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# Analysing Credit From A Market Perspective



**It's not rocket science...**

## Foreword

In March this year I completed a series of presentations across Europe entitled "How to Analyse Credit from a Market Perspective". Since then, a number of clients (well two actually!) have asked us to prepare a written document based on the presentation so that they had a reference guide to use in the future. Well, this is it!

It is often said that everyone has one book in them, well this is mine, and it just happens to be about credit research (many people will think that this proves how sad I really am....).

Unfortunately, in the interests of my own career prospects, a number of changes have been made to the original presentation (Lawyers - don't you just love them!). Despite this, I have attempted to keep what is after all an undeniably 'dry' subject as light and interesting as possible by using lots of examples and case studies.

Paul

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## Executive Summary

**All the basic building blocks are in place for the European corporate bond market to become one of the most significant asset classes in the world.**

In the not too distant future, we see Europe becoming a true credit market, with issuers being assessed on a relative value basis against each other based on their credit strength. For borrowers, this will provide a cheaper and more flexible source of finance. For investors, it will provide the supply, diversification and yield that they require.

As in the US, the development of a credit market will mean a much greater emphasis on credit analysis. In order to assess relative value in this new market, investors are going to have to do their "credit work". We think investors will use a combination of investment bank analysis, rating agencies and their own research capabilities in order to meet this objective.

So what is the purpose of credit research? From our perspective, credit research fulfils many different functions, from basic information flow, to market commentary on the direction of spreads and relative value, to analysis of sectors and individual companies. It is the latter which we focus on in this publication.

The analysis of an individual company's credit strength includes a fundamental review of the balance sheet, profit and loss account and cashflow statement. Understanding what the numbers contained in the accounts mean and what drives them, is the key to understanding whether an individual company is (or is likely to be) an improving or deteriorating credit.

It's not all about number crunching though, as the numbers cannot be used as an absolute test of credit strength. Credit analysis is also about evaluating the longer term strategy of a company and taking a subjective view on all the other factors that may affect a sector or a company. In this respect, as alluded to on the front cover, credit analysis is much less like rocket science than an art form. This reflects the fact that one of the prime movers of individual investment grade bond spreads is event risk. Event risk can take many forms, both positive and negative, internal (i.e. the company has an element of control) or external (i.e. the company has little control).

Traditional analysis of the balance sheet, profit and loss and cashflow statement alone, without a consideration of all the macro issues affecting a company and the bonds, can result in these event risk related opportunities (or threats) being missed.

For both the quantitative and qualitative elements, credit analysis from a market perspective must be forward looking rather than based on historic accounts. It is of course always interesting to see where a company has been, but ultimately it is where a company is going that determines the safety of a bond in terms of both the likelihood of repayment at maturity and the volatility in the price in the interim period. The future is obviously difficult to predict, and may bear no resemblance to the past.

This document has been written specifically in response to requests that we received from various clients we met on our European road show. These clients indicated that they were looking for a basic introduction to credit analysis to use as they contemplated entering the credit market for the first time. This document is presented in 5 complementary sections:

- In **Section 1**, we consider why we believe the corporate bond market will develop and grow dramatically in Europe over the next few years and why credit analysis will become a much more important feature of the Eurobond market.
- In **Section 2**, we examine the rating agencies, their role and their approach to ratings.
- In **Section 3**, we use a number of case studies to illustrate a market orientated approach to credit analysis.
- In **Section 4**, we outline a generic approach to the basic analysis of a corporate credit from a business perspective, i.e. the qualitative aspects, highlighting the key areas for consideration, using case studies to illustrate specific points.
- In **Section 5**, we summarise how to analyse a corporate from a financial perspective, i.e. the quantitative aspects. This section is constructed around an introductory framework for analysing the profit & loss, balance sheet and cash flow statements. Our presentation of the quantitative analysis highlights the key ratios utilised, explains why they are used and how to calculate them. The calculations are illustrated using a simplified sample set of financial statements for XYZ Plc, which are attached as appendices 1,2 and 3.

The main focus of this document is the analysis of corporate credits, although a number of the case studies refer to banks. We have therefore summarised the key elements of how to analyse a bank in appendix 5. More details on this topic are included in our recent publication: **"The European Banking Sector: Critical Mass?"**.

This document has intentionally been kept fairly simple and we would re-iterate that it is only intended as an introduction. It is possible, should one wish, to spend months analysing a single company. However, the simple framework we have suggested in the following pages will clearly indicate the overall strength of a company and whether further analysis is warranted.

If anyone would like to call and discuss any particular aspects of credit analysis in more detail, they are more than welcome to contact any member of the team.

**Section 1 Why Credit Is Such A Hot Topic Today**

**The Development of the Corporate Bond Market in Europe**

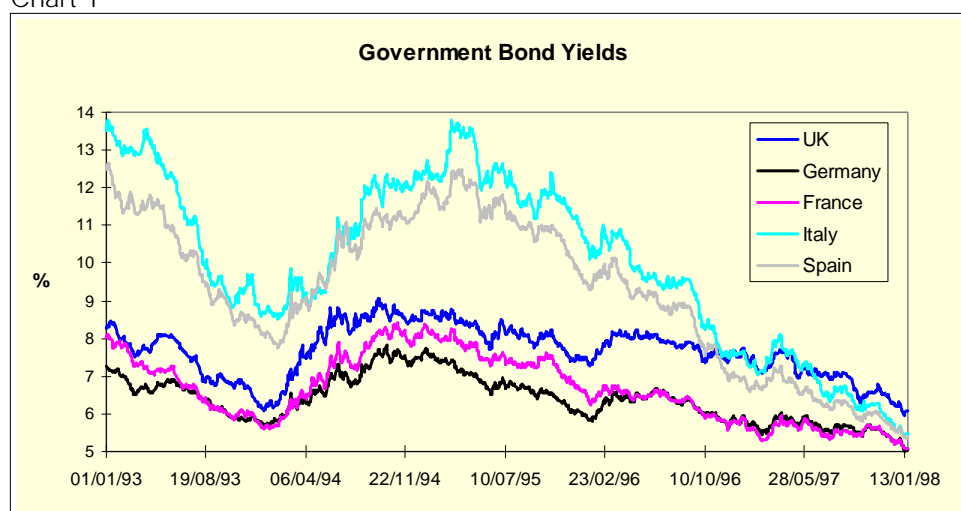
**Economic And Monetary Union**

EMU is driving growth in the corporate bond market

The main factor driving the development of the corporate bond market in Europe is undoubtedly EMU, and investors' search for yield.

Chart 1 shows how, as EMU approaches, traditionally high yielding government bonds such as Italy and Spain have tightened significantly (c700-800bp) against Germany as government bond yields have converged.

Chart 1



Source: Datastream, 10 year yields.

In their search for yield, investors are looking to the credit market...

Many investors in Europe have traditionally sought yield through currency speculation, rather than through credit. This in part explains why the eurobond markets are dominated by highly rated issuers (some 40% of the euro French Franc market is made up of AAA rated entities, the euro Deutsche Mark market is not significantly different; even in the euro Sterling market - arguably the most developed credit market in Europe - the figure is still approaching 30%).

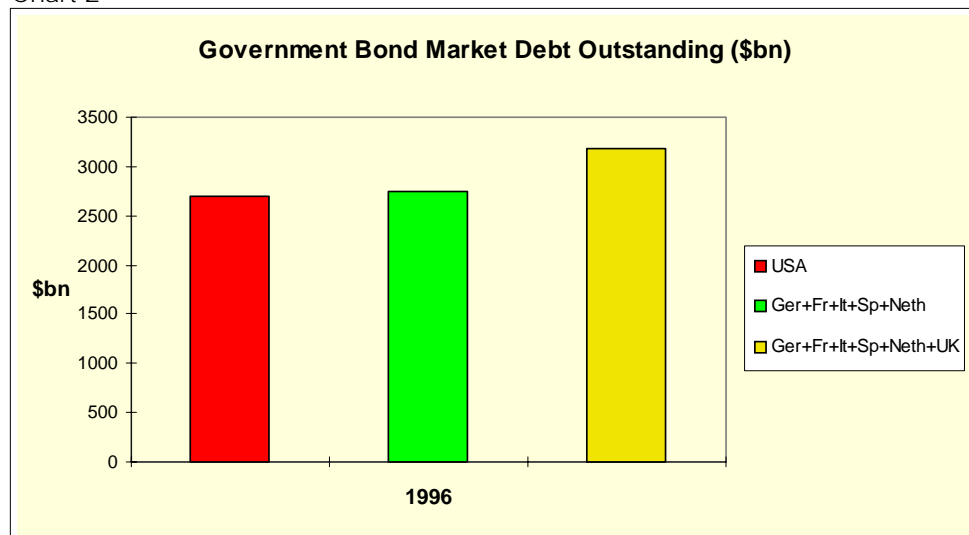
...and moving down the credit curve

Once EMU becomes a reality, the opportunity to attain yield through currency speculation will be eliminated. The question for European investors in a Euro environment is therefore how they replace this lost yield opportunity going forward. One answer lies in the credit market, which will consequently become a much more important source of yield as investors move "down the credit curve". Those who were investing in AAA issuers will start to look at AA names, and those previously investing in BBB paper will consider sub investment grade bonds. We therefore believe there is tremendous potential for growth in the European corporate bond market.

There is huge potential for growth compared to the US

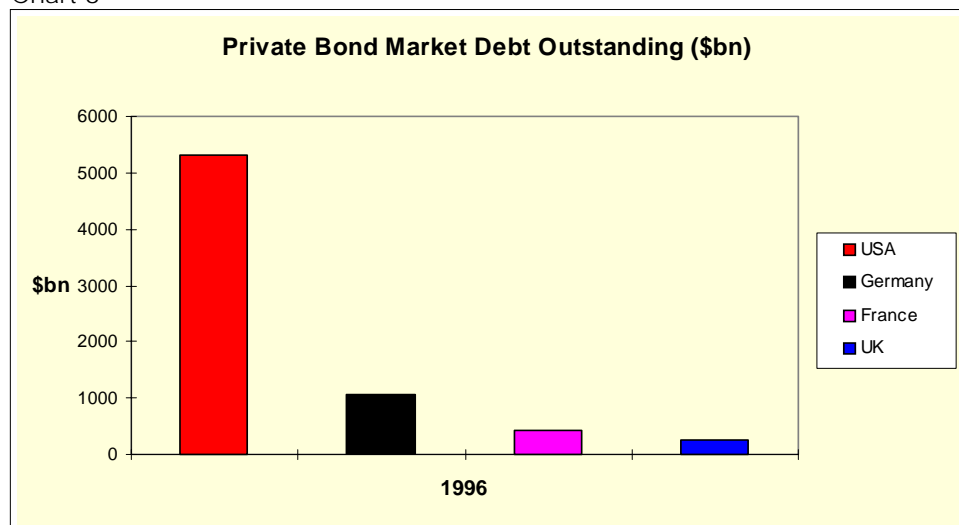
In this context, it is interesting to note that whilst the aggregate size of the core European government bond markets is similar to that of the US government bond market (see chart 2 below), the size of the US non government bond market dwarfs the European private bond markets (see chart 3). In fact, even adding together the three largest markets in Europe (France, Germany and the UK) they still account for only one third of the US total. This, more than anything else, clearly illustrates the potential for the expansion of the corporate bond market in Europe.

Chart 2



Source: Barclays Capital

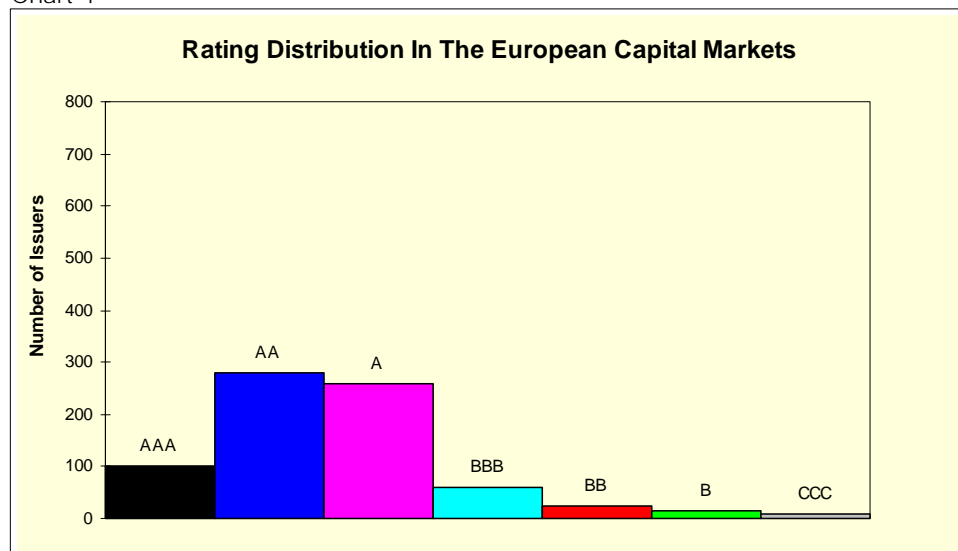
Chart 3



Source: Barclays Capital

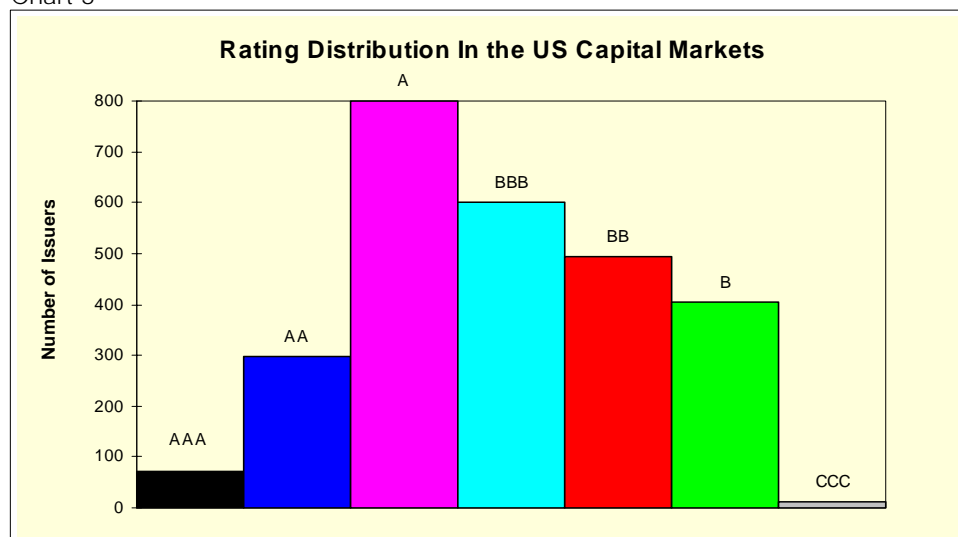
The differences between the US & Europe can also be seen in the composition of the two markets. Charts 4 and 5 overleaf show that not only is issuance at much higher levels in the US, but also how the type of issuance and shape of the market differs.

Chart 4



Source: S&P

Chart 5



Source: S&P

**The US has a much more highly developed credit culture**

Whilst European issuance is, as referred to earlier, dominated by AAA/AA/A issuers (chart 4), in the US, there is more issuance at the BBB and below level than at A and above (chart 5). This reflects the fact that the US boasts a much more highly developed credit market and culture. The US corporate bond market has developed over many years and in tandem with this, US investors have learnt to analyse credit and make investment decisions on the basis of credit quality over a long period.

In the US, almost every medium sized corporate is rated by at least two rating agencies and issues publicly traded debt. In Europe, the picture could not be more different. Consider the following examples. In 1997 there were just 3 investment grade corporate issues in the euro Deutsche Mark market (Mannesmann (un-rated), Total (Aa3/AA-) and Porsche (un-rated)). In the whole of Germany (as at mid June) there were just ten corporates with long term foreign currency ratings from S&P. In Italy, there is just one corporate with a long term foreign currency rating from S&P (Eni AA assigned April 1998). In the euro Lira market, Parmalat (un-rated) accounts for c30% of all issues since 1995.



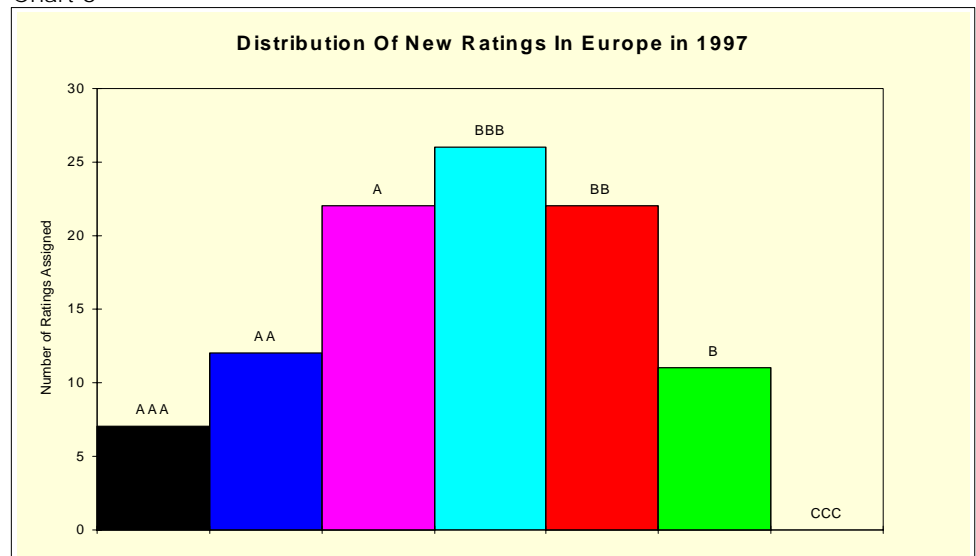
...but "times they are a changing"....

Europe will begin to look much more like the US

However, things are changing and we believe that over time the European corporate bond market will grow to rival the size of the US. We also believe that much more quickly, the shape of the European market will come to resemble the US corporate bond market, i.e. in terms of the composition of the credit ratings matrix.

Evidence to support the fact that this transformation is already well underway can be found in the pattern of new ratings assigned. Chart 6 shows S&P data for 1997. New ratings assigned to European companies, rather than being clustered around the AAA/AA categories, are instead clustered around the A/BBB level, presaging what we expect to be dramatic growth in issuance in these lower rating categories. It is also interesting to note the increase in BB/B ratings assigned, reflecting the development of the European high yield market. For more details of this market see our March publication "The European Corporate High Yield Bond Market: First Steps".

Chart 6



Source: S&P

### Corporate Restructuring

In addition to the search for yield, a second inter-related factor will also contribute to the growth of the corporate bond market in Europe. This is the restructuring of the corporate landscape which we believe will inevitably follow the introduction of the Euro.

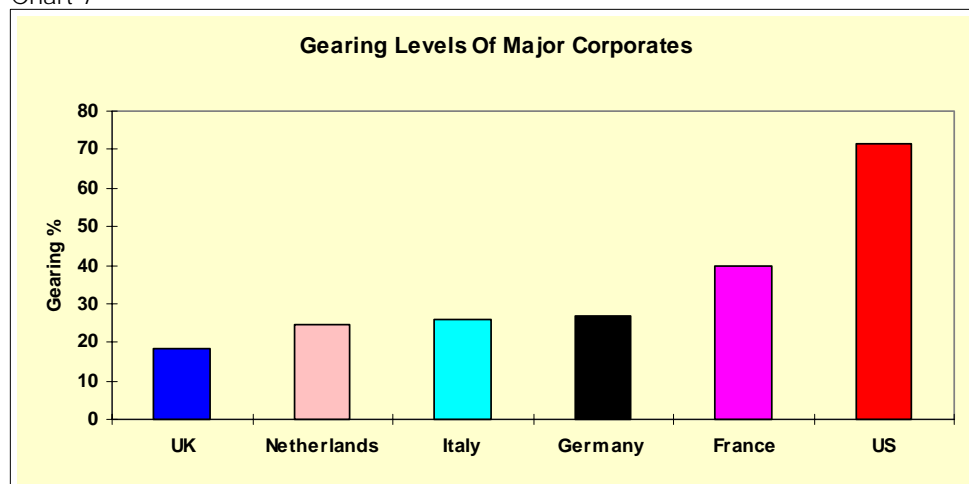
We expect companies to gear up, either to fund shareholder value packages or M&A's

Once the Euro is introduced, investors will be able to view Europe as a single domestic equity market. This will force companies to become more pro-actively focused on 1) shareholder value and 2) their position within their industry (as companies which were major players in their home market seek critical mass and economies of scale in a wider "European" context). As a result, companies may be encouraged to gear up, either to fund Anglo-Saxon style shareholder value packages or to fund investment (which may or may not be M&A driven). It is interesting to note that a number of leading German corporates (including Daimler Benz, Siemens, Bayer and Veba) have over the last few years instigated plans to enhance shareholder value. In the same time frame we have seen Krupp's attempted hostile take-over of Thyssen Ag (which ultimately resulted in a merger).

Compared to the US, there is plenty of scope for gearing up in Europe

Chart 7 shows the average gearing levels for leading companies in different countries around the world. US companies have typically operated with much more highly leveraged balance sheets than their European peers, reinforcing the capacity for gearing up in Europe.

Chart 7



Source: Barclays Capital

Lowly geared, cash generative businesses are attractive to predators who can introduce leverage to improve returns

If companies do not choose to run with more efficient (i.e. more highly leveraged) balance sheets, they may attract predators. On page 51 we illustrate how the introduction of debt can be used to increase shareholder returns. Debt can therefore be a powerful weapon for acquisitive companies buying lowly geared, cash generative businesses which can then be leveraged up. It should be noted however, that debt can also be used by a victim (or a potential victim) of a hostile bid to defend itself. Companies wishing to make themselves less attractive to bidders may implement a "scorched earth" policy. Companies looking to defend themselves following a bid may promise to return value to shareholders via special dividends/share buy-backs etc as part of a defence package. At the moment, the growth of the LBO (leveraged buy out) market has been driven by larger companies refocusing on core operations, or family run businesses realising their capital, i.e. friendly LBOs. There may come a time when LBO funds, which are currently awash with cash, become more aggressive.

The new approach to bank lending will enlarge the universe of issuers

The same issues facing corporates will also affect European banks. Like corporates, banks will have to become more cost and shareholder return conscious. As a result, they may be less willing to continue to provide the traditional loss leading loans to small and medium sized corporates which cannot generate sufficient ancillary business to compensate. Over time, this is likely to result in a weakening of the European "house banking"/relationship banking principal, mirroring what happened in the US in the 1970/80's. We have already seen a number of European banks securitising their loan portfolios in order to take these low margin assets off balance sheet. We expect this trend to encourage companies which have traditionally relied on bank finance, to issue in the capital markets instead, expanding the universe of corporate issuers.

Thus, on the one hand you have a situation where corporates wish to borrow more than ever before, and on the other, the banks becoming less inclined to lend. This scenario will act as a perfect catalyst for the growth of the European corporate bond market.

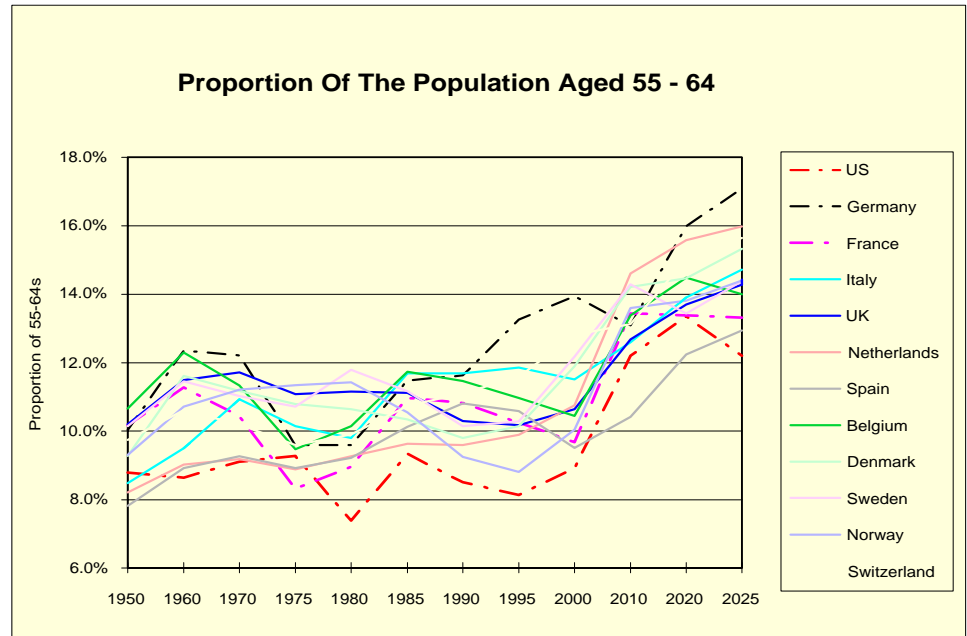
## Demographic Trends

Demographic trends and the need to reform the pension process in Europe support long term growth



The third key driver of the growth in the European corporate bond market is the continued rise in long term savings. Chart 8 shows how the proportion of the total population aged 55-64 has been relatively stable for the last 40 years, but is now set to rise sharply.

