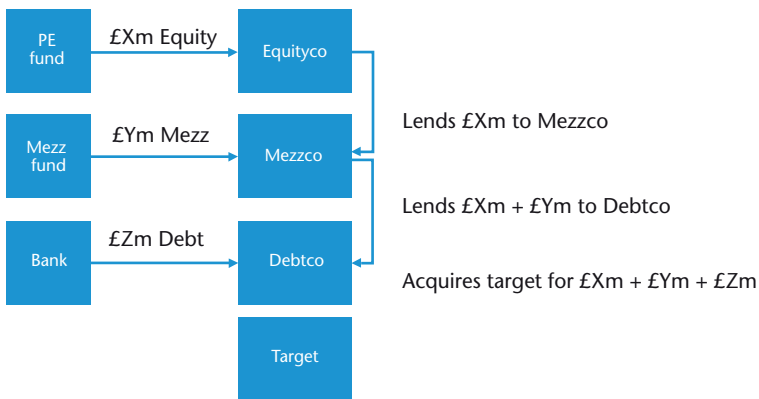
Bankers will typically price debt in layers. The first layer will be the most secure with a first charge over the assets of the borrower, and therefore be regarded as carrying the lowest risk, and priced accordingly.

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.

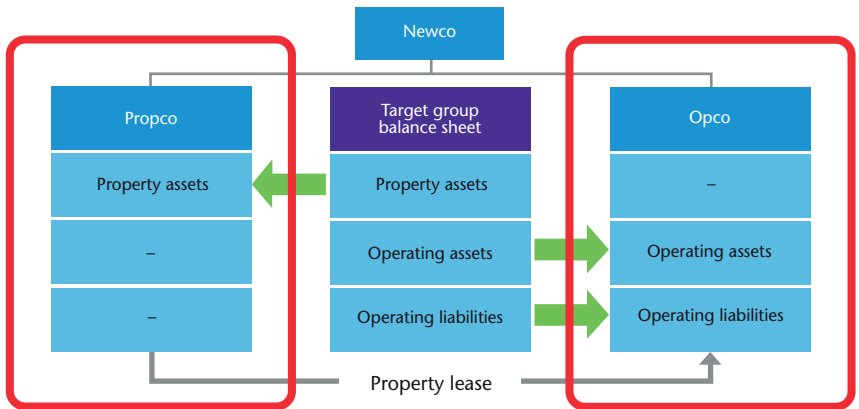
Assets that have no productive worth should always be sold. Other assets need to be reviewed in the context both of business efficiency and the security underlying the debt structure. Banks will usually wish to negotiate that some or all of the proceeds from any asset sales are used to repay borrowings, 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.

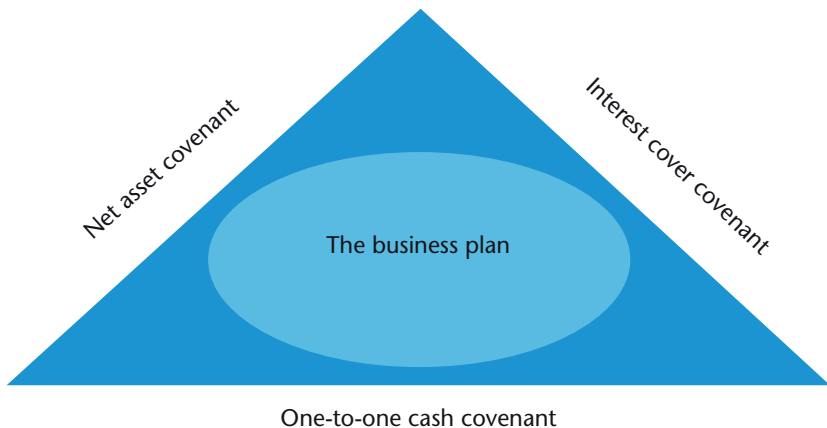
For this reason, leveraged offers for public companies are often conditional upon achieving at least 75% acceptances and may even require 90% acceptance.

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?