Chart 8



Source: Barclays Capital

The reason we concentrate on this age group is that they tend to be focusing on their retirement and considering whether they have sufficient income to lead the life they desire. With people living longer (US studies indicate that if you live to be 65 in the US, you have a 50% chance of living to the age of 80), long term savings (already the fastest growing sector of the financial services industry) will continue to be a growth area. As more European Governments address the unsustainable nature of the current "pay as you go" state pension schemes and force individuals to take responsibility for saving for their own future, the weight of money to be invested will create a vast pool of funds. These investors will require yield, and this in turn will encourage further supply in the debt capital markets.

## Summary

To sum up, we believe that over the next few years the European corporate bond market will become a deeper, more liquid credit market as the universe of rated issuers grows in response to the trends we have outlined above. We believe that this will encompass both investment grade and non investment grade issuers.

For the borrowers, this will mean a consistent alternative, cheaper source of funding; and for investors, the supply, diversification and yield that they require. In a Euro environment all the issuers in the eurobond market, including sovereigns and supra-nationals, will become "just another credit", thus credit analysis to differentiate between issuers and spot investment opportunities will become far more important.

**Section 2 The Rating Agencies And What They Do**

**Who Are The Rating Agencies**

3 main agencies in the Eurobond market

There are 3 main rating agencies in the Eurobond market, Standard & Poor's (S&P), Moody's and Fitch IBCA.

<b>Moody's</b>	<b>S&amp;P</b>	<b>Fitch IBCA</b>
In 1909 John Moody published "Analyses of Railroad Investments", a compendium of statistics and analysis with ratings on 250 railroad bonds. In 1914 the data was extended to include industrials and public utilities. In 1918 cities and other municipalities were added. Moody's now rates some 4,500 issuers including 80 sovereigns.	S&P originated in 1860 with the publication of financial statistics on the railway companies in the US. Corporate and government issuers were first rated 75 years ago. S&P now rates c\$10 trillion in outstanding bonds and other financial instruments in more than 50 countries.	Fitch IBCA was created in December 1997 following the merger of Fitch Investors Service and IBCA. Fitch IBCA is the only European owned rating agency. It currently rates 70 sovereign & sub-national borrowers, 1000 financial institutions, 600 corporates, 120 insurance companies and 1300 US municipalities.

Source: Moody's, S&P, Fitch IBCA

**What The Rating Agencies Do (In Their Own Words!)**

In Moody's words the role of the rating agency is "to provide through a simple symbol system, objective and independent opinions of relative credit risk that investors can use as a supplement to, but not as a substitute for, their own internal credit research"

Providing opinions on relative credit risk through an alpha/numeric symbol

Ratings are therefore designed to indicate:

the "ability and legal obligation of an issuer to make timely payments of principal and interest on a specific fixed income security" Moody's

The rating agencies focus on credit risk and the probability of default. They are not interested in the other factors which may affect the performance of a fixed income security.

In order to assign a rating, the agencies conduct a detailed review of the issuer and the security being issued and assign an alpha/alpha-numeric symbol (see chart 9 below). It should be noted that the specific issue is rated not the individual issuer, therefore one company may have a number of different ratings depending on the terms and conditions of the securities involved (e.g. senior, subordinated, secured, unsecured).

Ratings below BBB-/Baa3 are non investment grade

Chart 9 shows the various symbols used by the three agencies. There is a formal dividing line between "investment grade" and "non investment grade". Anything rated below BBB- by S&P/Fitch IBCA or Baa3 by Moody's is, by definition, non investment grade.

Chart 9

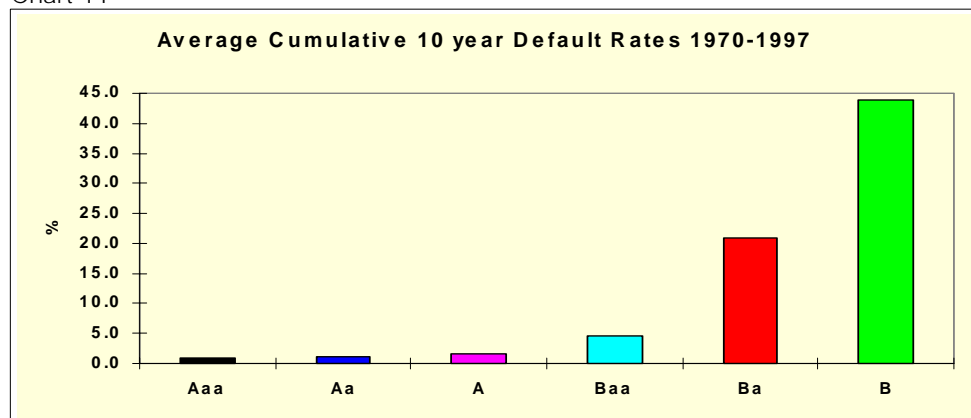
Moody's (1,2,3)	Standard & Poor's (+/-)	Fitch IBCA (+/-)
Aaa	AAA	AAA
Aa	AA	AA
A	A	A
Baa	BBB	BBB
Ba	BB	BB
B	B	B
Caa	CCC	CCC
Ca	CC	CC
C	C	C
	D	D

Chart 10 overleaf, illustrates the definition/investment characteristics of the various rating categories as assigned by the agencies. For the corporate bond market to flourish in Europe as it has in the US, more corporate issuers covering the entire rating spectrum are required. As outlined in section 1, we believe this is only a matter of time.

AAA corporate ratings are rare, but no agency uses the term "undoubted"

It is interesting to note that despite being the top rating and (for corporates) relatively rare, none of the agencies use the word "undoubted" for a AAA rating. It is also interesting that each agency acknowledges that in practice there is very little difference between the credit quality of a AAA rated issue and a AA rated issue. This is supported by default studies (see chart 11). It is clear looking at the chart below that default rates only increase significantly in the Ba/BB range.

Chart 11



Source: Moody's



There is little difference in the credit quality of AAA vs AA

Reflecting the high default probability, the agencies comment that single B issues "generally lack the characteristics of the desirable investment". However, whilst the default rates for single B rated securities have been high, the historic returns have been sufficient to compensate for this additional risk. During the 1991-1995 period (importantly including the tail end of the last recession when default rates rose, and therefore representing a low starting point), high yield bonds outperformed every other asset class in the US, eventually being overtaken by equities in 1996. In 1996 high yield bonds in the US made a total return of more than 12%, compared with a negative total return from US treasuries over the same period. In 1997 the total return exceeded 13%. So far in 1998, despite the Asian crisis, high yield bonds have generated a total return in excess of 5%, which implies the full year return could exceed 10%. It is this kind of performance that has encouraged the migration to the term "high yield" rather than "junk", but is something that might not be appreciated from the rating agencies comments. However, to be fair, we need to emphasise that the rating agencies focus is on the probability of default and therefore the risk equation, rather than the potential return.

Default rates rise significantly at Ba/BB

But the return on BB/B bonds compensate for this risk

Chart 10

Rating	Characteristics
<p><b>Aaa/AAA</b></p> 	<p>"judged to be of the best quality" (Moody's)                      "carry the smallest degree of investment risk" (Moody's).                      "obligor's capacity to meet its financial commitment on the obligation is extremely strong" (S&amp;P)                      "exceptionally strong capacity for timely payment of financial commitment" (Fitch IBCA)</p>
<p><b>Aa/AA</b></p>	<p>"judged to be of a high quality" (Moody's)                      "differs from the highest rated issue only in small degree" (S&amp;P)                      "very strong capacity for timely payment of financial commitments" (Fitch IBCA)</p>
<p><b>A/A</b></p>	<p>"possess many favourable investment attributes" (Moody's)                      "somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than debt in higher rated categories" (S&amp;P)                      "more vulnerable to changes in circumstances or in economic conditions" (Fitch IBCA)</p>
<p><b>Baa/BBB</b></p>	<p>"interest payments and principal security appear adequate for the present but certain protective elements may be lacking" (Moody's)                      "adverse economic conditions, or changing circumstances are more likely to lead to a weakened capacity of the obligor to meet its financial commitment on the obligation" (S&amp;P)                      "currently a low expectation of credit risk" (Fitch IBCA)</p>
<p><b>Ba/BB</b></p>	<p>"judged to have speculative elements; their future cannot be considered as well-assured" (Moody's)                      "it faces major on-going uncertainties or exposure to adverse business, financial, or economic conditions which could lead to the obligors inadequate capacity to meet its financial commitment on the obligation" (S&amp;P)                      "a possibility of credit risk developing" (Fitch IBCA)</p>
<p><b>B/B</b></p>	<p>"generally lack characteristics of the desirable investment" (Moody's)                      "more vulnerable to non payment of obligations...but the obligor currently has the capacity to meet interest on its financial commitment on the obligation" (S&amp;P)                      "significant credit risk is present, but a limited margin of safety remains" (Fitch IBCA)</p>
<p><b>Caa/CCC</b></p> 	<p>"are of poor standing" (Moody's)                      "is currently vulnerable to non payment" (S&amp;P)                      "default is a real possibility" (Fitch IBCA)</p>

Source Standard & Poor's, Moody's, FITCH IBCA

## How A Rating Is Assigned

Ratings are expected to be stable over the life of the issue

Ratings are meant to be forward looking and are assigned with the expectation of remaining stable over the life of the issue.

"as a rule of thumb, we are looking through the next economic cycle or longer" Moody's

Ratings are a balance of quantitative and qualitative factors



Cashflow is the key

Each agency emphasises that their analysis is based on two parallel aspects 1) the **quantitative analysis** (or financial risk) and 2) the **qualitative analysis** (or business risk) and that neither is more important than the other.

The quantitative analysis is typically based on the last 5 years financial data, management forecasts, discussions with the management about future performance and financial/operational strategy. The key focus is the cashflow available to service and repay debt. Assumptions are tested under a number of scenarios.

"our analysis focuses on an assessment of the level and predictability of an issuer's future cash generation in relation to its commitment to repay debt holders" Moody's.

Outsiders often think that the rating process is highly secretive. In fact this is not the case. The agencies complete a fairly regimented and standard credit analysis. S&P even publish the median figures for a universe of typical rated industrial companies (i.e. excluding those companies like the US cable operators whose financials are unrepresentative) for each rating category for the 8 industrial ratios which they consider key (see chart 12 below). These median figures can be used to benchmark un-rated companies against other industrial companies. [For reference the definition of the 8 key S&P ratios are attached as appendix 4].

Chart 12

Industrial Long Term Debt	Three Year (1994-1996) Medians					
	AAA	AA	A	BBB	BB	B
Pre-Tax Interest Cover (X)	16.05	11.06	6.26	4.11	2.27	1.18
EBITDA Interest Cover (X)	20.3	14.94	8.51	6.03	3.63	2.27
Funds From Operations/Total Debt (%)	116.4	72.3	47.5	34.7	18.4	10.9
Free Operating Cashflow/Total Debt (%)	76.8	30.5	18.8	8.4	2.4	1.2
Pre-Tax Return On Permanent Capital (%)	31.5	23.6	19.5	15.1	11.9	9.1
Operating Income/Sales (%)	24.0	19.2	16.1	15.4	15.1	12.6
Long Term Debt/Capital (%)	13.4	21.9	32.7	43.4	53.9	65.9
Total Debt/Capitalisation (%)	23.6	29.7	38.7	46.8	55.8	68.9

Source S&P Credit Week September 1997

Publications such as S&P's "Credit Stats" which list the ratios of rated companies by industry are useful tools

By calculating these ratios, it is possible to obtain a starting point for where an un-rated industrial company would be rated. Obviously the figures shown in chart 12 reflect the median ratios of a universe of rated companies and the actual ratios suitable for a given rating will vary significantly according to the business risk. This means that for any particular rating category, an acceptable level of leverage for say a utility with a 20 year monopoly to supply an essential service, will not be the same as the level of leverage suitable for a high tech company in a rapidly changing and highly competitive business. Obviously the latter's business



will be far more subject to change than the former's. Publications such as S&P's "Credit Stats" which list these ratios for rated companies by industry are useful tools.

"the degree of a firm's business risk sets the expectations for the financial risk it can afford at any rating level" S&P

### There is no magic formula

Each agency is at pains to stress that there is no magic formula for the calculation of a rating. Obtaining certain ratios is not the answer. In our opinion, this reflects the fact that companies are run by humans and should therefore be analysed by humans. As Moody's and S&P put it:

"because long term credit judgements involve so many factors unique to particular industries, issuers and countries, we believe that any attempt to reduce credit rating to a formulaic methodology would be misleading..... ratings are not based on a defined set of financial ratios or rigid computer models. Rather, they are the product of a comprehensive analysis of each individual issue and each issuer by experienced, well informed, impartial credit analysts" Moody's

"It is critical to understand that the rating process is not limited to the examination of various financial measures.... there are many nonnumeric distinguishing characteristics that determine a company's creditworthiness." S&P

### The qualitative analysis provides a framework for the quantitative analysis

Thus to complement the financial analysis and provide a frame of reference for the quantitative analysis, the rating agencies undertake a full review of the global, country, sector and business environment, as well as an issuer's individual characteristics and market position in order to assess the business risk. The key aspects of a qualitative analysis are considered in more detail on page 35. It is the qualitative side of credit analysis much more than the quantitative side, that is subject to interpretation.

"because it involves a look into the future, credit rating is by nature subjective" Moody's

This is why it is not unusual to see split ratings, with one agency assigning for example an A+ and another assigning an A2. Differences of more than 2 notches however are fairly rare since the financial analysis will effectively provide a form of "cap and floor" which the qualitative analysis will be used to finesse. Thus, whilst the numbers are very important with quantitative considerations accounting for c40-60% of the final rating, in some cases the qualitative considerations will outweigh the numerical.

"At times, a rating decision may be influenced strongly by financial measures. At other times, business risk factors may dominate. If a firm is strong in one respect and weak in another, the rating will balance the different factors" S&P

The impact the business risk can have on the financial analysis is clearly illustrated by the following guidelines (chart 13 and 14) which are published by S&P. S&P stress that these guidelines are not precise, but are intended to indicate the ranges which characterise different rating categories. Strengths in one area can offset weakness in another.



Chart 13

US Industrials: Funds From Operations/Total Debt Guidelines %					
Business Profile	AAA	AA	A	BBB	BB
Excellent	80%	60%	40%	25%	10%
Above Average	150%	80%	50%	30%	15%
Average	-	105%	60%	35%	20%
Below Average	-	-	85%	40%	25%
Vulnerable	-	-	-	65%	45%

Source: S&P Corporate Ratings Criteria

Chart 14

US Industrials: Total Debt/Capitalisation Guidelines %					
Business Profile	AAA	AA	A	BBB	BB
Excellent	30%	40%	50%	60%	70%
Above Average	20%	25%	40%	50%	60%
Average	-	15%	30%	40%	55%
Below Average	-	-	25%	35%	45%
Vulnerable	-	-	-	25%	35%

Source: S&P Corporate Ratings Criteria



The pharmaceutical industry is an example of a sector with a strong business profile given the strong earnings performance and volume growth, the stable and predictable cashflow from a wide range of products and the pricing power that the companies generally have, especially for new products which also often have patent protection. This strong business profile is reflected in the number of Aaa rated pharmaceutical issuers including Bristol-Myers Squibb, Johnson & Johnson, Merck, Novartis and Pfizer. The shipping industry is an example of a sector with a relatively poor business profile given its highly fragmented state, fierce competition, high capital requirement, cyclicality and pricing pressures. This (along with high leverage) is reflected in the number of sub investment grade shipping issuers.

### Monitoring Of Ratings

Once a rating has been assigned it will be monitored on an on-going basis and will generally be formally reviewed on an annual basis. A review of the rating can be prompted at any time by any event which materially changes the overall credit profile, either from a financial perspective or a business perspective. Examples include a deterioration or improvement in underlying performance, an acquisition or disposal, a change in capital structure following a share buy back, or special dividend, or write off etc.

Ratings are reviewed on an on-going basis in response to events

## Analysing Credit From A Market Perspective

### A market perspective

**Porsche** International Finance (guaranteed by Porsche Ag) issued a 4.875% 10 year bond in April 1997 at 14bp over the bund. By lunch time on the day of issue, demand for the name was so strong that the spread tightened to flat with bunds. This was clearly an anomaly and did not reflect the actual credit strength of Porsche, a luxury car manufacturer with a cyclical earnings profile.

### Looking for Investment opportunities

**We are looking for upside opportunity, or to avoid the downside**

Much of our analysis is similar to that undertaken by the rating agencies. We go through the same process of examining the financials, considering the market position and other various qualitative factors to determine the overall credit strength of a company and whether it is likely to default. A generic approach to the analysis of a corporate credit is considered in sections 4 and 5.

The key difference between our analysis and that undertaken by the rating agencies, is that having completed the basic credit analysis and satisfied ourselves that the company is sound, we may take a more "market orientated" approach. In this way, we endeavour to make a distinction between "pure credit analysis" (i.e. the likelihood of default or operational based credit deterioration) and investment opportunities. We are looking for upside opportunity, or to avoid the downside.

Investment opportunities may arise for any number of reasons. For example; a company's spread may move out of line with its underlying credit quality because of very strong name recognition and retail demand resulting in pricing anomalies, as in the case of Porsche. In other cases, it may be possible to take a view on certain data in advance of the rest of the market, becoming bullish or bearish about the future of the company (e.g. Philips page 19).

In other situations, it may be a matter of taking a slightly longer term view and recognising that whilst a company's financial profile has deteriorated following an industry defining/industry changing acquisition, the rating agencies' initial response is too focused on the immediate financial effects rather than the positive business consequences/longer term competitive effects, and that over time, this will come to influence the rating positively (e.g. Glaxo page 20). In other circumstances, we may take the view that the agencies' initial reaction in placing a company on review for downgrade following an acquisition is unlikely to actually result in a downgrade, once other factors such as underlying performance, management's proven ability to deliver on promises and the scope for cost cutting are considered (e.g. Lloyds-TSB page 22).

Sometimes it is possible to anticipate the negative impact of future event risk (eg ICI page 23 or Pearson page 24). Event risk is any event which significantly changes the financial profile of the issuer and is unrelated to the underlying business operations. This may include internal event risk (i.e. something the issuer has an element of control over) or external event risk (i.e. something the issuer has little control over). The ability to recognise fundamentally sound credits which are subject to possible negative event risk and steer clear until after the event (i.e. the acquisition etc) has occurred is a continuing theme in the bond market. In this way, it may be possible to avoid the spread widening, but benefit from future de-leveraging or an improvement in credit quality/business position as the acquisition is integrated, by buying bonds issued subsequently.

As well as seeking to avoid the downside risk if a company makes a large acquisition, de-merges, or is taken over by a weaker company, we also seek to identify the winners from the potential upside risk if a company is acquired by a stronger or higher rated entity.

**A mix of pure credit analysis and equity style analysis**

In this respect, the way that we analyse a company or a sector is often a mixture of pure credit analysis and (for want of a better phrase) equity style analysis. This reflects the fact that over the last few years, the prime mover of prices in the investment grade bond market has been event risk, rather than underlying performance. This is clearly illustrated by the North American Life (page 25) and Trafalgar House (page 26) case studies.

From an analyst's point of view, event risk (whether positive or negative) is much more difficult to predict and requires a much broader knowledge of not just the individual company, but also the industry sector (see the Natexis case study on page 27) and to some extent even the psychology of the management (see the BAT case study on page 28). Credit Foncier CFF (page 29) is another example of the need to take account of "the big picture". In this case, one of the key factors was the possibility of systemic risk.

The potential for positive or negative event risk is one reason why bonds will often trade out of line with their current rating. Unlike the rating agencies who have to consider the current balance sheet structure/cashflow, the market can be more forward looking, anticipating a change in the financial profile and by implication the ratings.

**The market has more opportunity to respond to credit events via every bp movement...**

The market can and often does, take a view on the direction of each individual credit, rather than looking purely at the rating assigned. Often, by the time the rating is actually amended, the bond price will have already factored this in. This is clearly illustrated by the London Electricity case study on page 31.

**...the agencies have only a finite number of rating notches**

This is not to criticise the rating agencies though. The fact remains that they have only a limited number of categories/notches with which to grade the credit quality of an issuer. In many ways, the market has the opportunity to be a much more rapid and more efficient judge of credit quality as every basis point movement in spread could be interpreted to represent a reflection of the changing perception of credit quality.

**The market is far from perfect....**

This gives the market more scope to differentiate between a weak single A and a strong single A. For this reason, companies with the same credit ratings will often trade differently, reflecting the market's perception of their credit quality. This is perhaps best illustrated by the example of COLT and Esprit Telecom, two European high yield issuers in the same sector which on launch had similar ratings, but traded c300bp apart (see page 34).

**....this itself can create opportunities**

However, for all of this ability to be a "more rapid and efficient judge of credit quality", it is worth pointing out that the market is far from perfect (although this itself may create investment opportunities). This is illustrated by the Southern Electric case study (page 32).

## Conclusion

The rating agencies play a vital role

Whilst our approach sometimes has a slightly different perspective to the rating agencies, we believe that the agencies perform an extremely important task. This is particularly reflected in the background work that they do on every rated issuer and sectors in general, the information gathering process they undertake and the historic data that they hold on record.

Ratings aid relative value considerations

Ratings also act as a benchmark of credit quality between issuers since ratings are intended to be comparable across different industry groupings and different countries (although in practice some sectors will be perceived (by the market) to have stronger credit profiles than others, even if they are rated the same). Ratings provide investors who do not have time to complete in depth analysis on every single issuer some confidence as to relative credit strength. In this way, ratings make relative value comparisons between issuers easier and serve to widen investment horizons and promote market liquidity and efficiency.

**Philips Electronics NV: Anticipating An Improvement In Underlying Performance**

This is a fairly simplistic example, but it does show how market participants can pro-actively look at key financial indicators at the time of the results announcement and project these forward to forecast the financial profile of the firm.

At the time of the first quarter results in 1997, we looked at Philips' underlying performance, key ratios and the management's stated targets.

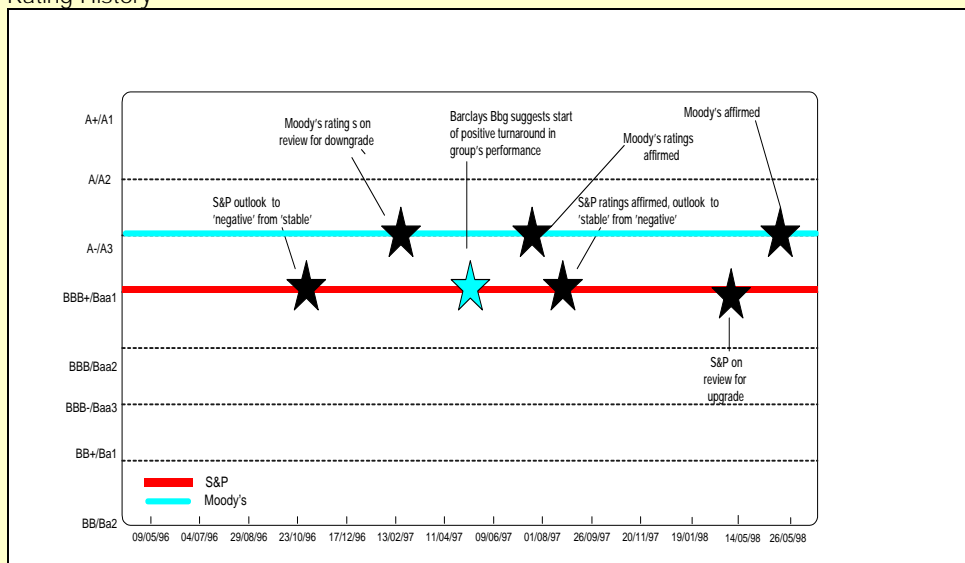
From these, it looked as though interest cover could recover to more than 5X and gearing reduce from c70% to c50%. Management also appeared to be taking control of the business; restructuring it to improve performance and cash generation. At the time, the Moody's A3 rating was on watch for downgrade and S&P's BBB+ had been assigned a negative outlook.

This improving financial profile, coupled with a management strategy that looked positive for bond holders (i.e. the focus on improving cash generation) led us to conclude that the agencies would be more positive on the Philips story.

We commented that "if the next few quarters results show continued recovery, we could see Moody's rating taken off review and the S&P outlook revised to stable" and were consequently positive on the bonds.

The rating history below illustrates that this is exactly what happened.

**Rating History**



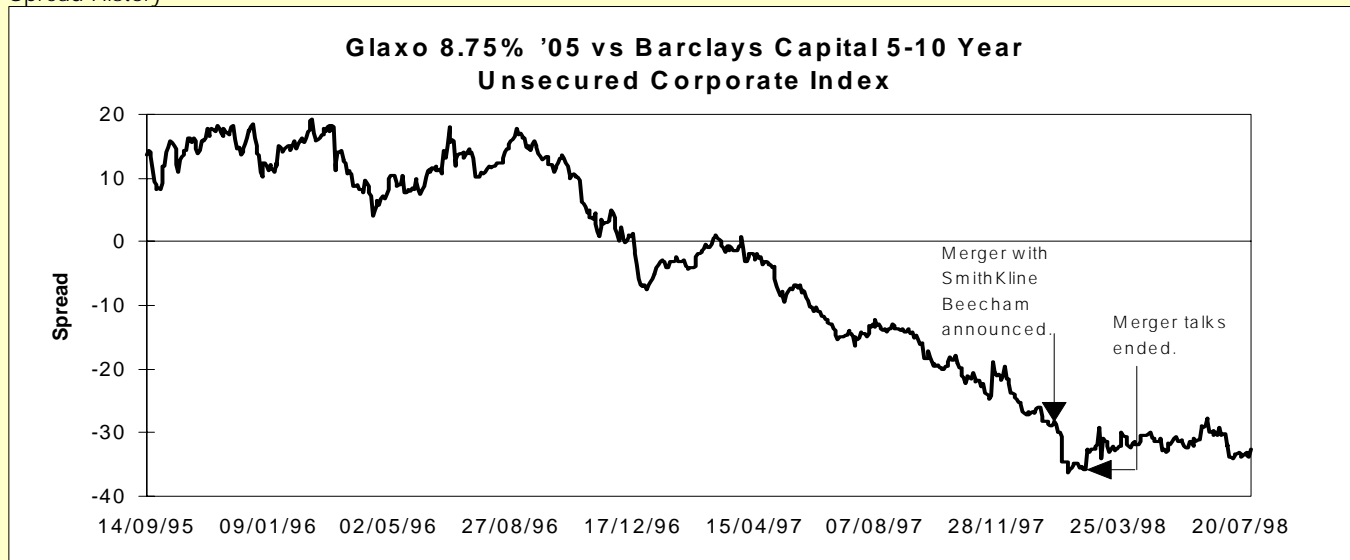
Source: Barclays Capital

Since then, the restructuring has continued. Most recently Seagram acquired Polygram (75% owned by Philips) for c\$10bn stock and cash. Following this, Philips' A3 was affirmed and the BBB+ placed on credit watch with positive implications.

## Glaxo Wellcome Plc: Taking The Longer Term View Of An Acquisition

Glaxo is an interesting example of how cautious the rating agencies typically are immediately following a large debt financed acquisition. This is reasonable considering their aims and objectives. However, this case study shows that it is possible to benefit from taking a longer term view, despite the negative impact of the acquisition on the financial profile, if the business rationale is as strong as it was in this case, and the underlying operating performance strong enough to allow the credit profile to recover quickly.

### Spread History

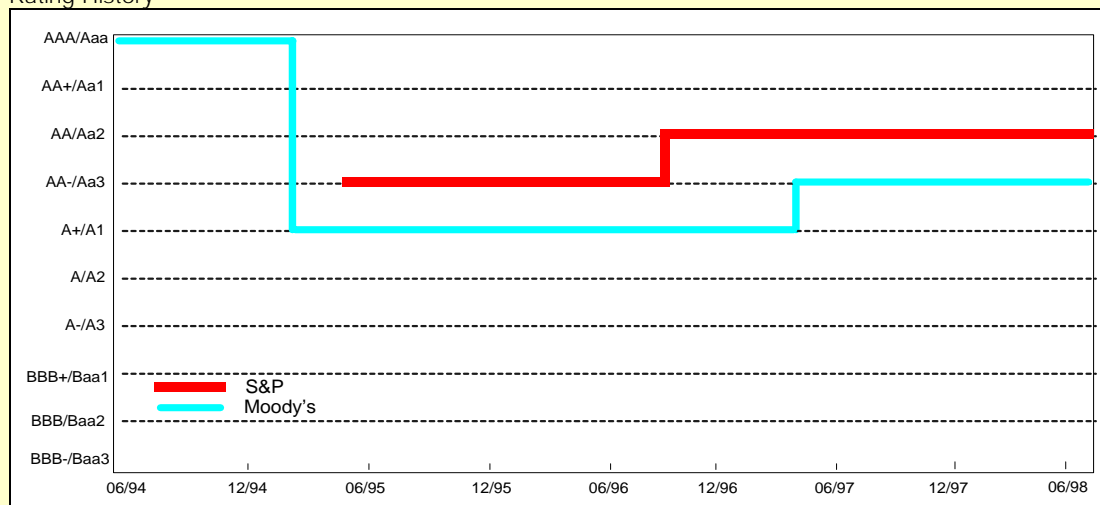


Source: Barclays Capital

In early 1995 Glaxo made a £9.5bn successful bid for Wellcome, creating the largest pharmaceutical company in the world, with a market share of over 5%. Following the acquisition, Moody's downgraded Glaxo from Aaa to A1 reflecting the fact that the acquisition was 70% debt financed (Glaxo went from £2bn net cash at the year end to £3.2bn net debt after the acquisition) and the fact that both Glaxo and Wellcome were heavily dependent on a handful of key products. Moody's indicated that substantial debt reduction and strong new product development would be required before an upgrade would be considered. S&P assigned the enlarged group a AA- rating after the acquisition.

Despite the agencies' initial caution, the Wellcome acquisition was an important event for the pharmaceutical industry, not just in terms of Glaxo Wellcome's sheer size and critical mass compared to its competitors, but also its higher margins and more efficient use of R&D and marketing. Glaxo pursued cost cuts and synergies aggressively and achieved far greater savings than many had anticipated. As a result, S&P raised the rating to AA in October 1996. Underlying performance and cash generation increased, with full year 1996 figures showing interest cover of 11.7X, a £1.3bn reduction in debt and £3bn of cashflow. On the back of these very strong numbers, Moody's upgraded the rating in early April. One point to note is that whilst the financial impact of the acquisition was undoubtedly significant, Glaxo's business position was enhanced so much that its credit profile was able to recover rapidly.

### Rating History



Source: Barclays Capital

Glaxo is one that we initially got wrong. Whilst we were positive on Glaxo's own performance following the Wellcome acquisition, we felt there was a strong possibility of further M&A activity, reflecting the fact that the pharmaceutical industry remained highly fragmented and the desire of Glaxo's management to grow. In our March 1996 note, whilst recognising the strong underlying performance and forecast debt reduction, we were torn between whether Glaxo would seek to merge with another group or make another acquisition. Ultimately we concluded that Glaxo would probably make further acquisitions which could put pressure on the then A1/AA- ratings and advised investors to be cautious on the bonds.

In September 1996 we revisited the sector. This time we concluded that the rise in pharmaceutical stock prices (which had previously been depressed following threats of healthcare cost cutting in the US) would effectively make any acquisition large enough to have a significant impact on credit quality too expensive and that mergers would therefore be the way forward. We felt mergers would be positive for the ratings of the companies involved because of the business benefits available (as demonstrated by the Glaxo Wellcome deal). Evidence of this shift away from acquisitions was seen in the agreed merger between Sandoz and Ciba to form Novartis, this heralded the start of a fresh round of consolidation in the industry.

Ultimately, as we originally anticipated, Glaxo did seek to enhance its size and position through a deal with SmithKline Beecham in early 1998. However, reflecting our later analysis, this was structured not as an acquisition but as a merger. When the Glaxo/SmithKline Beecham merger was announced, we jokingly indicated that the rating agencies may have to invent a new rating category of "AAA+" reflecting the impact on the combined group's business position (the combined entity would have had a market share of 7% - some 50% higher than its nearest rival) and our view that mergers (without a corresponding "kicker" for shareholders) would be positive for bond holders. The merger failed, not because of a lack of business rationale, which was very strong, but because of management/control issues.

## Lloyds TSB Group Plc: Two Reviews For Downgrade....And Then Upgraded...

In April 1994 Lloyds bid £1.8bn for Cheltenham and Gloucester, which, with £18bn total assets was at the time the UK's sixth largest building society and was regarded as one of the "stars of the sector". Given the subsequent rise in the equity market, this would now be considered cheap (Halifax has agreed to pay £750m for Birmingham Midshires, a smaller institution which generated net income c4.5X less than C&G).

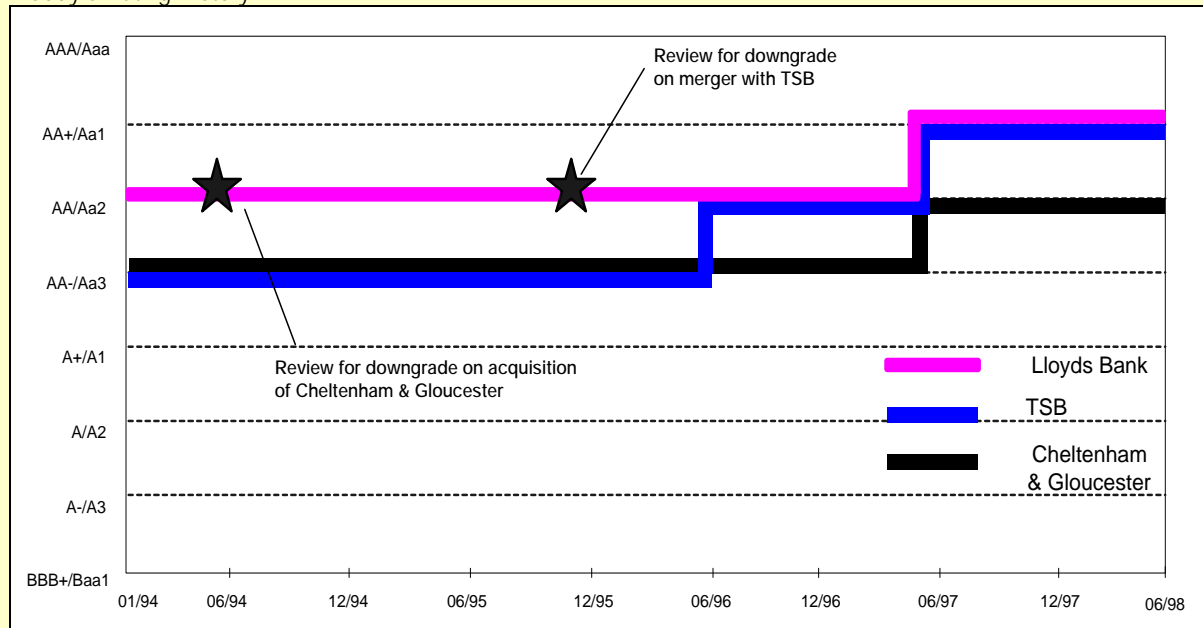
C&G was complementary to Lloyds existing business and a very strong brand in its own right. Despite this, when the acquisition was announced, Moody's placed Lloyds' Aa2 on review for downgrade pending consideration of the impact of the acquisition on Lloyds' capital. We felt that Moody's would ultimately affirm the rating given the business logic behind the deal and Lloyds strong financial profile. We were therefore positive on Lloyds bonds. The rating was subsequently affirmed.

In October 1995, Lloyds agreed to merge with TSB to create the 3rd largest bank in the UK. The deal valued TSB at £5.13bn and was referred to, and cleared by, the MMC. Moody's again placed Lloyds' Aa2 on review for downgrade immediately after the announcement, pending a review of the impact on Lloyds' financial strength and its ability to integrate TSB. We felt that ultimately Moody's would affirm the rating once the potential for cost cutting, Lloyds' sound operating performance, ability to generate capital and its successful integration of C&G were considered. Again we were positive on the bonds and the rating was subsequently affirmed. Lloyds remained our pick of UK banks.

In January 1997, after a period of continued excellent performance, Moody's put the Aa2 rating on review for upgrade and eventually raised to Aa1 in May.

So, within a short space of time, Lloyds had been placed on review for downgrade twice, but was ultimately upgraded.

### Moody's Rating History



Source: Barclays Capital



## Imperial Chemical Industries Plc: Anticipating Event Risk & Buying After The Event

This case study is an example which shows how it is possible, in some cases, to predict possible future event risk by carefully considering what the management are saying about the future of the business and whether this heralds any changes in strategy which might have an impact on the bonds.

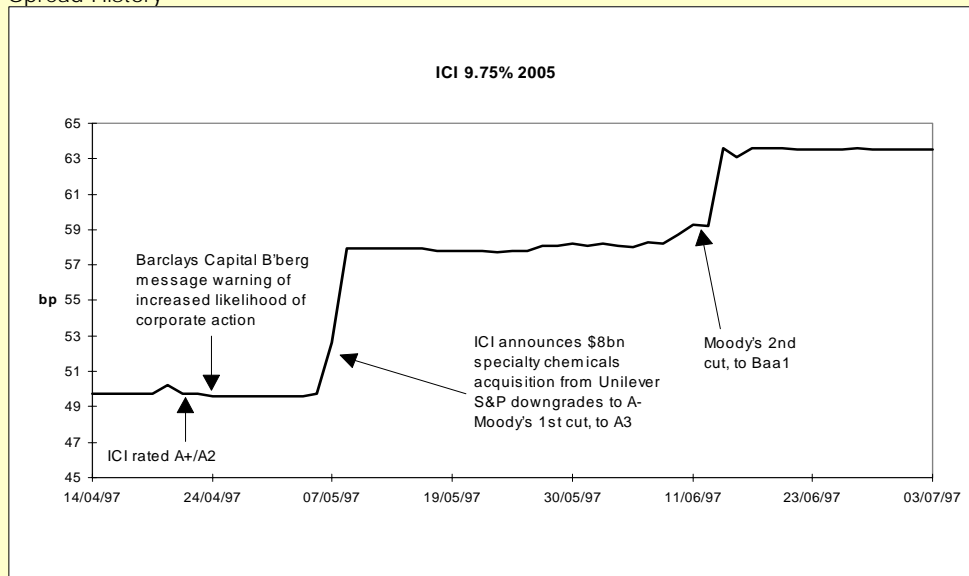
In ICI's trading statement on the 6th of February 1997, the management said "ICI will continue to move the balance of its portfolio towards the lighter end, with its lower cyclicality. More value creating opportunities will be sought in these businesses in 1997...the dividend for the year has been increased, signalling the boards commitment and confidence in its ability to create value for its shareholders".

Shortly after this statement, we looked more closely at ICI and commented "management talk recently has been on shareholder value and the fact that at the moment the strong balance sheet is "under-utilised" so we could see some action this year", as a result, we advised that we were cautious on the bonds.

Soon after this, ICI announced the \$8bn acquisition of Unilever's speciality chemicals business. As can be seen in the charts below, whilst perceived to be a sound strategic acquisition, it was very large and fundamentally altered the financial risk profile of ICI.

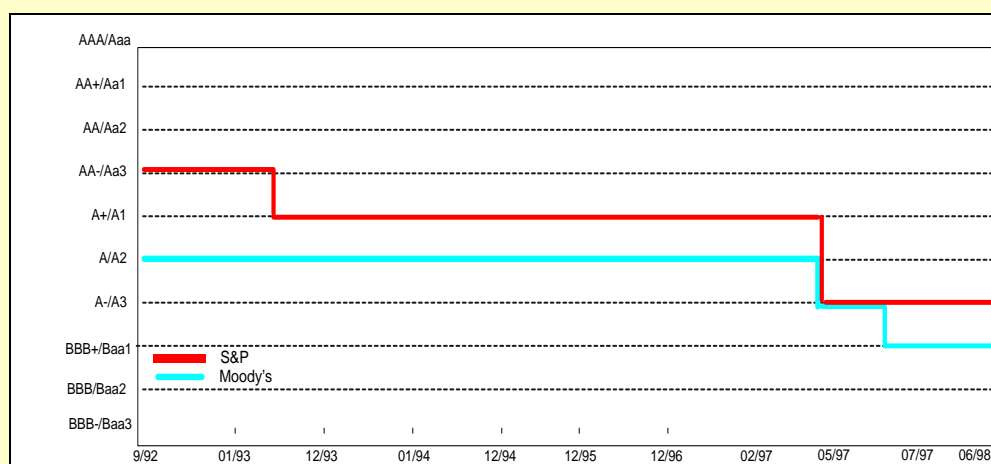
As a result, bond spreads widened and the ratings were fairly swiftly downgraded. ICI subsequently refinanced much of the acquisition cost through the capital markets, giving investors the opportunity to buy into the new ICI credit story "after the event" at a spread that reflected the more highly leveraged balance sheet and the lower ratings.

### Spread History



Source: Barclays Capital

### Rating History



Source: Barclays Capital

## Pearson Plc: Anticipating Event Risk & Buying After The Event, Part II

Over the last few years, Pearson has transformed itself from a conglomerate into a media/entertainment group focusing on entertainment, education and information. Pearson is a sound credit with high quality assets. Despite this, we had long been cautious on the Pearson bonds, because of the prospect of negative event risk, both internal (i.e. Pearson doing something) and external (i.e. another party doing something to Pearson).

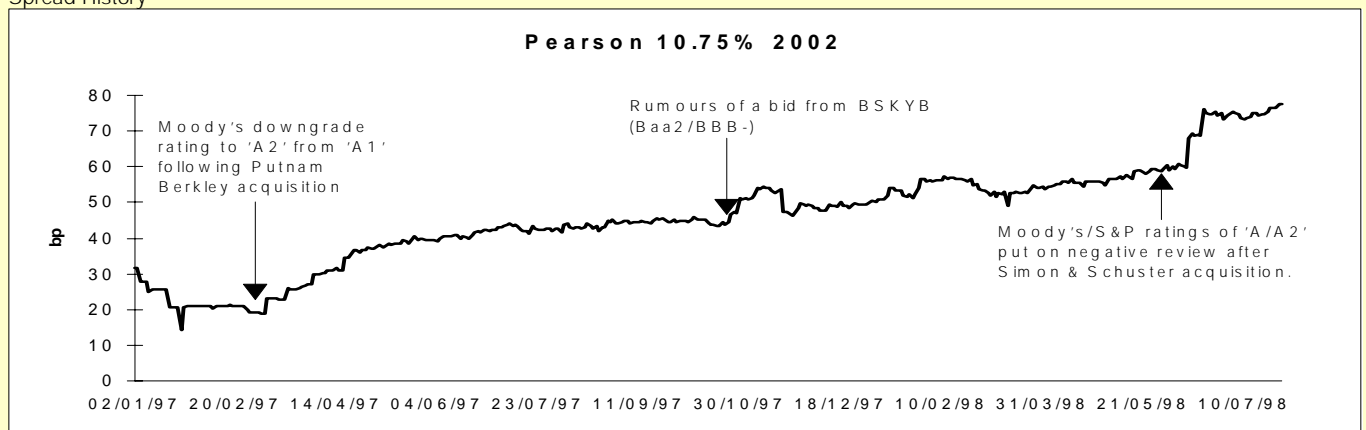
Our negative stance reflected two key issues; 1) the media world is fast moving & capital/resource hungry. Scale is very important and we did not believe that Pearson as it stood, was big enough to compete in 3 wide ranging media segments with larger and more specialised competitors (e.g. Reed in publishing, Reuters in information, Disney in entertainment). We therefore felt that at some point Pearson was likely to make a large acquisition to gain critical mass in one or more divisions. 2) Pearson's equity performance was very weak and Pearson was under pressure to improve shareholder returns. As a result, there was press speculation that Pearson may become a bid target, although overall we felt Pearson was more likely to be the predator than the prey.

Pearson's 27/3/96 decision to buy back its £25m sterling loan stock and change their Articles of Association to increase debt capacity (we estimated at the time that the new definition raised the maximum borrowing from £1.7bn to £3.7bn) reinforced our view that at some point Pearson would seek to use this additional debt capacity, either to make a significant acquisition, or defend itself against a hostile bid. At one point rumours of a bid from BSKYB (Baa2/BBB-) emerged, but did not materialise, although the spread moved out as can be seen from the spread charts below.

Pearson eventually appointed a new CEO, Marjorie Scardino, who set about improving the underlying performance of the business, disposing of non core assets and reinforcing Pearson's position through selected acquisitions. In the 1997 accounts the CEO reiterated her targets of double digit earnings growth and of at least doubling the value of Pearson over 5 years. In meeting these targets, she indicated "we may choose to take some leaps to gain major market positions" clearly heralding the potential for large acquisitions should the right assets come on to the market. Pearson also changed the wording of their group financial policy. Pearson's 1996 accounts stated "the groups policy is to manage the amount of its net debt....and the level of interest cover in a manner which is consistent with the maintenance of its credit ratings at or near their current levels". Pearson was then rated A1/A+. The 1997 accounts stated "we aim to manage the amount of net debt....and the level of interest cover in a manner which maintains our credit ratings at their appropriate levels. Current ratings are...A/A2" (the ratings were cut in early 1997 following the Putnam Berkley acquisition).

At the 1998 results presentation on 16/3/98, the CEO stated that Pearson would consider a major acquisition and felt themselves to have "considerable firepower". On 18/5/98 Pearson won Viacom's auction for Simon & Schuster's educational & professional publishing business with a cash bid of \$4.6bn.

### Spread History



Source: Barclays Capital

The A/A2 ratings already had a negative outlook before the acquisition and were subsequently put on review for downgrade. At a press conference to discuss the acquisition, Pearson's Finance Director commented as follows: "we have structured this transaction in order to protect a single A rating & possibly a BBB+ rating.... we would not be surprised if we ended up with a split A-/BBB+ rating, but it is certainly our objective to secure a single A rating for long term debt".

We believe that Pearson will continue to reshape its business portfolio, making non core disposals and opportunistic acquisitions when other media companies seeking the same focus dispose of assets. Now that Pearson has made the big acquisition long anticipated, we believe there should be some stability in the spread. Like ICI, Pearson has already indicated it will be looking to complete the re-financing of the bank debt used to fund the acquisition in the capital markets. It is therefore likely that there will be new supply & that investors who want to buy into the "post acquisition" Pearson story will again have the opportunity to do so in the future by "buying after the event".

## North American Life: Taking A Subjective View

Confidence in the Canadian life insurance industry suffered following the demise of Confederation Life (the fourth largest Canadian life insurer) in August 1994. This resulted in a significant widening in the spreads of other bonds issued by Canadian Life insurance companies. Just as sentiment appeared to be improving, Moody's delivered a "shock" by assigning a rating to North American Life which was 5 notches lower than S&P's A+.