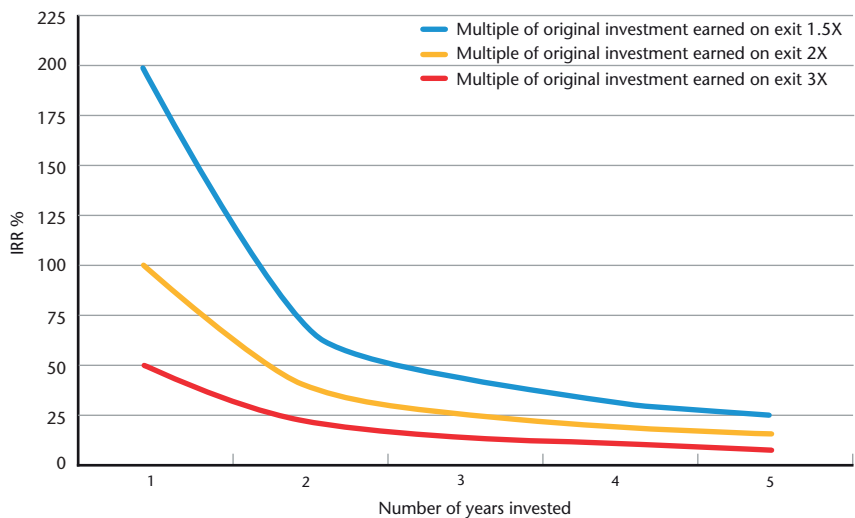
To understand the structuring of an investment we need to understand the interaction between pricing a transaction, financial risk and equity returns.

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?

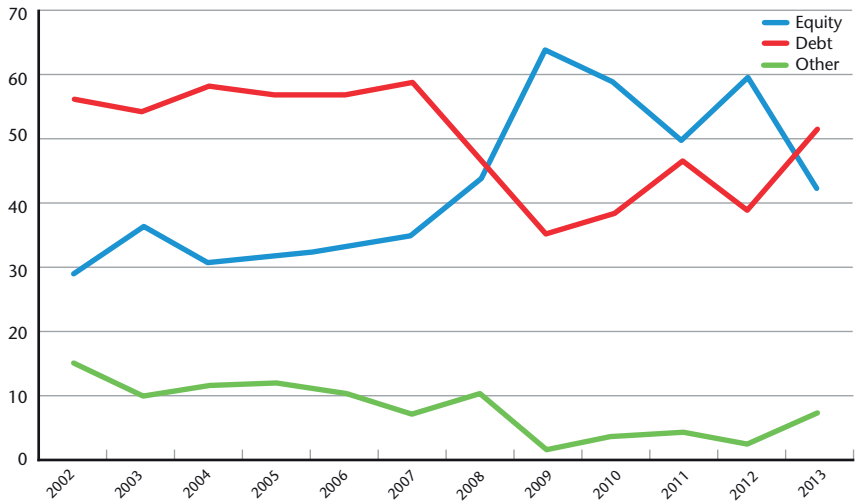
The evidence

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.

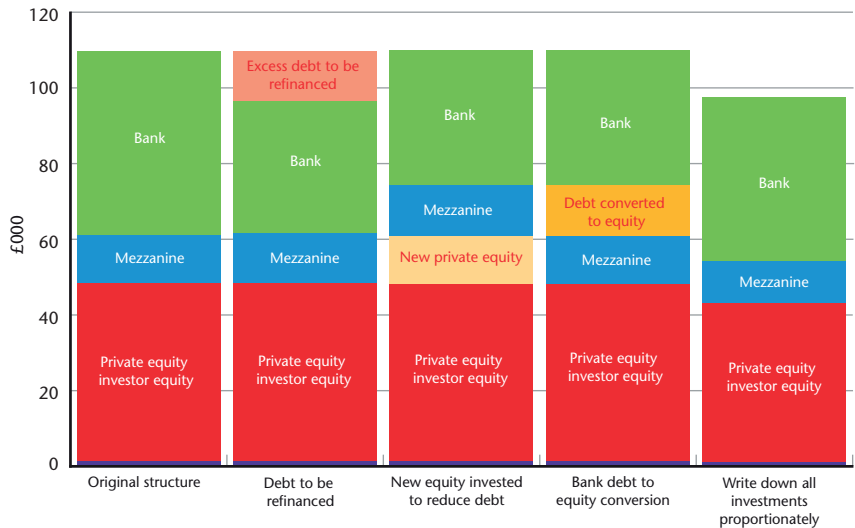
This leaves management in a position where the cost of the capital structure is increasing with no compensatory increase in their projected rewards. At some point the incentive of management will fall below the minimum necessary to retain and/or motivate them. In this scenario the equity illusion is 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.