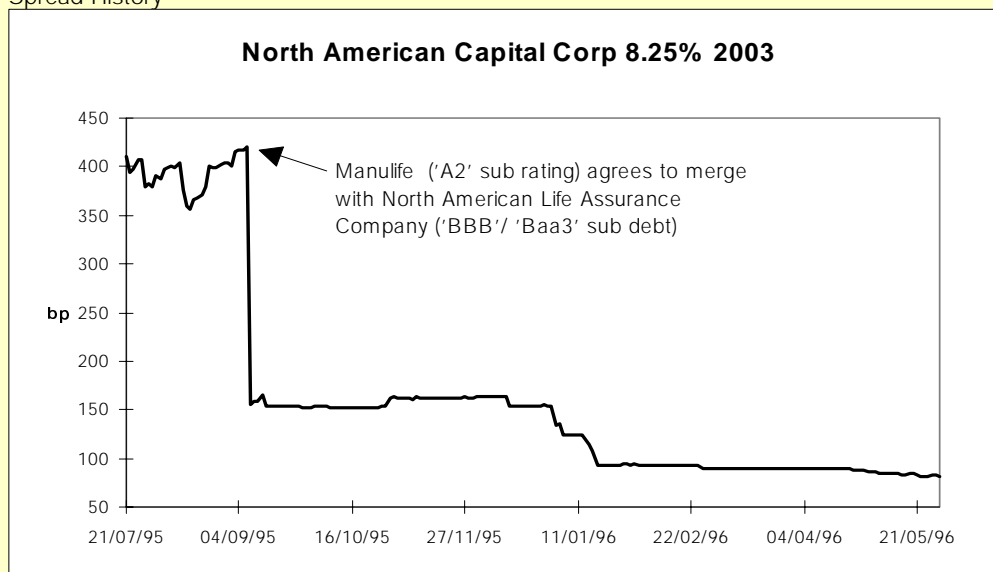
Following this, we completed a comprehensive review of the Canadian life insurance sector. We examined the economic, political and regulatory background and considered the strengths and weaknesses of all the major players, concluding "there will be winners and losers going forward in a market which will see widespread consolidation over the remainder of this decade...we anticipate that this will be largely in the form of mergers and acquisitions.....in what is a rapidly changing and competitive domestic market".

One of the key subjective points in our analysis was that following the demise of Confed, the Canadian life insurance sector could not afford another of the top 10 companies to get into difficulty. Had this happened, it would have reduced confidence in the sector further and given the Canadian banks the opportunity to press for a "level playing field" allowing them to compete directly with the insurers. This would have been negative for the whole insurance industry. Thus, it was likely that the insurance companies would support each other and hence mergers were likely to be encouraged if any individual company ran into problems. North American Life also had the benefit of a strong franchise (especially its US annuity and mutual fund business) which we felt would be very attractive to other participants in the sector.

As a result of this analysis, we were positive on the outlook for the North American Life bonds. In September 1995, Manulife agreed to merge with North American Life and as a result the North American Life £ 2003 issue became the best performing bond in the Barclays Capital Indices of 1995.

This is a clear example of how important it is to undertake the foundation analysis in order to be in a position to identify trends in a sector that may lead to positive event risk for individual companies.

### Spread History



Source Barclays Capital

## Trafalgar House Plc: Event Risk - A Prime Mover of Bond Spreads

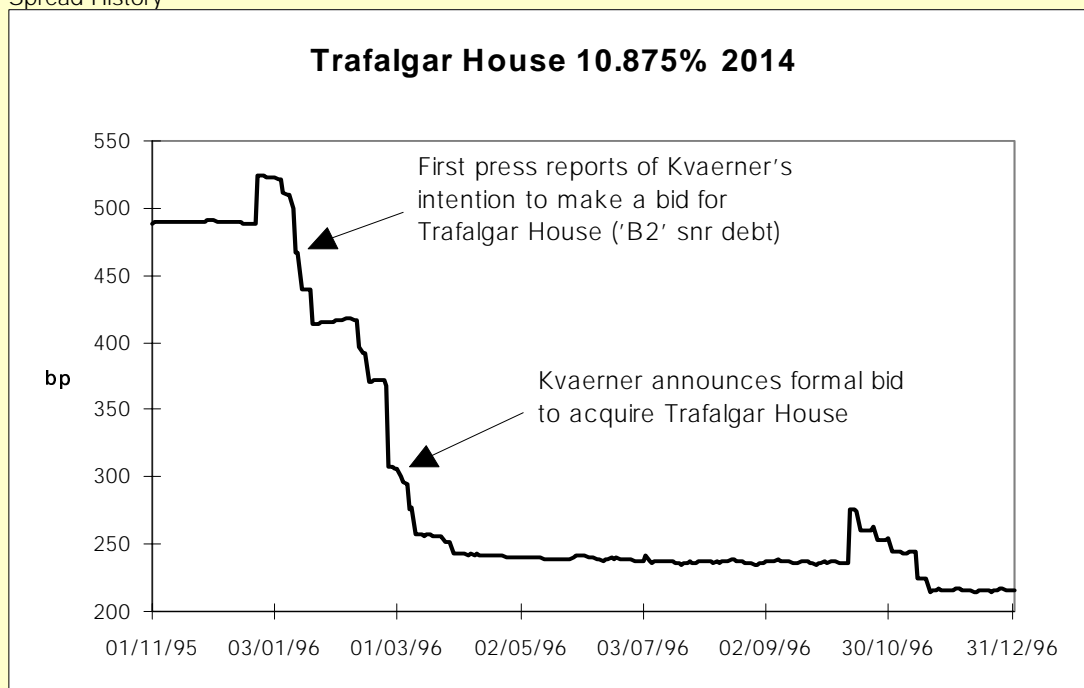
Trafalgar House was one of the world's largest engineering and construction groups. In the early/mid 1990s Trafalgar House's performance suffered due to poor market conditions, a cyclical downturn, a high fixed cost base and a number of long term unprofitable contracts. In 1995, Trafalgar House posted a pre-tax loss of £321m. At this time debt totalled £229m.

In October 1995, Moody's downgraded Trafalgar House from Ba2 to B2, due to the "expectation of continued poor operating performance in their principal business, and the need for sizeable restructuring charges, which will materially weaken its cash flow and result in meagre debt coverage measurements". Moody's indicated that the extent of the downgrade reflected the "unexpected severity of Trafalgar House's problems, and the anticipation that the company's financial flexibility will remain constrained over the intermediate term."

At this point there were concerns in the market about the future viability of Trafalgar House and spreads moved out to more than +500bp.

In early 1996, rumours of possible interest from Kvaerner, a diversified shipbuilding, oil & gas and mechanical engineering firm based in Oslo, surfaced and Trafalgar House's bond spreads started to tighten. This can be clearly see in the spread history graph below.

### Spread History



Source Barclays Capital

In March 1996 Kvaerner made a formal £904m bid for Trafalgar House. The combination of Kvaerner and Trafalgar House formed the largest non-US based engineering and construction group.

From Kvaerner's perspective the key drivers of the bid were i) access to Trafalgar House's strong position in engineering, ii) Trafalgar House's large construction business which, despite past poor performance, was expected to recover as the market improved and iii) the potential for cost-cutting.

The Kvaerner acquisition was perceived to improve Trafalgar House's credit profile and the bonds tightened by some 300bp, becoming the best performing bond in the Barclays Capital Indices of 1996.

Moody's subsequently upgraded the bonds of Trafalgar House from B2 to B1, reflecting the "acquisition by the financially stronger group, and the integration of Trafalgar's engineering and other operations into those of Kvaerner".

## Crédit National (Natexis Banque): The Value Of A Franchise & The Potential For Positive Event Risk

Crédit National was formed in 1919 by the French Republic in order to manage war reparations received after the First World War. Crédit National provided finance for industrial development via government subsidised loans. In 1987 the subsidised loans were phased out, and Crédit National diversified into new activities and broadened its customer base. Its main activity (51% of operating income in 1994) remained long term lending to large/medium sized companies.

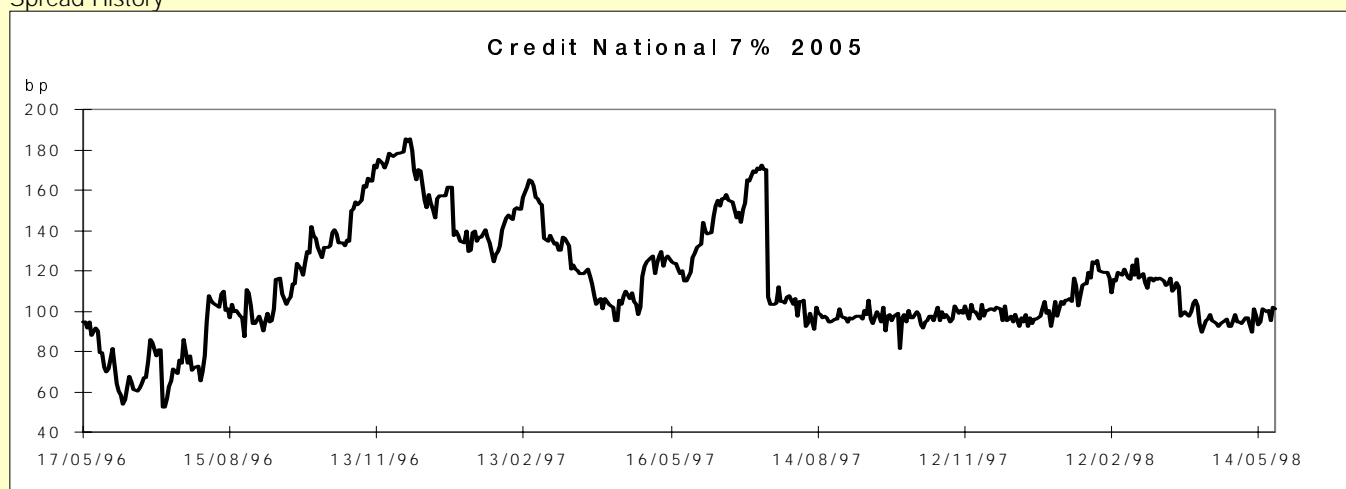
In December 1995, Crédit National acquired BFCE (Banque Française du Commerce Extérieur), which had a very similar history, but specialised in short and medium term export related finance. Both institutions focused on corporate customers and the acquisition was well received by the equity and bond market as a good strategic fit, combining Crédit National's longer term financing with BFCE's wider product range and enhancing Crédit National's international operations. Crédit National presented ambitious forecasts following the merger and indicated significant synergies and profit enhancements would result.

However, Crédit National and BFCE were specialised second-tier banks and two small players do not necessarily create a market leader when they merge. Whilst enlarged by the BFCE acquisition, the group (soon renamed Natexis), remained at a competitive disadvantage to the larger French commercial banks, predominantly because, as a non deposit taking institution, it could not rely on cheap retail deposits for its funding and instead had to fund itself on the capital markets. The new group was also faced with strong competition, weak loan demand and thin margins. In a note dated February 1996 we said "Crédit National will have to prove to the agencies and the market generally that they can make this acquisition work in terms of improved profitability, and in the French banking sector at this time, this will not be an easy task".

The ratings following the BFCE acquisition were A2/A (Moody's/IBCA). S&P issued its first time rating in July 1996. Within almost a month of S&P's first time rating, Crédit National announced first-half results with FFr500m of exceptional charges related to the merger and a FFr1120m loss. The S&P rating was then put on watch for downgrade and in December of the same year was downgraded (ie just five months after the initial rating was assigned).

Pressure on Natexis' margins, profitability and ratings continued, creating a vicious circle of increased cost of funding/weakening competitive position/deteriorating credit quality. This is reflected in the spread widening. The concern at the time was that Crédit National would not be able to break out of this "vicious circle" and there was real concern about its future viability over the longer term. However, one of the key questions to ask when a bank faces financial difficulties or a lack of confidence is "has it got franchise value?". If the answer is yes, then it is likely to be attractive to other banks. The Natexis group certainly benefited from a strong business franchise, since it had good relationships with the vast majority of medium/large French corporates and we therefore felt that it would make a good take-over target.

### Spread History



Source: Barclays Capital

In early 1997, we stated that with regard to event risk "...we think that ultimately this will be positive for Crédit National debt...". This positive event risk materialised in October 1997 when Natexis was acquired by Banques Populaires, an Aa3 rated mutual group. Beyond the clearly positive rating implications for Natexis, integration into a larger group broke the vicious circle.

This example shows the importance of looking through a weakening operational performance and recognising the potential value of a weaker rated entity to other players in the sector and exploiting the opportunities this may eventually bring.

## BAT Industries Plc: The Bond Holder Friendly Option

The past few years have been a roller-coaster for the tobacco industry with litigation in the US hanging like a sword of Damocles. By 1997, whilst the industry had never paid damages despite more than 40 years of litigation; the possibility of a loss resulted in pressure on both stock market values and bond prices.

In June 1997, the industry proposed a US\$368.5bn 25 year settlement, followed by an indefinite annual payment of \$15bn: each manufacturer's liability would be based on its market share. The settlement would provide immunity against (potentially catastrophic) civil litigation brought by general suits and class actions: individual claims would be permitted, but \$5bn of the annual payment would be used to cover them. Additional legislation would cover advertising, smoking in public places and fines if youth smoking did not reduce. The settlement was designed to remove uncertainty and quantify the cost of litigation, with the settlement payments effectively becoming a known cost of doing business in the USA.

BAT's US subsidiary, Brown & Williamson, was expected to have a total liability of c\$61bn (initial payment \$1.7bn). Whilst on the face of it the settlement represented a huge amount, which could have been perceived to be negative for bondholders, it allowed the cost be passed-on to consumers through price increases. We therefore felt that the proposed settlement was good news for bondholders as it would remove the doomsday scenario of a class action which severely impaired the financial standing of the industry.

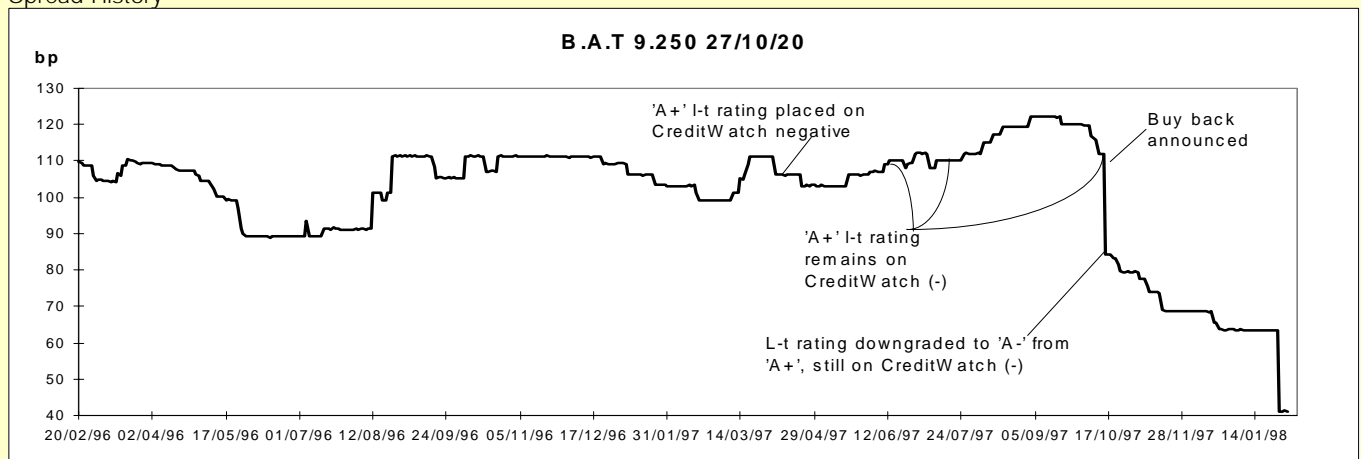
The market had long speculated about the possibility of a demerger of BAT's financial services and tobacco businesses given the lack of synergy between them. BAT's management had made it clear in the past that they would consider a demerger if it were in the best interests of their shareholders. The prospect of a US settlement accelerated this process.

The key question for bondholders became where the publicly traded debt would be situated. Whilst many felt that the prospect of a demerger was bad news, we always viewed the BAT management as "bondholder-friendly". We stated in a Bloomberg message in early October "given that both the financial and tobacco entities are likely to need access to the capital markets in the future, it seems very unlikely that the company would take action that would undermine its future borrowing capacity".

This view was based on the fact that i) tobacco is a growth industry and growth industries need cash, ii) tobacco is a consolidating industry and M&A activity requires cash, iii) the settlement (or continued litigation) would require cash. Everything pointed to a continued need to raise cash. This, coupled with management's "bondholder friendly" history, led us to conclude that BAT would want to keep the capital markets open to them in the future.

On 16th October 1997 a demerger was announced with the insurance/asset management arm being merged with Zurich Insurance Co. In fact, BAT announced that as part of the demerger process it would refinance its existing public debt. As a result, the bonds tightened significantly and BAT's 9.25% 2020 bond became the best performing stock in the Barclays Capital Index in 1997.

### Spread History



Source: Barclays Capital

The table below illustrates the spread performance of the £ BAT bonds in light of the demerger and bond buy-back announcement.

Bond	Pre Buy Back Offer	Redemption spread
2003-08	+70bp	+10bp
2005	+70bp	+30bp
2020	+120bp	+42.5bp

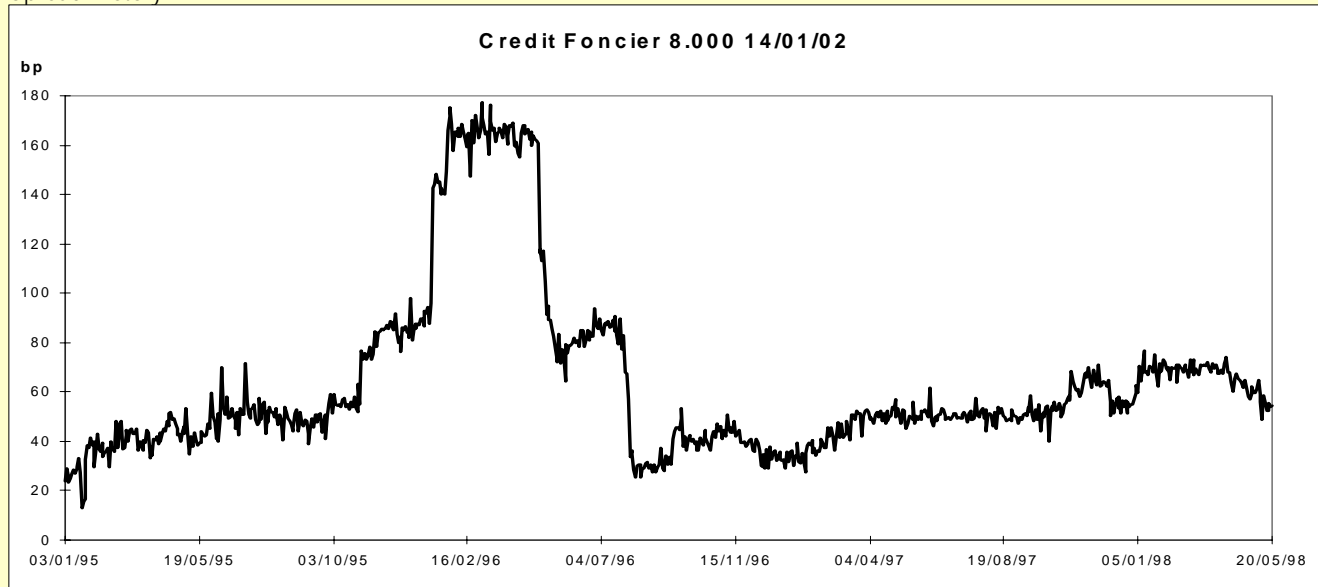
Source Barclays Capital

## Credit Foncier de France: The Importance Of The Big Picture

The Crédit Foncier (CFF) story is typical of a former State sponsored institution which, having lost its public service role, had to develop its own franchise and diversify in competitive market conditions.

Historically, CFF played a major role in the French real estate market as an instrument of Government housing policy, providing subsidised home loans to people of modest means. This market was a duopoly between CCF and CCCI. In late 1995 this statutory duopoly was removed and the market started to believe that CFF had lost its "raison d'être". In addition to what was effectively a loss of its franchise, CFF had aggressively diversified into commercial real estate lending in the early 1990's. This proved disastrous, with loan loss provisions over a 3 year period of approximately FF21bn (double its cFFR11bn equity base at the start of 1993).

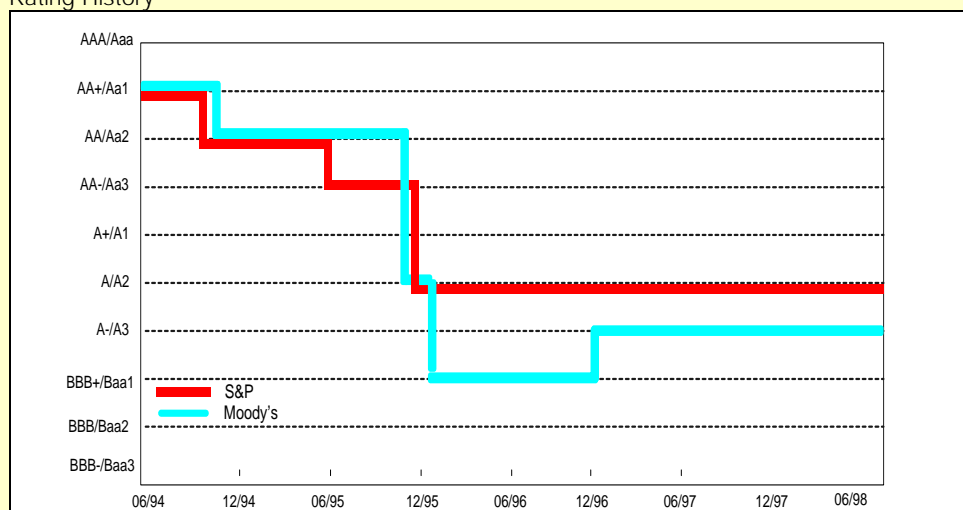
### Spread History



Source: Barclays Capital

Before the 1995 losses, CFF was rated AA+/AA1, one notch below the sovereign. The lack of confidence in the market over CFF's future, coupled with successive rating downgrades (the ratings rapidly fell to BBB (see graph below), resulted in spread widening. This created a vicious circle since each downgrade increased the cost of raising funds in the capital market (CFF was not allowed to take deposits to fund itself), therefore increasing CFF's costs and weakening its credit profile further. Ultimately CFF faced a liquidity crisis. The rating agencies were, understandably, very negative.

### Rating History



Source: Barclays Capital

In our note on the French banking sector (published at the start of 1996) we highlighted the provisions/losses in 1995 and stated our belief that CFF was not strong enough to survive as an independent entity. However, we also stated that “the Government will assist”.

In May 1996, when the bonds were trading at near record wide spreads, we said in our note on French banks “...default would have very serious consequences for French financial institutions... many of these hold large amounts of CFF paper... loss of confidence in the sector... difficult for anyone other than the strongest French banks to raise funds on the capital markets in the short term...expect the cost of borrowing to rise...possible that the rating agencies would review a number of banks where the legal rating is an important component of the long term rating, or where the individual rating is not strong...we believe that the “intangible” cost of non-support probably outweighs the potential “tangible” costs of full support for the Government”. This view led us to conclude that, in the near term, the CFF bonds were effectively as safe as French Government debt.

CFF’s obligations were ultimately made the explicit responsibility of the French state when CFF was taken over by CDC on behalf of the Government (until such time as a strong partner could be found or a permanent restructuring put in place). Since then, the French Government has been looking to sell CFF to a private shareholder. Although there have been many rumours about potential buyers, no deal has yet been agreed.



## The Regional Electricity (REC) Sector: Event Risk, Not Credit Risk The Key

By the end of 1995, event risk in the UK REC sector was well known, since a number of RECs had already been acquired (see the table below).

Target	Pre Acq Rating	Date uncondit	Acquirer	Rating Now
SWEB	n/r	Sept 95	Southern Co	A-
Eastern	Aa1/A+	Sept 95	Hanson	Aa3/A+
Manweb	A	Oct 95	Scottish Power	n/r
Norweb	n/r	Nov 95	NorthWest Water	AA-
Seeboard	Aa2/AA+	Jan 96	C&SW	Baa1/A-
Swalec	n/r	Apr 96	Welsh Water	A3/A
Midlands	n/r	Jun 96	Avon	Baa1/A-
Northern	A3/A	Oct 96	CalEnergy	A3/BBB+
E.Midland	Aa3/AA	Nov 96	Dominion	A3/A-
London	Aa3/AA+	Feb 97	Entergy	Baa2/BBB-
Yorkshire	Aa3/AA	Apr 97	AEP/PSC	Baa1/BBB+
Eastern	A1/A	1998	Texas Utilities	A2↓/A↓

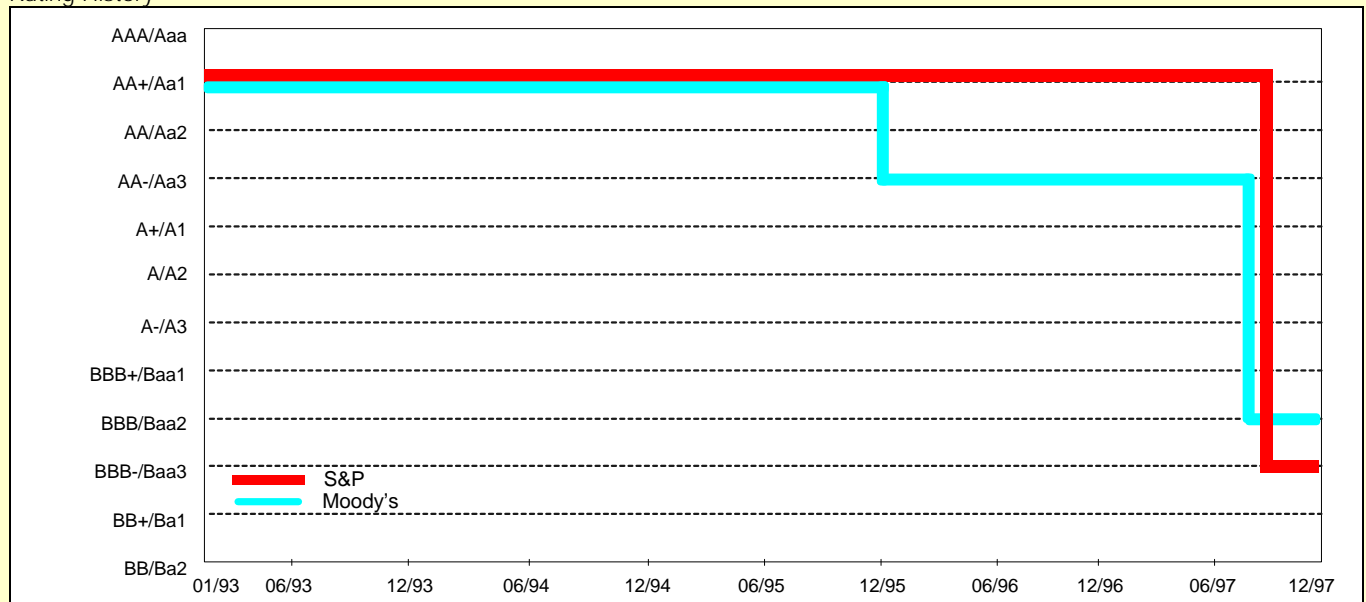
Source Barclays Capital

We said in a number of publications that whilst we believed that the underlying credit quality of the RECs would remain strong (reflecting the stable monopolistic utility cashflow) **“event risk was the key”** to the sector, and indicated our view that, over the medium-term, the average rating would trend down towards the “BBB” range from a post-privatisation level of strong AA. The table above illustrates that this is exactly what is happening.

Despite this obvious transition from a AA rated industry to one largely within the A/BBB category, the rating agencies did not actually change the ratings on the RECs until an acquisition was completed and the structure of the funding of the acquisition known. They may argue, they could not do otherwise as they have to rate the company as it is, not what it might or might not become.

However, as stated above, the prospect of event risk was so well known that it could be argued that the agencies should have been more negative on the ratings earlier than they were. The chart below illustrates the rating history of London Electricity and shows that significant rating action was only taken after a take-over when London's ratings were downgraded from, in the case of S&P, AA+ to BBB- in one go.

### Rating History



Source: Barclays Capital

Whilst in this case the bond market had already priced this rating downgrade into the London bonds, the market is not always perfect. This is illustrated by the next case study.

## The Regional Electricity (REC) Sector: The Market Is Not Perfect

The spread graph below clearly shows how the market can sometimes take a while to factor in the wider implications of events elsewhere in the sector.

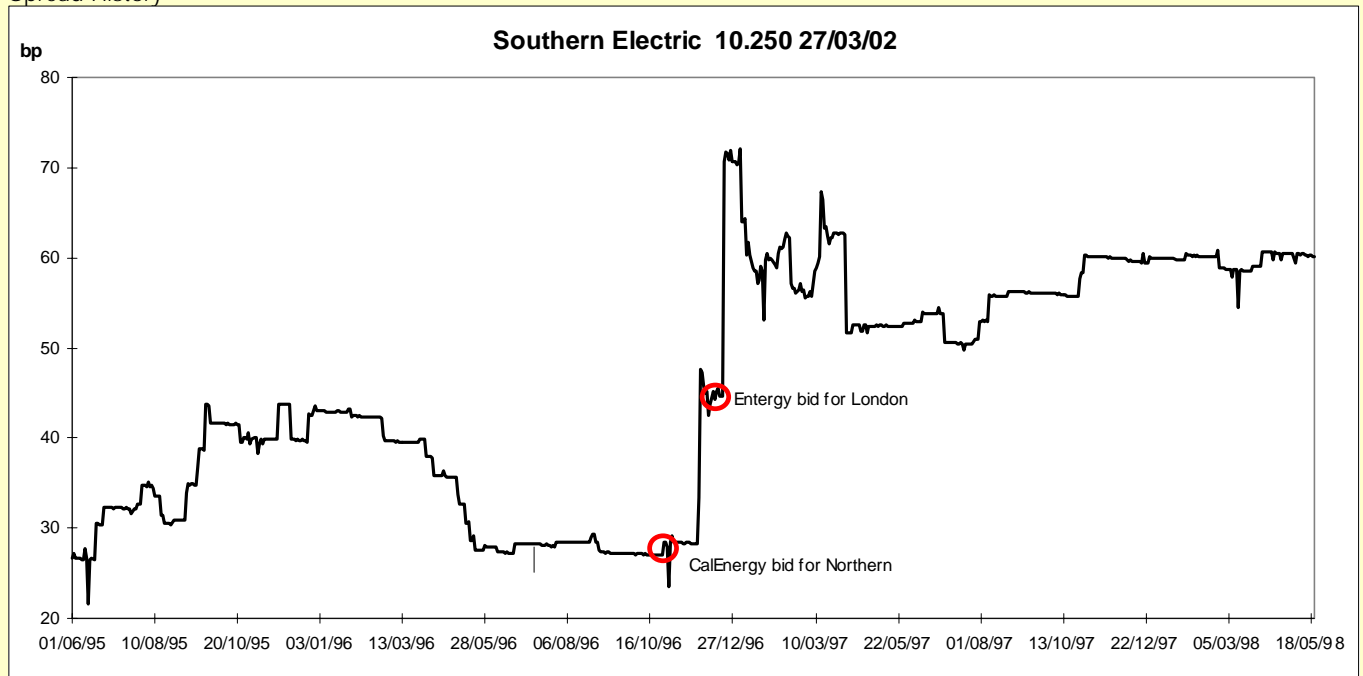
In October 1996, CalEnergy (an independent US power producer) in conjunction with Pieter Klewit & Sons bid £651m for Northern Electric. At this time CalEnergy was rated Ba2 and Northern was rated A3; the Northern spread widened significantly as a result.

The Southern spread however, moved out only gradually, widening some 20bp over the course of the next month (the graph below has rather compressed this movement). In mid December we sent out a Bloomberg message questioning whether the remaining independent RECs were correctly priced considering what had happened to Northern, and considering our view that the sector would settle around the BBB rating level.

When Entergy (subsidiaries rated towards the lower end of the BBB category) bid for London (Aa3/AA+) on 18 December, the reaction in the Southern spread was an immediate widening of 26bp as the market factored in the possibility that Southern may also be involved in event risk related activity.

Southern Electric is now the last independent REC. Whilst an agreed bid was made by National Power, this was blocked by the UK authorities in April 1996. Since then, there has been much speculation about Southern's future as an independent entity, but no tangible bids have been made. Consequently, the ratings remain at Aa3/AA (though both have negative outlooks). However, the Southern spread continues to trade significantly wider than suggested by the Aa3/AA ratings (in fact more akin to a low 'single A') and more in line with the sector.

### Spread History

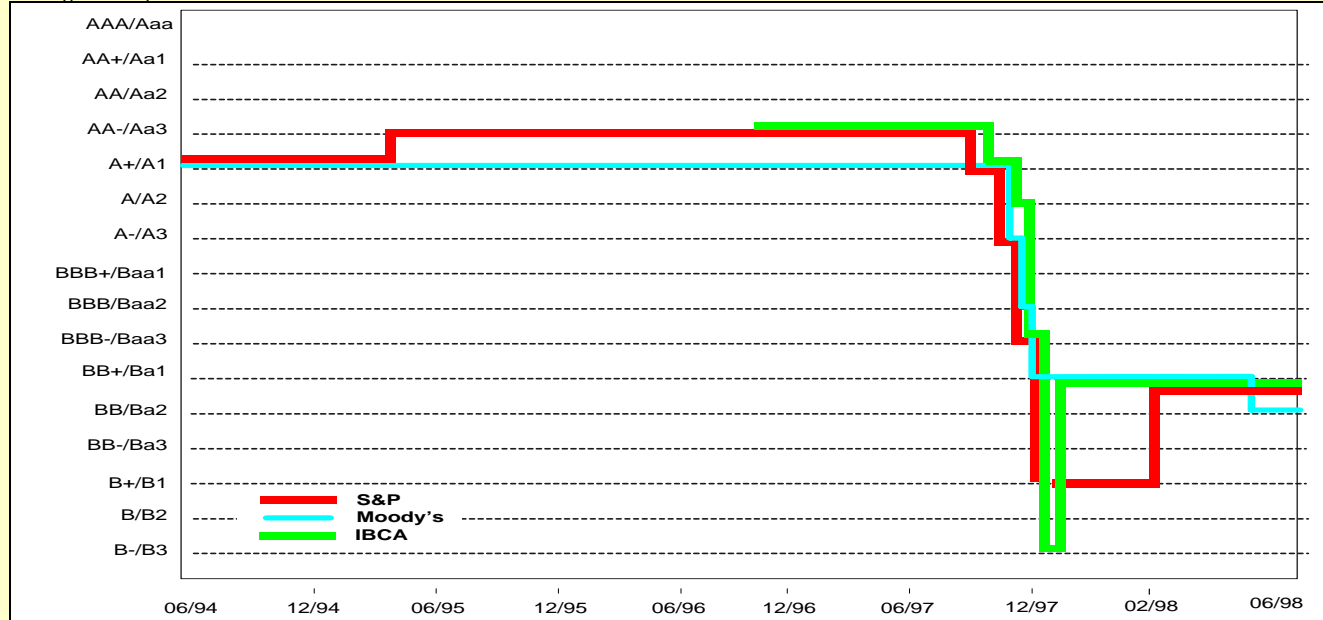


Source: Barclays Capital

## Korea Development Bank: Trying To Keep Up With Extraordinary Events

The graph below shows how KDB's long term rating remained within the AA range right up until the last quarter of 1997. By the first quarter of 1998 it was in the single B range. Interestingly, when Moody's downgraded from A1 to A3 on the 1 December 1997 they put the outlook to stable, despite the continued turmoil in the region. Within 3 weeks the rating subsequently went down to sub investment grade.

Rating History



Source: Barclays Capital

It is fair to say that the events in South East Asia at the end of 1997 were extraordinary, on many levels. There are not many occasions when 2 of the leading rating agencies feel it is necessary to produce publications explaining/defending their actions.

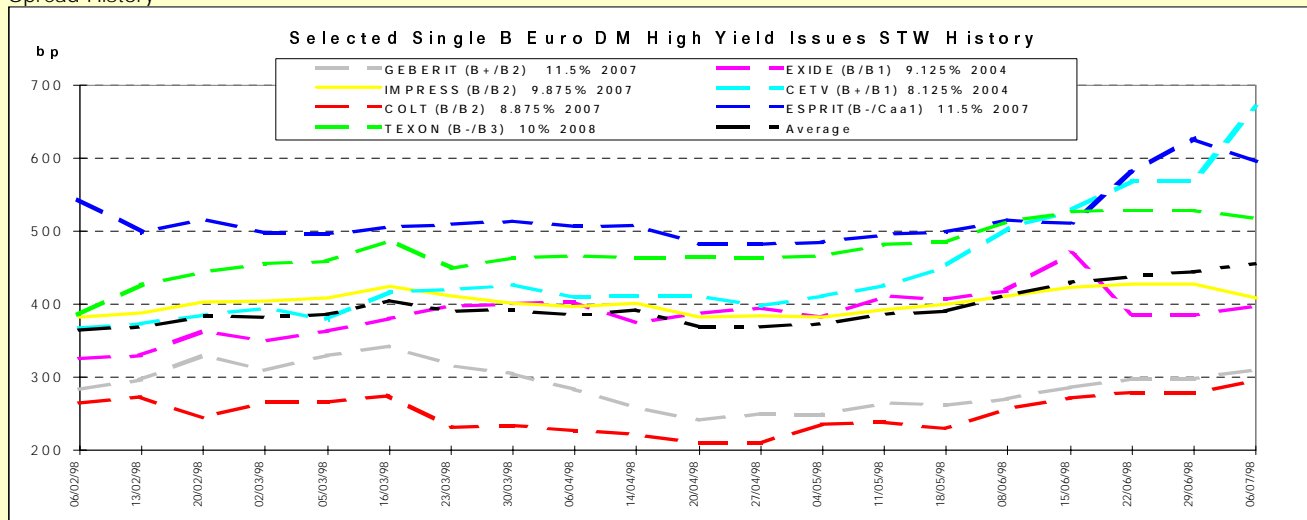
Fitch IBCA published "Asia: Agencies' Harsh Lessons In A Crisis" on 13th January 1998. In this report they outlined how they could learn from the Asian crisis and how in the future they would focus on 4 key elements when considering sovereign ratings 1) the transparency of policy and data, 2) liquidity and the level of short term debt (even if the overall debt level is low), 3) the health of the banking sector and 4) total external indebtedness i.e. the level of private sector debt as well as public sector debt.

Moody's took a slightly different approach in their May publication "White Paper: Moody's Rating Record in the East Asian Financial Crisis", producing what was in our opinion a rather aggressive defence of their reputation. In this document they state that the warnings to the market about Korea and other Asian countries were clear and concise, which certainly some of our investors found interesting given the rating history shown above. Moody's recognise in this document a "paradigm shift" and like Fitch IBCA emphasise: 1) the need for greater focus on the amount of short term debt, 2) greater emphasis on the identity and creditworthiness of a countries' short term borrowers, 3) a greater appreciation of the risks posed by a weak banking system, 4) the identity and likely behaviour of short term creditors and 5) increased sensitivity to the risk that a financial crisis in one country may be contagious.

## Colt vs Esprit: One Rating Notch Difference, 300bp Apart

Despite operating in the same sector and having similar financial profiles (as was reflected in the 1 notch rating difference when the bonds were issued), COLT & Esprit historically traded just under 300bp apart. The key to this spread differential was the perceived relative position of both companies within the telecom sector and their potential strategic value to other players. The comments below highlight the key similarities and differences between COLT & Esprit and illustrate the need for an analysis to extend beyond an individual company and into both the position of the company within its sector and the trends within the sector.

### Spread History



Source: Barclays Capital      Impress & Geberit are senior subordinated notes.

COLT & Esprit are both new entrants in the European telecom market. Both commenced operations in the UK in the early 1990s and expanded into Europe with early entrant advantages. They share a favourable operating environment characterised by growing demand for services (particularly data and advanced services) from business users which have historically been under-served by monopoly carriers. Both benefit from a supportive regulatory backdrop (since the EU wants to encourage competition) and a lower cost base/more flexibility than the incumbent. Both companies target high-spending business & government users and other telecom carriers. In addition, both face stiff competition from other new entrants and incumbents keen to defend market share. At the time of issue, COLT & Esprit had broadly similar financial profiles; both companies were in the early stages of their development, had high debt burdens and were expected to continue to generate losses and negative cashflow in the medium term.

COLT is following the successful US competitive local exchange carrier (CLEC) model. COLT builds and operates fixed line local telecom networks. As at 31/12/1997 COLT's network incorporated more than 500 route kilometres. COLT continues to expand the network, but the expansion is flexible with staged roll out and significant discretion over capex. COLT's local network is supplemented by indirect nation-wide access with out-going calls travelling locally over BT lines and routed nationally and internationally by COLT via leased lines and inter-connection agreements with other carriers. COLT offers a range of voice, data, video and value added services. COLT has a competitive cost base vis a vis incumbents (since geographic density in its target areas reduces infrastructure costs) and an excellent service record with a "mean time to repair" of 56 minutes and 99.99% network availability. As at 31/12/1997, COLT had more than 1,185 customers. As the owner of an "alternative infrastructure", COLT has built a fairly unique set of assets which would be strategically valuable to a larger telecom company looking for European access. COLT is therefore well positioned to play a role in the consolidation of the telecom sector. This potential for positive event risk, demonstrated by Worldcom's acquisition of MFS and AT&T's acquisition of Teleport, is reflected in the relatively tight pricing of the COLT bonds. COLT's recent operating performance has been very strong and COLT recently announced plans to roll out its network to 26 cities by 2000 and raise £600m via a combination of equity, convertible debt and senior debt. Colt has also recently been upgraded by Moody's from B3 to B2, the S&P rating is B.

Esprit provides international/national long distance telecom and value added services. In contrast to COLT, at the time of issue Esprit owned little of its infrastructure, with the network made up of primarily leased lines. Whilst Esprit indicated it planned to build its own backbone infrastructure, it was reliant on its ability to gain cost-oriented access to incumbents' networks and lease lines from competitors. In addition, international long distance (from which Esprit generates the bulk of its revenues), is essentially a commodity and Esprit is likely to face a margin squeeze as call prices fall in response to competition. Esprit has already had to reposition itself following a squeeze in the particularly price sensitive wholesale market which until recently accounted for nearly half of Esprit's revenues. Whilst Esprit is well positioned to undercut the incumbent's prices, the successful introduction of more value-added services will be key to future success. As at 30/9/1997, Esprit's customer base totalled 4,300 and Esprit is targeting a 10% share of the £13bn European business market by 2005. Esprit's strategic value is expected to grow in line with the number of customer relationships and as Esprit completes the construction of its network. At the time the bond was issued, Esprit was rated Caa1/B-. Since then, Esprit has spent \$173m to acquire the German telecom operator Plusnet. Whilst Plusnet was a strategically attractive acquisition, operating a network in 19 cities in 8 European countries and building a Pan-European broadband network, the acquisition weakened Esprit's financial profile and resulted in a negative outlook from S&P. To fund the Plusnet acquisition, Esprit raised additional funding via DM150m and US\$150m, resulting in some spread widening of the existing bonds.

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## Introduction

As indicated in section 2, a thorough credit analysis will by necessity include an assessment of both the qualitative and quantitative aspects of a company. The qualitative analysis includes not just issues relating to the individual company, but the industry in which it operates and the position that the company occupies within that industry (i.e. market leader or niche player).

The financial profile of each issuer will reflect the character of its industry. For example, a supermarket will have many assets comprising its stores full of stock, whereas an advertising agency will have very few tangible assets because its staff (its creative assets) do not appear on its balance sheet. The financial profile of a company will also reflect its management, both in terms of its operating performance and its risk profile (i.e. is the company run conservatively with little debt or aggressively with a lot of debt). This means that in practice, the qualitative analysis of the industry, the management and their strategy must be carried out first in order to make sense of the numbers and to identify the key areas/drivers on which to focus.

Analysing the qualitative aspects of a company is not simply a matter of ticking boxes. Everything is relative and most things are subjective. Each industry has unique features and each issuer will have different strengths and weaknesses within that industry. There is no "one fits all" framework, because different credit drivers will operate in each case, and for any individual company certain factors will have more importance than others. Having said that, some areas will always be of interest to any analyst, whether based in a rating agency, an investment bank or a fund manager. The framework presented in this section is therefore intended to provide an outline of the specific areas that an analyst would typically focus on. By virtue of the previous comments, it is not intended to be comprehensive. In practice, a good analyst will simply follow his or her nose as questions or answers in one area give rise to more questions and new avenues of investigation in others.

## The Qualitative Factors

Business Overview	
Company History	Where has the company come from and where is it going? This is not only about historic financial performance, but also longevity and culture (e.g. has the company grown organically or via acquisition?). For an analyst, a long track record is comforting. If a company has survived historic economic fluctuations, changes in technology, culture and the outside world, it is a fair indication that the company will survive in the future, although this is not guaranteed (see case study opposite).
Structure	What is the company structure? How are subsidiaries controlled? Where are the assets located/situated (i.e. can they be repatriated) and where is the cash generated? Does this lend credit support to the company being analysed or not?
Shareholders	Who are the main shareholders, what is their interest/purpose in owning the company? Could they offer support? The analysis of the structure and the shareholders can best be summed up as examining "the Maxwell factor".

Industry	
Political /Economic Importance	Is there political risk? Does the industry have national, political or economic importance? Is it likely to receive government support if necessary? Consider for example the <b>UK car industry</b> in the 1970s, or the <b>Japanese banking system</b> today.
Regulatory Risk	Is the regulatory environment supportive or hostile? Could this change? What would the implication be?
Size/Growth Potential	What are the industry prospects? Is it growing or declining? Are there any technological changes on the horizon? Is it possible to raise prices? Are there any substitute products? Is the industry consolidating?
Competition	What is the competitive structure of the industry? Where does the issuer fit? Is the industry a monopoly, duopoly, oligopoly or is it highly competitive? Is there pricing flexibility? How does the issuer's cost structure compare? How does the issuer market itself; price, product etc?
Barriers To Entry	Are barriers to entry a competitive advantage, or will they work against the issuer? How much capex does the company need to spend to maintain its market position?
Profitability	Is the industry profitable? A company can be very efficient and well run, but if the structure of the industry is such that it is unprofitable, it will not make money.
Cyclicality	How resilient is the industry to an economic downturn? How volatile has past performance been? How does cyclicality feed through to profit margin and cashflow?
Key Success Factors	Is the industry driven by price, quality of service, quality of product, distribution capabilities or other factors? Why should the customer buy this company's product? How does the issuer differentiate itself?

## Case Studies

**Company History:** When looking at a company, analysts like to see a long track record i.e. a company that has been in existence a long time, survived various economic cycles, changes in technology and fashion. An example might be our own organisation.



**Barclays** can trace its origins back to 1690 and in the following 300+ years has built up a market capitalisation of c£25bn (30/7/98).

Of course, a long history does not guarantee future survival. Consider these two examples: a bank established in 1762 and a high-tech company established in 1975 by a Harvard drop out. Which would appear the more likely to be around in 2098? The most obvious answer is the bank. Yet put names to these examples, i.e. **Barings** and **Microsoft**, and the picture changes. Barings was established in 1762, 233 years later it was bankrupt having lost c£800m on derivatives trading. Just as a long history does not guarantee future survival, a short history is not necessarily a sign of weak credit quality. Microsoft (rated AA) was founded in 1975 by the 19 year old Bill Gates who dropped out of college. Today, just 23 years later, Microsoft's market capitalisation is nearing \$300bn and it is one of the largest, and arguably most powerful, companies in the world.



**Regulatory Risk:** Regulatory risk can take many forms, ranging from a regulator blocking/delaying alliances (e.g. **BA & AA**), forcing disposals (eg **Worldcom/MCI's** internet business) or price cuts (eg OFTEL the UK telecom regulator). Regulatory risk can be positive though. OFGAS, the UK gas regulator, oversaw the separation of British Gas into BG plc and Centrica, accelerated the end of the domestic monopoly and (by adopting a regulatory asset base of £11.6bn compared to the replacement cost value of £17bn) caused an asset write down of £4.9bn. However, for bond holders the demerger was positive. The bonds stayed with BG plc which benefits from the stable cashflow of Transco, the lucrative distribution arm, whilst the take or pay liabilities (a commitment to buy c£27bn worth of gas at 25-30% above market price) were transferred to Centrica. As another example, the UK water companies have faced a tougher regulatory regime than the electricity companies, as a result they have not been as attractive to predators and have therefore retained stronger credit profiles and correspondingly higher ratings, although this could change over time.

**Size Growth/Potential:** Consider the **rental industry**. The cost of owning TVs over the last few years as technology has improved, products have become more consumer purchases has become widely available. This has put the rental industry into growth in the market. Whilst an efficient operator will be able to manage its cost base to generate cash, the long term future is questionable.



and videos etc has fallen considerably reliable lasting longer, and credit for slow, but sure decline. There is no in line with falling rental units, continuing

**Competition:** The structure of the competition within an industry can have a material impact on the credit quality of a company. Lucrative niche positions can quickly become unprofitable once large companies, enticed by the high returns, enter and begin using their strength in other areas of business to cross subsidise and their financial muscle to take a large market share. In this way larger companies can effectively squeeze out smaller, formerly successful players. Consider **Netscape**. Until recently Netscape had a c90% market share of the fast growing Internet browser market. In 1995 Microsoft decided to launch its own product. Microsoft (as indicated above) is a very powerful competitor and had sufficiently deep pockets to give away its Internet browser, with the added advantage of incorporating it into its "windows" operating system. Since 1995, Netscape's market share has fallen to c60%, despite the decision in January 1998 to stop charging for its browser product (thereby losing half its revenues). Netscape is now pursuing other opportunities aggressively to compensate.

It should be noted though that even in mature industries dominated by large household names which do not appear to be at risk from new competitors, the competitive landscape can change fairly rapidly. Consider the case of bagless vacuum cleaner. In just 6 years, **Dyson** has taken a mature market dominated by by storm. Within 2 years of launch, Dyson's vacuum cleaners, (despite retailing at more £200 cleaner in the UK. Dyson's UK market share is now estimated at more than 50% by value illustrates that even large established players cannot be complacent about future sales.

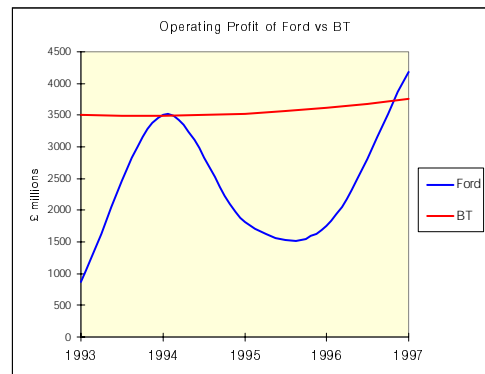


Michael Dyson, the inventor of the **Hoover, Panasonic and Electrolux** each) became the best selling vacuum and in excess of 30% by volume. This

**Barriers To Entry:** Unlike the previous example, some businesses are very difficult for a new entrant to break into, this can provide significant protection against a deterioration in market share for existing operators. The diamond industry is dominated by **De Beers**. De Beers has been involved in the diamond business for more than 100 years and is (with its joint ventures) the largest diamond mining company in the world, producing c50% of world annual gem diamonds by value from some of the world lowest cost mines. De Beers also established and operates the Central Selling Organisation (CSO). The CSO sorts, values and sells 60-80% of the world's annual production of diamonds - matching supply and demand to keep prices stable. Given the central role that De Beers occupies in the diamond industry, it would be very difficult for another company to attain a significant market share.



**Cyclicality:** As indicated in section 2, the business risk will have a material impact on the credit profile of a company. In some industries it is very difficult to conceive any participant being rated AAA or AA no matter how conservative their financial structure (e.g. cyclical businesses such as **steel makers, shipping** or **mining companies**). Conversely some industries are regarded favourably due to steady demand, flexible capital expenditure and a strong and predictable cashflow, eg the **pharmaceutical industry**. The impact cyclicality can have on profitability (which feeds directly into cashflow) is clearly illustrated by the following comparison of the operating profit of **Ford** and **British Telecom**. Ford's profitability is dependent on consumer spending, this is subject to normal economic cycles. In contrast BT's profitability is quasi utility in nature and therefore very stable. The ratings (historically AAA vs A category) in part reflect this volatility and the difference in business profile. The cyclicality evidenced in Ford's earnings would be even more pronounced in a luxury car manufacturer.



Source: Audited Accounts



Business Position	
Country/Political Risk	The economic, political and regulatory conditions of the issuer's home country and/or places of doing business are an important starting point, i.e. a "top down" approach. The effect of country/political risk has been amply illustrated by the <b>South East Asian</b> crisis.
Size	How big is the issuer compared to its competitors, suppliers and buyers? Size is important because it usually implies either diversification or power. Also, large firms can normally survive for a period even if their performance suffers, by drawing on resources in the business and through access to core relationship banks.
Market Share	What is the company's market share? Is it stable or growing? Market share is one way of assessing the strength and potential of a company. In an industry with high fixed costs, market share and maintenance of volumes will be crucial (see page 46). Where-as in an industry which is fragmented and where no-one has an advantage, it will not be such an important issue.
Product Mix/Diversification	Are the products new or tested? The <b>Dyson</b> example opposite proves that new products can be very successful, but are generally more risky. Are the products/services value-added or commodity? What is the % of R&D expenditure? What is the spread/mix of products? Single product companies are normally more risky, although this has to be balanced against diversification within the product range and the spread of buyers and suppliers.
Demand/Supply Characteristics	Does the issuer have contracted revenues which effectively guarantee a minimum level of cashflow? Is there a forward order book? Is it growing? What is the issuer's bargaining power in relation to suppliers and buyers? Are there alternatives?
Labour Relations	Are strikes/disruptions likely? What would be the impact? How easy is it to reduce staff numbers and cut costs? "lifetime" employment expectations can put a company at a cost disadvantage.
Customer Profile	Who are the customers? Why do they buy the issuer's product/services? How elastic is their demand? How price sensitive are they? Does the company continue to win new customers? Is it over reliant on any one in particular?
Geographic Diversification	What is the geographic split? Will this cushion or exacerbate a slowdown in demand? Geographic diversification can lend credit support by diversifying income into different markets so that cyclicity in one area, is offset by growth in another, however, this is not always successful.
Production/Technology Requirements	Is the company vulnerable to technological changes? Does it have to invest in R&D? Is the business capital intensive?
Marketing & Distribution Channels	How effective and necessary is the marketing and distribution? How much does the company have to spend on this?

## Case Studies

**Country/Political Risk:** Political risk can take many different forms. Compare the risks facing companies heavily exposed to **South East Asia** following the political and economic turmoil in the region, with the UK's politically motivated c£5bn windfall tax on privatised utilities. More extreme cases might involve re-nationalisation.

**Market Share:** A large market share provides a solid foundation for a good credit profile, because it normally implies strong bargaining power vis a vis both buyers and suppliers. It also implies that the company could withstand some deterioration in its position. Consider **Anheuser Busch**. Anheuser Busch is one of the world's largest beer manufacturers, its most famous brand is Budweiser. Combining its various brands, Anheuser Busch has c45% of the US beer market. This market share provides a strong credit foundation reflected in the A+ rating. Obviously market share cannot be considered on its own. A 100% market share of a product with a very short life cycle (ie high fashion/fad items) is a very different proposition to beer! How many people buy Cabbage Patch Dolls or Ninja Turtles these days?



**Geographic Diversification:** A company like **Ford** with a global name and product, has a different business profile and is exposed to different risks to a company like **Chrysler** (before the **Daimler Benz** merger) which focused on the US domestic market. This meant Chrysler was exposed to one economic cycle with no offset. Geographic diversification is not always successful though. Consider **Midland Bank's** experience with **Crocker**.

Midland was established in August 1836; by 1900 it was one of the 4 largest banks in the UK and by 1918 it was the largest bank in the world (by deposits). In the 1970s UK clearing banks wanted to expand their international operations in the US. By 1981 Midland was the only major UK clearer which had not made a US investment. Midland identified Crocker National Corporation (CNC) as a possible target. CNC was the holding company and owner of the 12th largest bank in the US - Crocker National Bank (CNB). In July 1981 Midland brought 51% of Midland's stake was increased to 57%. By 1983/4 the prices and affected commercial and retail businesses deteriorated. In addition, Crocker was forced to make £222m losses were incurred. By the end of 1984 Crocker loss of \$600m if it sold out. Instead Midland injected outstanding shares in May 1985. Crocker was re-organised, the LDC (less developed country) debts were taken into Midland's loan book and a separate Midland subsidiary was established to take over the majority of the debts. Crocker made a small profit in 1985 and was sold in February 1986 for £750m, this covered the purchase price and capital injection. However, Midland had to retain the old Crocker debts. This was a major setback to Midland's international ambitions. In 1987 Midland's entry into the HSBC Group commenced with HSBC taking a 14.9% stake in Midland and signing a 3 year co-operation agreement to consolidate and rationalise their international activities. In 1992 HSBC made an offer for the remainder of Midland, eventually valuing the group at £3.9bn.



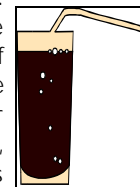
**Production/Technology Requirements:** Technological changes can have an enormous impact on a successful business.

**Wang Laboratories** was established in 1951. Wang's first development was the magnetic pulse device; the precursor of the computer memory microchip. Development of 1976 Wang introduced the first screen-based word processor. Within 5 years revenues rose from \$543m to \$2.4bn. However, when micro computers were introduced, Wang didn't respond quickly enough and forfeited market share. Wang lost \$1.9bn between 1989 & 1992 as demand for its word processors disappeared. With \$540m of debt, Wang eventually filed for bankruptcy in 1992. Wang emerged from bankruptcy the following year and through a series of acquisitions refocused itself as a designer, installer, supporter and maintainer of hardware platforms. High-tech companies require very conservative financial profiles to offset the risk of product obsolescence.



**Marketing and Production:** **Coke is the second most widely recognised word in the world after OK!** Coca Cola has maintained its position as the world's number 1 drinks company with a 48% global market share (and unbelievably this is still growing!) despite the fierce challenge from Pepsi (25% share). Coke's strength can be largely attributed to two things:

i) its powerful distribution arm (via its bottling operations) and ii) the strength of its marketing (Always Coca-Cola... The Real Thing... Coke Is It...Diet Coke Break etc....). Coca Cola's ambition of having a coke within "an arms length of desire" at all times (they view tap water as their main competitor) has paid off in a very competitive business. Before the collapse in communism, Pepsi (using the state owned distribution mechanism) was the leading soft drink supplier in Eastern Europe outselling Coke 2-4 times. Once these markets opened, Coke moved in using Coca-Cola Amatil, the recently floated Australian based bottler it had used successfully in developing Asian markets. Within a few years Coke claimed to be outselling Pepsi by a ratio of 2:1. Coke is now mounting a fierce challenge to Pepsi in the Middle East. For all its success, even Coke is not infallible. Remember that in 1985 Coca Cola changed the ingredient formulae of Coke, launching "New Coke" with a fanfare, only to have to revert to "Classic Coke" when consumers rejected "New Coke".

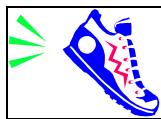


<b>Management Profile</b>	
Philosophy and Experience	Who are the management? How long have they been with the issuer and what is their track record? What has the company's performance been compared to peers?
Industry Knowledge	Are the management leading or following other industry players? Does this increase or decrease the business risk?
Business Plan	Is it realistic? Have they met plans in the past?
Operating Strategy	Are the management focused on market share and sales, or margins? Are they focused on the short term profit or longer term stability. Do they have the vision to make the right strategic choices?
Financial Strategy	This encompasses both accounting policies and management's attitude towards risk and debt. Are acquisitions planned or is the company focused on debt reduction?
Succession	Does one man dominate? Is there a successor? Is there a balanced team?

<b>Event Risk</b>	
Management Changes	Management changes, either following a boardroom coup in response to poor performance and shareholder pressure, or a natural change-over following retirement often signal the start of a new era and a change in strategy or direction. Management changes should be carefully monitored.
Low Growth	A mature cash generative business may appear a strong/stable credit, but if the industry is not growing, management may be forced to change direction or diversify to boost growth prospects and satisfy shareholders. This may result in greater business &/or financial risks being taken.
Share Price Under Performance	The management of a company are employed by the shareholders who own the company. Their chief responsibility is to run the business for the benefit of shareholders by enhancing returns through higher dividends & an increase in the share price. A prolonged period of poor share price performance will almost inevitably have consequences, as the shareholders make known their dissatisfaction. This will normally result in either a change of strategy, a change of management, a more aggressive financial structure to increase returns (eg via a share buy back or special dividend), an acquisition to gain exposure to a higher growth area, or ultimately a loss of independence. Any of these may have a significant impact on credit quality.
Regulatory Change	Regulatory changes can act as a spur to changes in an industry. The end of the UK Government's golden share in the UK RECs resulted in a wave of US acquisitions and rating downgrades (see section 3) such that today only one independent REC remains (Southern).
Industry Consolidation	Often one particular merger or acquisition in an industry will prove defining and eventually result in a change in the whole industry landscape. Once an industry starts to consolidate it becomes self-perpetuating. Each remaining company feels compelled to seek a partner in order to ensure critical mass and maintain its competitive position in the face of these new industry giants and/or to avoid negotiating from a position of weakness when they are eventually approached to play a part in the continuing consolidation.

## Case Studies

**Management Philosophy and Experience:** A good management team can make a significant difference to an under performing business. Often it is a matter of having the right person with the right experience to match the company's needs at that time. Consider the changes Robert Louis-Dreyfus wrought at **Adidas** to increase brand awareness when he became CEO in 1993, bringing the company back from near bankruptcy following the death of the founder Adi Dassler in 1978 and increased competition from Nike and Reebok. Part of this reflected the fact that he previously worked at Saatchi & Saatchi. Although always will be less important in a strong company with a stable tech business because of the safety net provided by the should be of no surprise that as you move down the credit

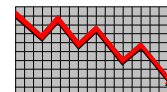


was a marketing professional who had important, the reality is the management team business than in a weaker, fast changing high-predictability of the income stream. Given this, it curve, the quality of management becomes more

**Financial Strategy:** Compare, as we have done earlier in this document, the US attitude to debt and the generally more conservative European view. During the road-show for their Sterling Eurobond, **Carlsberg** indicated that if their net debt level approached 10% it might be considered high. It should be noted however that financial policies can change. On page 24 we noted how **Pearson** changed the wording of their group financial policy. Pearson's 1996 accounts stated "the group's policy is to manage the amount of its net debt....and the level of interest cover in a manner which is consistent with the maintenance of its credit ratings at or near their current levels". Pearson was then rated A1/A+. The 1997 accounts stated "we aim to manage the amount of net debt..and the level of interest cover in a manner which maintain our credit ratings at their appropriate levels. Current ratings are...A2/A". This indicated that the company was no longer focused on maintaining its rating as it was and was more focused on business opportunities, presaging the acquisition of Simon & Schuster's educational publishing business.

**Management Changes:** GEC is a good example of how management changes can result in changes to business strategy. Lord Weinstock ran GEC for 33 years, transforming the electrical appliances company into a diverse industrial conglomerate. By the end of his tenure, GEC had become the second largest defence supplier in the UK, and had a power engineering joint venture (GEC Alsthom) with Alcatel and a telecom equipment joint venture (GPT) with Siemens. Lord Simpson took over from Lord Weinstock in 1996. In the face of only modest growth over the last decade he has determined to become more shareholder value focused. He has overseen a new structure, disposing of £1bn non core assets, reducing the dependence on joint ventures by floating off the renamed Alstom, completing an asset swap with Siemens to take control of their stake in GPT and making GEC more acquisitive (expanding the defence electronics division via a JV with Alenia of Italy and acquisition of Tracor for \$1.4bn) and signalling his desire to purchase Northrop Grumman and his interest in resurrecting discussions with Thompson CSF.

**Poor Share Price Performance:** Ultimately, if management fail to deliver shareholder value, the company may lose its independence, either being acquired or broken up. The most public UK example in recent times was **Granada's** hostile bid for **Forte**. This was eventually won by Granada (despite a robust defence from Forte) reflecting the fact Granada's reputation for sweating assets and delivering value to shareholders was better than the historic performance of Forte.



**Industry Consolidation:** There are many examples of industries which have consolidated or are in the process of doing so. Consider the US or European banking systems. In the last 12 months alone we have seen the merger of Generali & Fortis, UBS & SBC, ING & BBL, Nations Bank & Bank America, Citi Corp & Travellers and Morgan Stanley & Dean Witter to name but a few. Consider the telecom industry where we have seen Worldcom acquire MFS and then merge with MCI, AT&T acquire Teleport & TCI, SBC Communications merge with Pacific Telesis & then Ameritech, and Nynex merge with Bell Atlantic which is now proposing to merge with GTE. Nor has all the activity been US based, we have seen Deutsche Telekom & France Telecom take 10% stakes in Sprint and exchange 2% holdings in each other, and Ameritech take a stake in Tele Danmark. Other examples include the UK cable industry which over the last few years has shrunk from 24 players to see 3 large competitors emerge. We have talked elsewhere about the pharmaceutical industry where we have seen Glaxo acquire Wellcome, and mergers between Pharmacia & Upjohn and Sandoz & Ciba and the aborted merger attempt by Glaxo and SmithKline Beecham. Other examples include the US defence industry and more recently the European defence industry. The key when assessing industry consolidation from a bond holders perspective is whether it is a paper merger (without a corresponding return of value to shareholders) or a debt based acquisition, with mergers generally neutral to positive and debt based acquisitions generally negative (at least in the short term).

Past performance is not necessarily a guide to future performance



We assume readers are "absolute beginners"

& present a simple framework for analysis



Ratios make the information easier to interpret & compare

## Introduction

At its most basic, traditional credit analysis means putting a company's historic audited accounts under the microscope and making an assessment of the strength of the company, both now and in the future. Whilst past performance is not necessarily a guide to future performance (because trading conditions may change), it provides a useful starting point to predict future trends.

As indicated earlier, credit analysis is not simply a matter of calculating a few ratios which can be used as an absolute test of credit strength. Rather, it is about the inter-relationship between the numbers in the three key documents contained in the accounts (namely the profit & loss, balance sheet and cash flow) and more importantly an **interpretation** of what those numbers mean and what this indicates for the future financial performance/profile of the company given the industry/sector background. The calculation of the actual ratios is not difficult, the skill lies in understanding what they mean. The interpretation of the accounts represents a blend of common sense and cumulative experience of other corporates, which allow an experienced analyst to identify anything unusual which warrants further investigation.

In this section, we follow the framework for the qualitative analysis, with a blueprint for the quantitative analysis. It is possible (should one be so inclined) to spend days (and perhaps even weeks!!) analysing a set of accounts. We have assumed the reader is an "absolute beginner" and present a basic framework for analysis, working through a sample profit & loss, balance sheet and cash flow (attached as appendices 1,2 and 3) illustrating how to approach the analysis, the key ratios typically used, how to calculate them and what they are designed to highlight about the business. **Each ratio is illustrated by a box containing the definition and a worked example based on the numbers contained in the sample profit & loss, balance sheet and cash flow, using the 1998 figures.**

These ratios distil the key information contained in the accounts into a format which is easier to understand/interpret and is more readily comparable, both year-on-year and with peers. The sample accounts we have used are fictional, and have been presented in a simplified format, however, the principles for calculating the ratios for companies with more elaborate accounts are the same.

The analysis we have outlined does not go into the more advanced aspects of accounting which can have an impact (e.g. timing differences or historic vs current cost accounting) nor does it go into great depth on the working capital cycle, asset efficiency tests or break-even analysis. Instead it includes only what we would consider the most essential ratios, and the ratio definitions have been kept simple. A brief examination of appendix 4 clearly shows that the 8 key ratios used by S&P analysts are in effect only more complex variations of the basic ratios we have used. Whilst the core ratios presented can obviously be supplemented by a host of other statistics and more refined analysis/ratios to add further colour, we believe that they give a good feel for the underlying credit strength of a company and should clearly indicate whether it warrants further analysis on the quantitative side. It goes without saying that the weaker a company looks using the basic ratios, the more detailed the follow-on analysis should be.



Remember the numbers inter-relate!

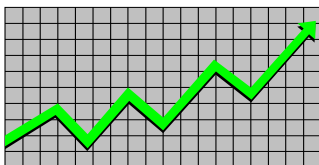


Three other general points should be noted before moving on to specifics. First, there is no substitute for reading the accounts and the notes in full. It is worth mentioning that analysts will have different approaches to the accounts. Some will start at the Chairman's statement working through to the actual figures and then the notes, others say they read the audited accounts "backwards", i.e. reading the notes first then looking at the figures. The accounts are one of the main forms of communication with shareholders at large and often outline the management's future strategy. Comments in the accounts can therefore provide a valuable insight when interpreting the numbers and thinking about what may happen in the future. Also, whilst in recent years a number of accounting loop holes have been closed, the notes to the accounts allow you to understand what lies behind the numbers shown on the face of the profit & loss, balance sheet and cashflow.

Second, the numbers/ratios inter-relate. If costs as a percentage of sales go up, profit will suffer. The profit level can only be maintained if costs move in line with sales. If the profit increases, it must be either because on a relative basis, sales have increased or costs have decreased, or a combination of both. Third, financial ratios can be supplemented by specific industry ratios in order to facilitate competitor/margin comparisons; revenue per subscriber or subscriber penetration rates are used in the cable industry, revenue per passenger or kilometre in the airline industry, occupancy rates in the hotel industry.

### The Profit & Loss

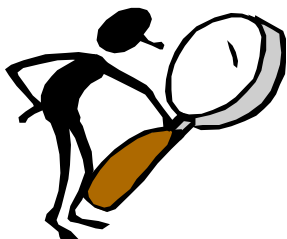
Profit and cashflow are not the same thing...



The profit and loss is a representation of all the income and expenses of the business over the accounting period (eg 1/1/1997 - 31/12/1997) and is used to show how much "profit" has been generated by the company during that time.

The profit and loss is presented on an "accrual" basis i.e. it shows all of the income earned and all of the expenditure incurred during the period, regardless of whether the cash has been physically received (for an income) or paid (for a cost). This is why the profit & loss account and cashflow statement (which provides a record of the actual cash movements - see page 54) are often different. It also explains why a company which appears to be profitable, could in fact be near bankruptcy. Profit and cashflow are not the same thing and the differences extend beyond timing. A cash inflow either occurs or it doesn't. In contrast, the amount of profit shown in the accounts can vary depending on the accounting policies adopted by the company and the assumptions made. It should also be noted that only those costs which relate to the revenue or income generated are included in the profit and loss. Therefore the "cost" of buying a new factory is not included in the profit and loss, but is shown as a cashflow item. Likewise a loan repayment is not a cost.

& size does matter...



On first examining the profit & loss account, it is important to consider the absolute size of the turnover, operating profit and profit before tax. Whilst size is by no means a measure of credit strength in itself, it remains a fact that a large company can generally withstand a period of poor trading/losses because it can draw on resources in the business, sell assets, reduce dividends or capital expenditure and, equally importantly, probably has a group of core bankers who have a vested interest in funding it through a difficult patch (provided they can see an end). In contrast, a smaller company will generally have less flexibility and will probably have less supportive bankers. The size of the turnover, operating profit and profit before tax is also important because it puts all the other numbers into context and allows a "materiality" test to be carried forward. Whether a bad debt of £10m is significant to the future of the business will obviously depend on whether the annual profit is £10m, £100m or £1bn.

The next task is to start analysing the components of the profit and loss individually, first “eye balling” all the figures year-on-year to spot any noticeable changes and then looking at each number in more detail. The easiest way to do this is to start at the turnover line and work down to net profit.

## Turnover

Turnover (or sales) represents the total value of goods or services provided to customers net of sales tax. The key considerations are whether it is growing year-on-year at a rate above inflation, whether this reflects organic growth or growth via acquisitions, and whether it is being driven by higher volumes or higher prices. The split of turnover by division and geographical source is also important to identify which areas drive the business, and any areas of weakness due to either over reliance or under-performance. The break-down will normally be disclosed in a note to the accounts.

## Cost Of Goods Sold

Cost of Goods Sold (COGS) represents the direct costs associated with the manufacture or provision of services (rather than overhead costs). A detailed breakdown of the costs will be disclosed in the notes and should be examined for any changes that are out of line with the increase in turnover. If the COGS as a percentage of turnover rises, the company will either have to pass this onto its customers via higher sale prices or accept lower profits. In a competitive industry it may not be possible to raise sale prices. The relationship between COGS & turnover is analysed via the gross profit margin (explained on page 45).

## Gross Profit

Gross profit is the difference between sales and cost of goods sold. The box below illustrates how to calculate gross profit using the 1998 figures in the sample accounts.

<b>Gross Profit =</b> Turnover - Cost of Goods Sold	<b>Worked Example:</b> £722.8m - £372.4m = £350.4m
--	---

Again, it is important to consider the divisional and geographical split of the gross profit, and whether it is growing consistently year-on-year in absolute terms, or whether it is volatile, and if so, why?

In certain sectors (e.g. chemicals) raw material prices (COGS) will vary considerably over the industry cycle and may have a significant impact on the gross profit of the companies in the sector, depending on how much of the cost increases/decreases have to be passed-on to customers. In other sectors such as telecommunications, the cost of providing services is actually falling due to technological changes and therefore the profitability of telecom companies should rise. However, in parallel with falling costs, telecom companies face falling revenues due to regulatory and competitive price cuts. The result is that in practice, operating profit is under pressure and pre tax profit is maintained/increased by reducing the overall cost base. It is this kind of awareness of what is happening in an industry which allows the numbers in the accounts to be interpreted more accurately. This links back to the discussion in section 4 about the characteristics of the industry and how this impacts the financial profile of a business.

In addition to growth in gross profit in absolute terms, the other aspect to consider is the growth in gross profit in relation to turnover, i.e. the gross margin.

## Gross Margin

The gross margin represents the amount of gross profit generated for every £ of sales. Maintenance of a reasonable gross margin is the key to profitability. At its most basic, the higher the margin for a particular product, the higher the profitability. Low margins do not necessarily mean low profitability, provided they are offset by high volumes. However, low margins generally mean less flexibility to reduce prices in response to, for example, a price war. Comparisons of gross margins within an industry can give a useful insight into potential improvements in efficiencies and capacity for cost-cutting, as well as highlighting those companies whose margins may come under pressure from competitors. The figures for XYZ Plc are shown below:

<b>Gross Margin =</b> (Gross Profit/Turnover) x 100	<b>Worked Example:</b> (£350.4m/£722.8m) x 100 = 48.5%
--	---

Based on this formula, it is clear that the gross margin will change in relation to either an increase/decrease in sales (which could be volume or price related) or an increase/decrease in COGS, or a combination of both. Having looked at the turnover and COGS separately, it should be easy to understand what is driving any changes in the gross profit margin. The high margin shown for XYZ Plc above would normally be indicative of some form of service company, rather than a manufacturing company, where margins would typically be lower (because of the cost of production).

## Other Costs

Other costs should be examined in the notes to the accounts for any major differences year-on-year. In looking at the cost base it is important to be aware of the nature of the costs i.e. are they fixed or variable?

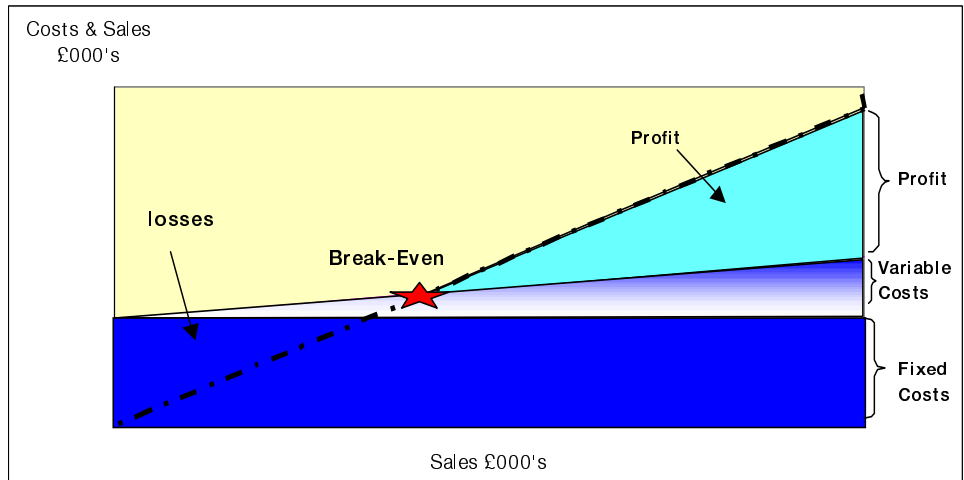
Fixed costs are, as their name suggests, fixed irrespective of the rate of production (e.g. factory rent) whereas variable costs will move in line with the volume of production (e.g. raw materials). To make a profit, a company will need to generate sufficient sales to cover all the fixed costs and all the variable costs associated with production. The point at which all costs are covered is known as the break-even point, i.e. the point at which the company makes neither a profit or a loss.

Different companies will have different cost structures depending on their industry. High fixed costs and low variable costs (as a proportion of total costs) mean "high operational gearing". The effect that this has is shown in chart 15. The graph shows how once the costs of doing business have been covered (i.e. break even has been reached) profit rises rapidly as sales grow. This reflects the fact that once fixed costs have been covered, each additional £ of sales will contribute significantly to profitability because the marginal cost of producing that extra item for sale is low. The graph also shows how if sales fall, profitability also drops sharply. For this reason, companies with high operational gearing will be volume driven.



**High fixed costs, high operational gearing**

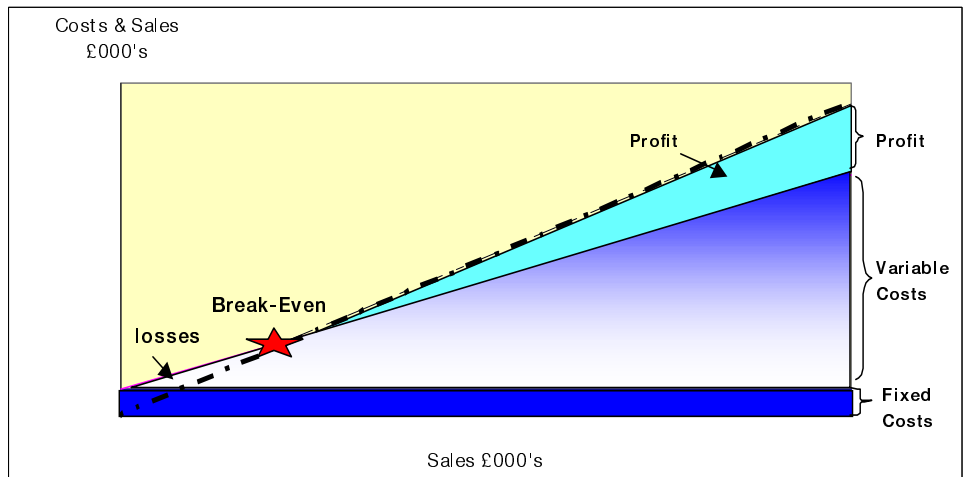
Chart 15



Source: Barclays Capital

A company with mainly variable costs will have “low operational gearing”, this is illustrated in chart 16 below. Whilst with low operational gearing, profitability will not rise as quickly when sales increase (because costs will also rise), likewise profitability will not decline as sharply when sales fall (because costs will also fall in line with production).

Chart 16



Source: Barclays Capital

**Low fixed costs, low operational gearing**

**Pre-exceptional Operating Profit**

This is a vast topic of discussion which is only touched on briefly here, but even a basic analysis of the volatility/sustainability of operating profit (and therefore cashflow) should take account of the cost structure. The flexibility of a company’s cost structure can have a significant impact on its ability to weather a downturn in demand.

The cost base should also be examined for any exceptional/one off items, these should then be either added back or deducted to produce a “clean” pre-exceptional operating profit. The aim of this exercise is to calculate the underlying or on-going profitability of the company by stripping out anything which does not relate to the normal, every day business and adjusting for items which, whilst part of normal operations, are unlikely to be repeated or are exceptional in size. In the case of XYZ Plc, there are no exceptional items and the pre-exceptional operating profit is the same as the operating profit, i.e. £240.1m.

Once a pre-exceptional operating profit has been calculated, the operating margin can be calculated. The operating margin represents the proportion of profit generated on each £ of sales, after all operating costs.

<b>Operating Margin =</b> (Pre-exceptional Operating Profit/Turnover) x 100	<b>Worked Example:</b> (£240.1m/£722.8m) x 100 = 33.2%
--	---

The next aspect to consider is the cost of servicing any borrowed money in relation to the profitability of the business. This is examined through the calculation of interest coverage ratios.

## Interest Cover

Interest cover shows the number of times that pre-exceptional operating profit before interest and tax i.e. PBIT (adjusted for any other one-off items such as gains on disposals) covers total interest payable on borrowed funds. The higher the number, the higher the margin of safety before a company cannot afford to pay its interest. If the interest cover is less than 1, the company will probably need to borrow additional funds in order to pay its interest bill. This is unsustainable even in the medium term. Two ratios are calculated; gross and net interest cover. Net interest cover is, as its name suggests, based on the net interest payable.

<b>Gross Interest Cover =</b> (Pre-exceptional Operating Profit Before Interest & Tax (excl one off items) + Interest Received)/Total Interest Paid	<b>Worked Example:</b> (£240.1m + £9.6m)/£18.5m = 13.5X
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<b>Net Interest Cover =</b> Pre-exceptional Operating Profit Before Interest & Tax (excl one off items) /Net Interest Paid	<b>Worked Example:</b> £240.1/(£18.5m - £9.6m) = 27X
---	---

The level of interest cover considered acceptable will vary from industry to industry, but the more volatile the profitability is likely to be, the higher the interest cover you would want to see.

It is worth pointing out that whilst interest cover is a very important ratio, it has the disadvantage of being based on profit which, as indicated at the start of this section, may on occasion bear no relation to the actual cash position of the business. A more useful ratio is therefore interest cover calculated on a cashflow basis (see page 54).

## Pre-exceptional Profit Before Tax

Profit before tax (PBT) is the headline profit figure after interest paid/received. For comparison any one-off items such as profit on disposal of assets should be stripped out to give an underlying figure.

<b>Pre-exceptional Profit Before Tax =</b> PBT +/- any one off items	<b>Worked Example:</b> £234.9m -£3.7m = £231.2
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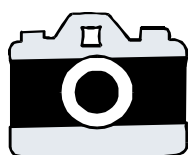
## Retained Profit

Tax is deducted from PBT to give an after tax profit figure, then the dividends are subtracted - the remaining figure represents the retained profit of the company. In XYZ Plc's case this is £85.8m. Retained profit is kept within the business and used to fund growth etc, thereby reducing the need for external borrowing.

We consider an analysis of the size of the dividend compared to previous years and compared to the profit generated, an essential part of credit analysis. Shareholders like to see annual growth in their dividends, one should therefore consider whether the dividend paid is in line with their expectations, or whether shareholders will start pressing for higher returns. Pressure from shareholders may encourage the company to change strategy or become more aggressive in its dividend policy via a special dividend or a share buy back. As indicated on page 48, event risk is often precipitated by shareholder dissatisfaction. In terms of comparing the dividend to the profit, companies will occasionally pay a higher dividend than the profit generated in that year (and therefore retain a loss). This is not something which is sustainable even in the medium term, as the company should be funding some of its growth from retained profits. An uncovered dividend may be acceptable as a one off, depending on the circumstances. For example, if a company incurred a large exceptional charge which reduced the profits available for distribution, but was confident that the next years profits would recover, it would probably be acceptable for them to maintain their dividend pay-out ratio.

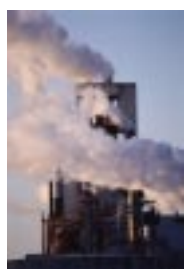
## The Balance Sheet

The balance sheet represents the assets & liabilities....



...but only on that particular day

### Fixed Assets



### Goodwill

The balance sheet is simply a “**snapshot**” of all the assets and liabilities of the company on the day the accounting period ends (eg 31/12/1997). Often the date of the accounting period will have been chosen by the company to reflect the “best” picture, i.e. if the business is cyclical, the accounting period may reflect the lowest borrowing point and therefore be unrepresentative. Also, in practice, even if not affected by cyclical aspects, by the time the accounts are analysed they will probably be at least 3 months old and the actual balance sheet may look completely different (i.e. stock will have been sold, debts may have been repaid, cash may have been spent). However, it is a starting point and, looked at over a number of years, can reveal much of interest.

The balance sheet is broken down into 5 key sections: fixed assets, current assets, current liabilities, term liabilities and capital/reserves.

Fixed assets represent the long term assets owned by the business which are not held for sale e.g. property, plant and equipment. These are valued at cost less accumulated depreciation. Depreciation represents a charge to the profit and loss account which is designed to recognise the decrease in the value of an asset due to its usage throughout the year, maintenance costs, the passage of time and obsolescence. The company should completely write off the value of an asset over its useful life. For example, a printer may cost £4000 and have a useful life of 4 years before it needs to be replaced. The company would therefore charge £1000 (£4000 cost/4 years) to the profit and loss each year, reflecting the “use” of one quarter of the working life of the printer during the accounting period. This reduction in value would also be reflected in the balance sheet with the asset initially shown at £4000, then £3000 and so on.

Fixed assets may also include intangible assets. These are defined by the UK Accounting Standards Board as “non financial assets that do not have physical substance but are identifiable”, the main example being goodwill. Goodwill generally arises on an acquisition and represents the difference between the tangible net asset value of the business acquired and the amount paid for that business. This is best illustrated via an example. If company ABC wanted to acquire Coca-Cola, it would have to pay for not only the value of the net assets on Coke’s balance sheet but also for the Coke name and reputation. This name

and reputation do not appear on Coke's balance sheet, but would in fact probably represent the bulk of the purchase price of Coke. Different countries will have different accounting rules but, under the most recent UK accounting guidelines (FRS 10) ABC would capitalise the excess of cost over net assets on their own balance sheet and amortise it over its "useful economic life". In the past, UK companies have had the option of capitalising the goodwill or writing it off to reserves immediately.

**Current assets, current liabilities, term liabilities**

Current assets are short term assets i.e. those which are quickly converted to cash such as debtors or stock. Current liabilities are liabilities due to be paid within 12 months e.g. overdrafts, trade creditors and other creditors such as the Inland Revenue. Term liabilities are liabilities due for payment in more than one year, e.g. loans and bonds etc.

**Capital/Reserves**

Capital/reserves are comprised of equity (i.e. shares issued), retained profits generated by the business and other reserves such as asset revaluations.

As with the profit and loss, it is important to consider the overall size and shape of the balance sheet before diving into the detail of the numbers. The first thing to do is compare each item on the balance sheet with the same entry the previous year and identify whether there have been any material changes and, if so, determine why. For example, a company may have reduced cash balances and/or increased debt, but the important question is why? Was it to fund a new factory (in which case fixed assets will have risen), or to fund losses (in which case net assets will have fallen)? Three key figures should be identified - gross debt, net debt and net tangible assets - to facilitate ratio calculations.

**Gross Debt**

Gross debt represents total borrowing including finance leases. This should not be judged on an absolute basis, but on a **relative** basis, compared to the net asset base and the cashflow (see below). A high level of debt means the company must earn a significant amount of profit and convert this into cash in order to service interest and make principal repayments.

<b>Gross Debt =</b> Total Debt (including overdrafts, short term debt, long term debt and finance leases).	<b>Worked Example:</b> £41.3m + £72.2m = £113.5m
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**Net Debt**

Net debt takes account of the cash and cash equivalents (e.g. short term deposits of less than 3 months) held by the business, which could (in theory) be used to reduce the total debt burden.

<b>Net debt =</b> Total Debt less Cash & Cash Equivalents.	<b>Worked Example:</b> £113.5m - £6.5m = £107m
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**Shareholders' Funds**

Shareholders' funds or shareholders' equity equates to the funds invested in the business by the shareholders, plus the funds retained in the business in prior profitable years and any other reserves. It therefore represents the cushion of "equity" that would be left if all the assets were sold and all the liabilities paid. Shareholders' funds can be calculated by either adding the capital and reserve figures together, or by subtracting total liabilities from total assets to give a net figure.

<b>Shareholders' Funds =</b> Total Assets less Total Liabilities	<b>Worked Example:</b> (£733.1+£175.9)-(£135.9+£241.2)-£4.3 = £527.6
---	--

## Net Tangible Assets

When looking at the size of the balance sheet and gauging the cushion of equity, we would tend to deduct intangible assets (explained earlier) and minority interests (explained below) in order to show net tangible assets (NTAs).

## Minority Interests

Minority interests arise when a company does not wholly own a subsidiary. If company LMN Plc owns 80% of a subsidiary, a third party must own the remaining 20%. The minority interest on the balance sheet recognises the claim of the third party on 20% of the subsidiary's net assets (all of which are consolidated and shown in the majority shareholders' balance sheet).



By adjusting for intangibles and minority interests, the NTA figure will represent the most conservative net asset figure (people say that for an analyst, the glass is almost always half empty!). Intangibles are deducted for 2 reasons, 1) they are notoriously difficult to value and could be undermined and 2) they are often equally as difficult to actually realise/liquidate in need. The minority interest is not a liability as such - because nothing is due for payment, but by deducting it, the most conservative picture is shown. In a similar way, when assessing the NTAs it is also important to look at the composition of the tangible asset base and consider if the values shown on the balance sheet reflect realistic figures. If the asset values are overstated, the NTAs or equity cushion will be overstated too.

<b>Net Tangible Assets =</b> (Total Assets - Total Liabilities) - Goodwill, Intangibles and Minority Interests	<b>Worked Example:</b> (£909m - £381.4m) - £46.0m - £0.7m = £480.9m
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The importance of the NTA figure is its application (through the calculation of gearing) in determining the proportion of assets in the business funded via debt rather than equity.

## Gross Gearing

The gross gearing ratio highlights the proportion of the resources employed in the company's business which are provided by debt. The higher the percentage, the more debt in the business and the lower the "cushion" of equity. This is important because whilst a company can elect to reduce or even not pay a dividend (i.e. the cost of servicing the equity) and still remain in business, failure to make an interest payment (i.e. the cost of servicing borrowed funds) can lead to default and liquidation. Thus the higher the gearing figure, the more vulnerable a company will be to a drop in sales and consequent reduction in profitability, because it must continue to generate a certain level of profit/cashflow just to pay the interest.

<b>Gross Gearing =</b> (Total Debt/NTAs) x 100	<b>Worked Example:</b> (£113.5m/£480.9m) x 100 = 23.6%
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Like interest cover, the level of gearing deemed prudent will vary from industry to industry. A more cyclical business will not be able to carry the same level of debt as a company in a rapidly growing industry, or a company with a very stable cashflow profile such as a utility. The bankruptcy of the Korean company Hanbo Steel, has been identified as one of the defining moments of the Asian crisis. Hanbo was an asset intensive company in an oversupplied, competitive and cyclical industry. Despite this, when Hanbo Steel went into bankruptcy its gearing level was reportedly c1300%!

Debt is cheaper than equity, hence the attraction of borrowing money

When considering the appropriate amount of debt, Directors walk a fine line. Companies generally want to maximise the amount of debt on their balance sheet because debt is cheaper than equity (reflecting the fact that interest is tax deductible, but dividends are not). This means that a company can improve its return on equity by increasing its gearing and explains why debt is used as a tool for enhancing shareholder value. This can be illustrated in chart 17 below:

Chart 17

Equity	Debt	Interest @ 10%	PBT	Pre-tax ROE*
1000	nil	nil	150	15%
500	500	50	100	20%
100	900	90	60	60%

\* Return on equity explained below

There will obviously come a point at which debt ceases to be cheaper than equity, because shareholders will demand higher dividends to compensate them for holding shares in a higher risk/more volatile company. It is many corporate financier's holy grail to find that point for a given company.

## Net Gearing

Net gearing relates net debt to NTAs.

<b>Net Gearing =</b> (Net Debt/NTAs) x 100	<b>Worked Example:</b> (£107m/£480.9m) x 100 = 22.2%
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In reality, both the net and gross gearing ratios have obvious limitations. The NTA figure is based on an "accounting" view of asset values, it will therefore normally be based on out of date, historic values and in most cases bear little relationship to the real value of either the assets or the business as a whole (i.e. it does not reflect the franchise/strategic value or market potential). Even leaving goodwill/intangibles in the NTA calculation is not a solution since goodwill is crystallised following an acquisition and will not feature in the accounts of companies that have grown organically rather than via acquisition. However, NTAs is the best and most readily available proxy for net asset value, hence its usage in gearing calculations.

Traditionally, gearing was the main focus of many analysts' attention. Experience throughout the last recession has taught that the volatility of cashflow and the level of debt in relation to the amount of cash generated is the real key to assessing whether a company represents a sound credit risk, not the ratio of debt to NTAs. For some companies such as those in the media or high-tech sectors which have few tangible assets, gearing calculations will be meaningless anyway.

## Debt Structure



Having considered the amount of debt, attention should be turned to the structure of the debt, i.e. whether it is of mixed maturity and source, the balance of fixed vs floating and any currency mis-match. This includes an analysis of on and off balance sheet liabilities. Always check for any hidden time bombs. Remember, one of the main factors in the demise of Coloroll was the £500m debt it guaranteed for a subsidiary that it had sold. When the guarantee was called, Coloroll was bankrupted. This £500m did not appear on the balance sheet, it was in the notes to the accounts.

The key to the debt structure is how much debt is due in year 1, year 2 and year 3 etc. A high debt burden need not necessarily be a problem unless repayment is due within 12 months. Conversely, a seemingly reasonable overall level of debt could present a problem if it were all due imminently. The recent problems

in South Korea are a very good illustration of the problems that can occur when debt is poorly structured.

In this context, it is important to be aware of the level of overall creditors and any dependence on one or two in particular. A financially stretched company may not necessarily increase its bank debt (which would show up in a higher gearing ratio), but may instead rely on delaying payments to trade/other creditors. A quick check on this could be made by looking at total liabilities /NTAs.

This leads naturally on to a consideration of liquidity, which is usually assessed through the use of the current ratio and acid test. With these ratios even more than the others, the value is in the comparison of the trend over time rather than the absolute figure.

## Current Ratio

The current ratio appraises the relationship between the current assets and the current liabilities, and shows whether the company has sufficient resources to cover the liabilities due for payment in the next 12 months. Companies do not fail because they are unprofitable, but because they cannot pay their creditors on time. Text books normally suggest a ratio of 2:1 as acceptable, but a business with slow moving stock will require a higher ratio than a business which turns stock into cash very quickly. For example, a supermarket will operate perfectly adequately with a ratio much lower than 2X.

<b>Current Ratio =</b> Current Assets/Current Liabilities	<b>Worked Example:</b> £175.9m/£135.9m = 1.29X
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When considering the current ratio, it is useful to note if there has been any unusual rise in stock, debtors or creditors which is out of line with the rise in turnover. A rise in stock may indicate a build up of less saleable items, whilst a rise in debtors may indicate a potential bad debt.

## Acid Test

The acid test is a variation on the current ratio, which excludes stock from current assets because it is often less readily converted into cash and can therefore distort the true liquidity picture (most creditors won't accept payment in kind!). Text books will suggest a ratio of 1.1:1 for the acid test, but as above, different industries will operate efficiently at different levels.

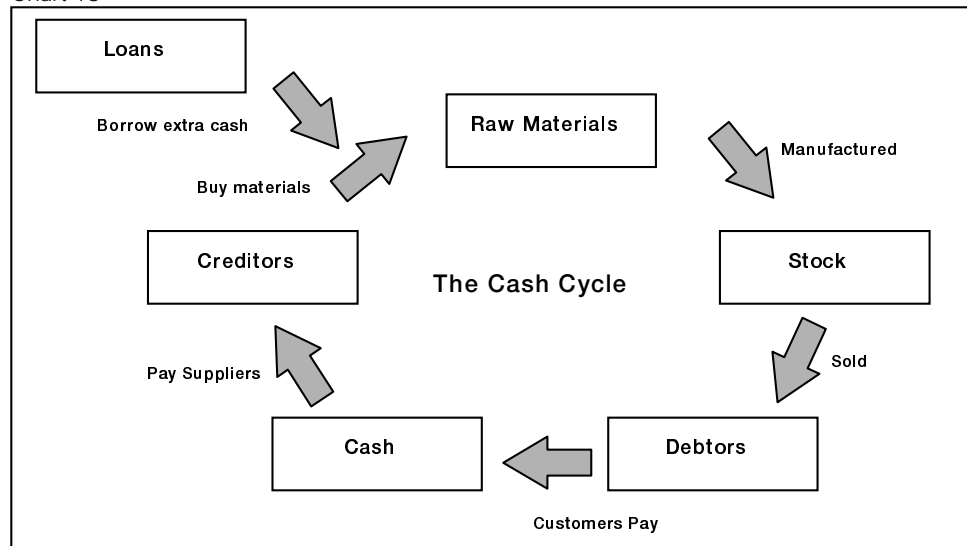
<b>Acid Test =</b> (Current Assets - Stock)/Current Liabilities	<b>Worked Example:</b> (£175.9m - £67.9m)/£135.9m = 0.8X
--	---

## Cash Conversion Cycle

For a more detailed consideration of a company's cash flow cycle, these two liquidity ratios can be supplemented by an analysis of the working capital cycle. Working capital represents the cash tied up in the day to day operations of the business. This is really outside the scope of this introductory report, but basically involves calculating how long it takes to transform raw materials into finished stock and then into cash in the bank when the stock is sold, and how this period is funded. The cash cycle is illustrated in chart 18.



Chart 18



Source: Barclays Capital

**Cash is the life blood of a business**

Cash is the life blood of a business. If a company is profitable it will sell goods for more than it cost to make them, and increase the cash in the business. If there is a blockage at any point in the cash conversion cycle (eg stock is unsaleable and has to be written off, or a debtor does not pay) it may create a liquidity problem.

**The working capital cycle normally consumes cash, but not always...**

The cash conversion cycle is calculated by adding the number of days stock is held (stock/COGS x 365) to the number of days it takes to get payment from customers (debtors/sales x 365) and deducting the number of days credit received from suppliers (creditors/COGS x 365).

In the case of a supermarket, which may take 30 or more days credit from suppliers, sell stock within a few days and receive payment from shoppers either immediately (cash) or a few days later (credit card); the suppliers who give the 30 days credit will actually be funding its entire stock. The supermarket itself will have none of its own cash tied up, thus enabling it to be deployed elsewhere. In contrast, a small supplier to a large clothes retail store, may have to pay for its own stock after 30 days, hold that stock for a couple of weeks whilst it finds a buyer, and then wait 60 or more days for payment from that buyer. This means the small retailer has to fund 44 days worth of business (60 days + 14 days - 30 days). This will have to be funded either out of retained resources in the business, or by borrowing. A company where sales are growing fast, can therefore run out of cash very quickly as all its resources are tied up in stock and debtors, but it still has to pay its creditors.

**Return on equity**

Return on equity shows the return the company is making on the assets employed in the business. In theory if it is below the return which could be achieved investing the cash in the money markets, the company is likely to come under pressure to improve performance and this may have an implication for future strategy.

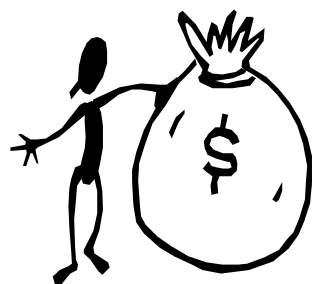
<p><b>Return on Equity =</b>          (Profit After Tax, Minority Interests &amp; Preferred Dividends/Shareholder Funds - Minority Interests) x 100</p>	<p><b>Worked Example:</b>          (£149.7m/£526.9m) x 100 = 28.4%</p>
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Historically, as a measure of performance this ratio has been of limited use, since goodwill write offs for example reduced the asset base and therefore appeared to enhance the returns. This re-enforces the point that all the figures/ratios need to be closely examined before they can be understood.

### The Cashflow:

“Cash Is King”



The cashflow statement represents the actual cash movements in the business over the course of the year. It explains the change in cash held on the balance sheet and the level of debt and the reasons underlying any movement by listing the cash inflows and cash outflows.

Analysing the cashflow is, in our opinion, the single most important aspect of credit analysis. We have said it already in this report, but it is worth saying again; companies do not go out of business because profitability declines, they fail because they have insufficient cash to pay liabilities as they become due. The amount of cashflow **relative** to the amount of debt and the on-going commitments of the business (lease payments etc) is crucial.

The key to analysing the cashflow is to consider the strength, volatility and predictability of the underlying cashflow, since different industries will have different characteristics. The debt capacity of a company is ultimately determined by the level of cashflow generated.

Operating Cashflow



The first step is to identify the cash generated by continuing “normal” operations (rather than asset sales) available to service debt, and consider how volatile (e.g. how sensitive to economic cycles and interest rates) the cashflow is. It is the trend in the underlying cash generation which is important and cashflow statements for a number of years should certainly be compared. There are many different definitions of operating cashflow, our preferred definition is shown below:

<b>Operating Cashflow =</b> Operating Profit + Depreciation +/- change in Working Capital & Non Cash Items	<b>Worked Example:</b> £240.1m + £60.3m +£19.9m - £3.2m = £317.1m
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Depreciation

As indicated earlier, depreciation represents a charge to the profit and loss account which is designed to recognise the decrease in the value of an asset due to its usage throughout the year. However, in cash terms there has been no movement. Money has not been spent, it is just that the value of the asset has been adjusted on the balance sheet. The calculation of operating cashflow therefore adds back the depreciation charged. Similarly, adjustments are made for other non cash items. Finally an adjustment is made for the working capital changes i.e. the cash effect of increases/decreases in stock, trade creditors and trade debtors.

EBITDA

Often credit analysts (particularly in high yield) will use the term EBITDA rather than operating cashflow. EBITDA stands for Earnings Before Interest Tax Depreciation and Amortisation. It is basically another measure of cash generated by continuing “normal” operations and is very similar to operating cashflow as defined above. EBITDA is used in the same way as operating cashflow, i.e. to test financial strength by comparing EBITDA to interest paid and total debt.

Cashflow Interest Cover

Cashflow cover of interest highlights how many times cash generated covers the interest charged. It demonstrates the ability of the issuer to produce cash to service its debt. Prudent levels of coverage will vary from industry to industry. In

companies where leases or rents are of a material size, the levels of cash/total fixed charges (interest + lease and rental costs) could be used to supplement this ratio

<b>Cashflow Interest Cover =</b> (Operating Cashflow + Interest Received)/Interest Paid	<b>Worked Example:</b> (£317.1m + £12.7m)/£5.1m = 64.7X
--	--

## Free Cashflow



A company may generate a very high level of operating cashflow, but if all of this cash needs to be used to pay interest, tax, dividends and “maintenance” capital expenditure (i.e. the spending required for the business to renew assets used up during the year and maintain its competitive position, rather than for expansion), then debt reduction will be difficult.

Whilst a company can reduce maintenance capex in the short term in order to cover a shortfall in cash generation, this cannot be continued long term without damaging the business. Equally, whilst some may argue that dividends are discretionary, companies are run for the benefit of shareholders and they will expect a return. For these reasons, a more useful test of the strength of the cashflow is free cashflow. Definitions of free cashflow vary, but we would typically look at the following:

<b>Free Cashflow =</b> Operating Cashflow - Net Interest - Tax - Dividends - Maintenance Capex	<b>Worked Example:</b> £317.1m + £7.6m - £65.5m - £54.9m - £60.3m* = £144m
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\* see below

Some companies will reveal the split of maintenance vs discretionary capex, but where they do not, the depreciation charge can be used as a proxy for maintenance capex. To expand the business, a company either needs to generate free cashflow or increase debt levels.

## Cash Surplus/Deficit

At the end of the cashflow statement there will be a surplus/deficit figure. It is important to note the trend in this figure over a number of years and consider how it has been funded. A consistent deficit should be closely investigated as it may indicate annual increases in debt. This may be acceptable if the deficit is caused by aggressive expansion which is discretionary and could therefore be scaled back at any point, but not if it is indicative of low cash generation.

## Debt/Operating Cashflow

Debt/operating cashflow illustrates the ability of the company to generate cash to repay debt. The shorter the period, the quicker the company could repay its debt. This is very similar to the favourite high yield ratio debt/EBITDA.

<b>Debt/Operating Cashflow =</b> Total Debt/Operating Cashflow	<b>Worked Example:</b> £113.5m /£317.1m = 0.36 years
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Given that interest and tax are the two most important payments that a company has to make in order to stay in business and earlier comments about the need to invest for the future, it is actually more valuable to consider debt/free cashflow. In XYZ Plc’s case this would still equate to less than one year (£113.5m/£144.0m).

From the ratios calculated, it is clear that the sample XYZ Plc is highly profitable, has excellent cash generating properties and a low overall risk profile.

### A final comment:

There are two important points to remember when using ratios i) the need for consistency in the way they are calculated year-on-year and when comparing companies so that they compare “like-for-like” and ii) the need for flexibility to accommodate any unusual characteristics of a particular company. A ratio which has been (consistently) adjusted so that it more clearly illustrates the point is more useful than a “correctly” calculated ratio which does not really fit the circumstances. For this reason, whilst the definition of the ratios we have used are widely accepted, different analysts will have slightly different methods of calculating them. It is the overall picture of credit strength and more importantly the trend presented by the ratios which is important, rather than the exact figures calculated.

The End

Many thanks to those of you who have got this far!



## APPENDIX 1

### Sample Group Profit and Loss XYZ Plc

<b>£M</b>	<b>31/3/1998</b>	<b>31/3/1997</b>
<b>Turnover</b>	<b>722.8</b>	<b>594.1</b>
Cost of Goods Sold	(372.4)	(303.2)
<b>Gross Profit</b>	<b>350.4</b>	<b>290.9</b>
Administration Costs	(110.3)	(108.8)
<b>Operating Profit</b>	<b>240.1</b>	<b>182.1</b>
Profit on disposal of fixed asset	3.7	2.2
<b>Profit On Ordinary Activities Before Interest</b>	<b>243.8</b>	<b>184.3</b>
Interest Receivable	9.6	8.4
Interest Payable	(18.5)	(1.5)
<b>Profit On Ordinary Activities Before tax</b>	<b>234.9</b>	<b>191.2</b>
Tax on Profit	(84.8)	(68.8)
<b>Profit On Ordinary Activities After Tax</b>	<b>150.1</b>	<b>122.4</b>
Minority Interests	(0.4)	(0.2)
<b>Net Profit For The Financial Year</b>	<b>149.7</b>	<b>122.2</b>
Ordinary Dividends	(63.9)	(52.4)
<b>Retained Profit For The Year</b>	<b>85.8</b>	<b>69.8</b>

These accounts are fictional. They are broadly based on UK accounting guidelines, but for the purpose of illustrating credit analysis, the figures used should be easy enough to recognise under other accounting standards.

## APPENDIX 2

### Sample Group Balance Sheet XYZ Plc

£M as at 31/3/98	1998	1997
<b>Fixed Assets</b>		
Intangible	46.0	32.4
Tangible Property	248.7	205.8
Plant & Equipment	438.4	329.5
	<b>733.1</b>	<b>567.7</b>
<b>Current Assets</b>		
Stock	67.9	63.3
Debtors	101.5	87.3
Cash & liquid Investments	6.5	8.2
	<b>175.9</b>	<b>158.8</b>
<b>Creditors: Amount Falling Due Within One Year</b>	135.9	99.4
<b>Net Current Assets</b>	<b>40.0</b>	<b>59.4</b>
<b>Total Assets Less Current Liabilities</b>	<b>773.1</b>	<b>627.1</b>
<b>Creditors: Amount Falling Due After One Year</b>	241.2	203.9
Provisions For Liabilities & Charges	4.3	1.6
<b>Total Net Assets</b>	<b>527.6</b>	<b>421.6</b>
<b>Capital &amp; Reserves</b>		
Called Up Share Capital	78.8	78.5
Profit & Loss Account	448.1	342.7
<b>Equity Shareholders Funds</b>	<b>526.9</b>	<b>421.2</b>
Minority Interests	0.7	0.4
<b>Total Shareholders Funds</b>	<b>527.6</b>	<b>421.6</b>

<b>£M Break down of Creditors</b>	<b>1998</b>	<b>1997</b>
<b>Due Within 1 year</b>		
Bank Loan/Overdraft	41.3	18.5
Trade Creditors	38.3	27.7
Other Creditors	56.3	53.2
<b>Total Due Within One Year</b>	<b>135.9</b>	<b>99.4</b>
<b>Due After 1 year</b>		
Bank Loan	72.2	72.2
Other Creditors	169.0	131.7
<b>Total Due After One Year</b>	<b>241.2</b>	<b>203.9</b>

**APPENDIX 3****Sample Group Cashflow XYZ Plc**

<b>£M</b>	<b>31/3/1998</b>	<b>31/3/1997</b>
<b>Net Cash Inflow From Operating Activities</b>	<b>317.1</b>	<b>199.0</b>
<b>Returns On Investment &amp; Servicing Of Finance</b>		
Interest Received	12.7	9.7
Interest Paid	(5.1)	(1.9)
<b>Net Cash Inflow From Returns On Investment &amp; Servicing Of Finance</b>	<b>7.6</b>	<b>7.8</b>
<b>Tax Paid</b>	<b>(65.5)</b>	<b>(54.1)</b>
<b>Capital Expenditure And Finance Investment</b>		
Payments For Tangible Fixed Assets	(183.2)	(97.5)
Receipt From Sale Of Fixed Assets	4.6	7.5
<b>Net Cash Outflow From Capital Expenditure And Financial Investment</b>	<b>(178.6)</b>	<b>(90.0)</b>
<b>Acquisitions And Disposals</b>	<b>(54.8)</b>	<b>(158.6)</b>
<b>Net Cash Outflow From Acquisitions And Disposals</b>	<b>(54.8)</b>	<b>(158.6)</b>
<b>Equity Dividends Paid</b>	<b>(54.9)</b>	<b>(45.2)</b>
<b>Management Of Liquid Resources</b>	<b>-</b>	<b>8.6</b>
<b>Financing</b>		
Issue Of Ordinary Shares	3.8	1.6
Debt Due Within 1 Year		
Increase In Short Term Borrowing	-	-
Repayment Of Term Loans	-	-
Debt Due Beyond One Year		
Increase In Long Term Borrowing	-	71.2
<b>Net Cash Inflow From Financing</b>	<b>3.8</b>	<b>72.8</b>
<b>Increase/(Decrease) In Cash In The Period</b>	<b>(25.3)</b>	<b>(59.7)</b>

<b>£M Reconciliation Of Operating Profit To Net Cash Inflow</b>	<b>1998</b>	<b>1997</b>									
Operating Profit	240.1	182.1									
Depreciation	60.3	47.7									
Working Capital Change	19.9	(39.2)									
<table border="1" data-bbox="544 479 1437 647"> <tr> <td><i>Decrease (Increase) In Stocks</i></td> <td><i>2.1</i></td> <td><i>(0.2)</i></td> </tr> <tr> <td><i>(Increase) Decrease In Debtors</i></td> <td><i>(18.1)</i></td> <td><i>(45.5)</i></td> </tr> <tr> <td><i>Increase (Decrease) In Creditors</i></td> <td><i>35.9</i></td> <td><i>6.5</i></td> </tr> </table>	<i>Decrease (Increase) In Stocks</i>	<i>2.1</i>	<i>(0.2)</i>	<i>(Increase) Decrease In Debtors</i>	<i>(18.1)</i>	<i>(45.5)</i>	<i>Increase (Decrease) In Creditors</i>	<i>35.9</i>	<i>6.5</i>		
<i>Decrease (Increase) In Stocks</i>	<i>2.1</i>	<i>(0.2)</i>									
<i>(Increase) Decrease In Debtors</i>	<i>(18.1)</i>	<i>(45.5)</i>									
<i>Increase (Decrease) In Creditors</i>	<i>35.9</i>	<i>6.5</i>									
Other Non Cash Items	(3.2)	8.4									
<b>Net Cash Inflow From Operating Activities</b>	<b>317.1</b>	<b>199.0</b>									



## APPENDIX 4

### The 8 Key Ratio's Defined By S&P As Key In The Global Sector Review

S&P Ratio	Definition	Usage
Pre Tax Interest Cover*	(Pre-Tax Income Plus Interest Expense Less Interest Capitalised) / Gross Interest Expense	This shows how many times profit covers the amount of interest due. The higher the figure the more the profit could decline before a company fails to pay its interest.
Ebitda Interest Cover	(Pre-Tax Income Plus Depreciation Plus Interest Expense Less Interest Capitalised) / Gross Interest Expense	This shows how many times cash generated covers the amount of interest due and demonstrates the ability to generate cash to service debts. As above, the higher the coverage, the higher the margin of safety before a company fails to pay its interest.
Funds From Operations (FFO) As A % Of Total Debt**	(Net Income Before Extraordinary Items Plus Depreciation Plus Deferred Tax Plus Non Cash Items) / Total Debt X 100	This shows how much cash the business generates after payment of interest and tax but before re-investment. The higher the % the less time it would take the company to repay all its debt. If a company has 100% FFO, then it could (in theory) repay all its debt within 1 year.
Free Cashflow As A % Of Total Debt***	(Net Income Before Extraordinary Items Plus Depreciation Plus Deferred Tax Plus Non Cash Items Less Capex Plus The Decrease (Or Less The Increase) In The Change In Working Capital) / Total Debt X 100.	This shows how much free cash the business generates i.e. how much is available for debt repayment <u>after</u> re-investment in the business (i.e. working capital & capex). As above, the higher the % the shorter the time the company would need to repay its debt whilst maintaining current investment levels.
Return On Permanent Capital^	(Pre-Tax Income Plus Interest Expense Less Interest Capitalised) / (The 2 Year Average Of Total Debt Plus Deferred Taxes Plus Minority Interests Plus Shareholders Equity) X 100	This shows the return the business makes on the resources employed. If the return is not high enough there may be shareholder pressure to improve it, increasing the risk of an acquisition or a share buy back, and increasing the risk of a bid.
Operating Income As A % Of Sales	Operating Income Before Depreciation / Sales X 100	This shows how much profit the company makes from each sale. The higher this ratio, the more operating profit the company will generate as sales grow.
Total Debt As A % Of Total Capital	Total Debt / (Shareholders' Equity + Total Debt) X 100	This shows how much of the resources employed in the business are provided by debt. The higher the percentage the more debt in the business and the lower the "cushion" of equity. This is important because whilst interest must be paid, in need a company could decline to pay a dividend.
LTD As A % Of Total Capital	Long Term Debt / (Shareholders' Equity + Long Term Debt) X 100	As above, this shows how much of the resources are made up by LTD and therefore how much reliance the business places on short term debt.

\* Pretax income is profit before tax, extraordinary items and minority interests

\*\* Net income is after tax and before dividends

\*\*\* Working capital excludes cash, cash equivalents and short term debt. Capex is gross.

^ Shareholders equity includes goodwill and minority interests. Debt is gross.

Source Barclays Capital/S&P

## APPENDIX 5

### Key Elements Of Bank Analysis

It is easy to draw a parallel between the business of a bank and that of an industrial company. Both use resources (funds in the case of a bank, raw materials in the case of a company) and add value through the transformation process (inter-mediation for a bank, manufacturing for a corporate).

The financial ratios used to analyse a bank are specific to the banking industry and are sometimes driven by regulatory requirements (eg BIS minimum capital adequacy ratios). However, the concepts underlying the ratios used for both a bank and a corporate, and the interpretation of the ratios is similar. The key underlying question is: how strong is the bank/corporate and what could happen to have either a positive or negative impact on credit quality?

The analysis of a bank starts with an examination of its importance to the structure of its domestic banking system. This gives an indication of the likelihood of external support from the government, or the rest of the banking system, should the bank get into difficulty.

The analysis of the bank's intrinsic financial strength will weigh qualitative aspects such as the complexity of the bank's corporate structure, its shareholders, its management and strategy and quantitative factors. The quantitative analysis will usually cover: the bottom line performance (ie earnings generation and volatility), operational efficiency, asset quality, sources of funds and access to liquidity (i.e. retail deposits), balance sheet structure and capital adequacy (solvency).

As for a corporate, it is not just the absolute level of the ratios that is important, but the trend and the anticipated direction of movement in the future, their level relative to peers operating in the same country/segment, and the other institutions the bank competes against. A selection of the key ratios used when analysing a bank's financial strength are shown in the table below.

For more details about how to analyse banks and the Banking sector in general, please refer to our note **"The European Banking Sector: Critical mass?"**

RATIOS (%)	
<b>Performance &amp; Efficiency</b>	
Return on Equity (RoE)	Net Income (after Minority Interests) / (Shareholder's Capital + Reserves + Retained Earnings)
Return on Average Assets (RoAA)	Net Income (after Minority Interests) / Average Assets
Net Interest Margin	(Net Interest + Dividend Income) / Average Interest Earning Assets (Loans to Customers + Due From Banks + Securities)
Net Interest Income % Operating Income	(Interest Income – Interest Expenses) / (Net Interest Income + Fees and Commissions + Trading Income + Other Operating Income)
Cost to Income Ratio	Operating Expenses (Personnel Expenses + Other Operating, Non Interest Expenses + Depreciation) / Operating Income
<b>Asset Quality</b>	
Bad Loans % Gross Loans	(Doubtful + Non Performing Loan) / (Loans to customers before Loan Loss Reserve deduction)
Loan Loss Reserves % Bad Loans	Loan Loss Reserves (ie Balance Sheet element) /Bad Loans
Loan Loss Provisions % Operating Income	Loan Loss Provisions (ie P&L element) / Operating Income
Bad Loans % Equity	Bad Loans / Equity
<b>Capitalisation</b>	
Equity % Total Assets	(Shareholder's Capital + Reserves + Retained Earnings) / Total Assets
Tier 1 Ratio	Reported by the Company (Regulatory core Capital/ Weighted Assets)
Total Capital (BIS) Ratio	Reported by the Company (Total Regulatory Capital/ Weighted Assets)

Source: Barclays Capital

## APPENDIX 6

### Correlation Of Long and Short Term Debt Ratings

Short term ratings are an assessment of the likelihood of timely payment of short term debt. Short term ratings are graded in a similar way to long term ratings, using slightly different symbols. There is a correlation between short and long term ratings as shown in the table below.

Long Term	Moody's				S&P					Fitch IBCA			
	Short Term Ratings				Short Term Ratings					Short Term Ratings			
	P1	P2	P3	NP	A-1+	A-1	A-2	A-3	B	F1+	F1	F2	F3
Aaa/AAA													
Aa1/AA+													
Aa2/AA													
Aa3/AA-													
A1/A+													
A2/A													
A3/A-													
Baa1/BBB+													
Baa2/BBB													
Baa3/BBB-													
Ba1/BB+													
Ba2/BB													
Ba3/BB-													

## APPENDIX 7

### Charts and Diagrams

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# BARCLAYS CAPITAL

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